

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
NATIONAL INSTITUTES OF HEALTH  
NATIONAL LIBRARY OF MEDICINE  
Bethesda, Maryland

A G E N D A

66th Meeting of the

BOARD OF REGENTS

9:00 a.m., January 29-30, 1981

Board Room  
National Library of Medicine

MEETING OPEN: All day on January 29 and from 9:00 a.m. to 2:00 p.m. on January 30.  
MEETING CLOSED: From 2:00 p.m. to adjournment on January 30 for the review of grant applications.

- I. CALL TO ORDER AND INTRODUCTORY REMARKS Dr. Nicholas E. Davies
- II. REMARKS BY THE DEPUTY DIRECTOR, NIH Dr. Thomas E. Malone
- III. CONSIDERATION OF MINUTES OF LAST MEETING TAB I Dr. Nicholas E. Davies  
(Agenda Book)
- IV. DATES OF FUTURE MEETINGS TAB II  
1981 and 1982 Calendars
- Next Meeting: May 21-22, 1981 (Th-F)
- Fall Meeting: October 22-23, 1981 (Th-F)
- Winter Meeting: January 28-29, 1982 (Th-F) or  
February 4-5, 1982 (Th-F)
- V. REPORT OF THE DIRECTOR, NLM TAB III Dr. Martin M. Cummings

COFFEE BREAK

- VI. REPORT ON NLM PLANNING ACTIVITIES TAB IV Dr. William G. Cooper  
Adm. J. William Cox,  
Discussant  
Discussion Board Members
- VII. NMAC FUNCTIONS AND RESPONSIBILITIES TAB V Dr. James W. Woods  
Dr. Edward J. Huth,  
Discussant  
Discussion Board Members  
LUNCH CATERED IN CONFERENCE ROOM "B" 12:45-1:45
- VIII. ECONOMIC IMPACT ON ONLINE SERVICES ON FILE CREATORS Prof. Martha E. Williams  
Discussion Board Members
- IX. RESULTS OF REVIEW OF LABORATORY ANIMAL DATA BANK TAB VI Dr. Henry M. Kissman  
Dr. William D. Mayer,  
Discussant  
Discussion Board Members  
COFFEE BREAK
- X. NLM INVOLVEMENT WITH BEHAVIORAL SCIENCES TAB VII Dr. Henry W. Riecken  
Discussion Board Members

R E C E S S for bus trip to Library of Congress.

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TOURS OF THE LIBRARY OF CONGRESS' JAMES MADISON MEMORIAL BUILDING: 5:00 - 6:00 p.m.

DINNER .....	James Madison Memorial Building
Cocktails (Open Bar) .....	6:00 p.m. Buffet Dining Room
Dinner (Dutch Treat) .....	7:00 p.m. 6th Floor

SPEAKER: Mr. William J. Welsh  
The Deputy Librarian of Congress and  
Member of the Board of Regents

TOPIC: "Library of Congress Functions and Services"

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R E C O N V E N E : FRIDAY, January 30, 1981, 9:00 a.m.

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| <p>XI. MEDLARS III UPDATE</p> <p>Discussion</p>  | <p><u>TAB VIII</u></p>  | <p>Dr. Joseph Leiter<br/>Mr. John Anderson<br/>Mr. James F. Williams II,<br/>and Mr. Alfred R. Zipf,<br/>Discussants</p> <p>Board Members</p> |
| <p>XII. REPORT OF THE ASSOCIATE DIRECTOR<br/>FOR EXTRAMURAL PROGRAMS</p> <p>A. Budget Picture</p> <p>B. Discussion of EP Grant Policies<br/>Including Union Lists</p> <p>C. Review of Board Operating<br/>Procedures--"Guidelines for<br/>Adjustment by Staff in Time<br/>and Amount of Grant Award"</p> <p>Discussion</p> <p>COFFEE BREAK</p> | <p><u>TAB IX</u></p> <p><u>Tab A</u></p> <p><u>Tab B</u><br/><u>Tab C</u></p> <p><u>Tab D</u></p> | <p>Dr. Ernest M. Allen<br/>EP Subcommittee Members,<br/>Discussants</p> <p>Board Members</p>  |
| <p>XIII. NEEDS IN THE HISTORY OF MEDICINE</p> <p>Discussion</p>  | <p><u>TAB X</u></p>   | <p>Dr. Jeanne L. Brand<br/>Dr. Saul Jarcho, and<br/>Dr. Cecil G. Sheps,<br/>Discussants</p> <p>Board Members</p>                              |
| <p>LUNCH (No formal arrangements.)</p>   | <p>12:00-1:00</p>   |   |
| <p>XIV. TRAINING GRANT PROGRAM ASSESSMENT</p> <p>Discussion</p>  | <p><u>TAB XI</u></p>  | <p>Dr. Harold M. Schoolman<br/>Dr. Charles E. Molnar,<br/>Discussant</p> <p>Board Members</p>   |
| <p>XV. APPOINTMENT OF NOMINATING COMMITTEE</p>   |   | <p>Dr. Nicholas E. Davies</p>   |
| <p>XVI. NEW BUSINESS</p>   |   | <p>Dr. Nicholas E. Davies</p>   |

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MEETING CLOSED FROM 2:00 P.M. TO ADJOURNMENT FOR GRANT APPLICATION REVIEW

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XVII. SPECIAL APPLICATIONS

(Gray Workbook)

- A. Publication
- B. Training
- C. Research
- D. Resource
- E. Improvement

TAB I  
TAB II  
TAB III  
TAB IV  
TAB V

Dr. Jeanne L. Brand  
Dr. Roger W. Dahlen  
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XVIII. SUMMARY STATEMENTS

- A. Publication
- B. Special Scientific Project
- C. Training
- D. Research
  - 1. New Investigator
- E. Resource
  - 1. Improvement

TAB VI  
TAB VII  
TAB VIII  
TAB IX  
Tab A  
TAB X  
Tab A

Dr. Jeanne L. Brand  
Dr. Roger W. Dahlen  
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XIX. ADJOURNMENT

Dr. Nicholas E. Davies

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH  
NATIONAL LIBRARY OF MEDICINE

BOARD OF REGENTS

MINUTES OF THE 66th MEETING  
JANUARY 29-30, 1981

BOARD ROOM  
NATIONAL LIBRARY OF MEDICINE  
BETHESDA, MARYLAND

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE

THE BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

Minutes of Meeting 1/ 2/

January 29-30, 1981

The Board of Regents of the National Library of Medicine was convened for its sixty-sixth meeting at 9:00 a.m. on Thursday, January 29, 1981, in the Board Room of the National Library of Medicine, Bethesda, Maryland. Dr. Nicholas E. Davies, Chairman of the Board of Regents, and Attending Physician, Piedmont Hospital, Atlanta, Georgia, presided. In accordance with P.L. 92-463 and the Determination of the Director, NIH, and as announced in the Federal Register on January 6, 1981, the meeting was open to the public from 9:00 a.m. to 3:55 p.m. on January 29 and from 9:00 a.m. to 3:00 p.m. on January 30, and closed from 3:00 to 3:45 p.m. on January 30 for the review, discussion, and evaluation of grant applications. A Board roster is enclosed under Attachment "A."

Board members present were:

Vice Admiral J. William Cox (January 29)

Dr. Eloise E. Clark

Dr. Gwendolyn S. Cruzat

Dr. Nicholas E. Davies

Dr. Emmet F. Ferguson, Jr.

Dr. Edward J. Huth

Dr. William D. Mayer

Dr. Charles E. Molnar

Dr. John L. Townsend

Mr. James F. Williams II

Ms. Martha E. Williams

Alternates to Board members present were:

Ms. Helen Foerst, representing Dr. Julius B. Richmond

Brig. General Monte G. Miller, representing Lt. General Paul W. Myers

Colonel Michael J. Scotti, representing Lt. General Charles C. Pixley

Rear Admiral Frances T. Shea, representing Vice Admiral J. William Cox

Mr. William J. Welsh, representing Dr. Daniel J. Boorstin

Unable to attend:

Dr. Ismael Almodovar

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1/ For the record, it is noted that members absent themselves from the meeting when the Board is discussing applications from their respective institutions (interpreted to mean the entire system of which a member's institution is a part) or in which a conflict of interest might occur. Only when an application is under individual discussion will the Board member absent himself. This procedure does not apply to "en bloc" actions.

2/ The Board of Regents, when considering the extramural programs of NLM, also constitutes and serves as the National Medical Library Assistance Advisory Board.

National Library of Medicine staff members attending this meeting included:

Dr. Martin M. Cummings, Director  
Mr. Kent A. Smith, Deputy Director  
Dr. Harold M. Schoolman, Deputy Director for Research and Education  
Dr. Ernest M. Allen, Associate Director for Extramural Programs  
Mr. John Anderson, Director, MEDLARS III, LO  
Dr. Clifford A. Bachrach, Head, Medical Subject Headings Section, LO  
Mr. Harry D. Bennett, Director for Computer and Communications System  
Mr. Albert Berkowitz, Chief, Reference Services Division, LO  
Dr. Lionel M. Bernstein, Director, Lister Hill National Center for Biomedical Communications  
Dr. John B. Blake, Chief, History of Medicine Division, LO  
Dr. Jeanne L. Brand, Chief, International Programs Branch, EP  
Mr. Arthur J. Broering, Deputy Associate Director for Extramural Programs  
Dr. Merlin Brubaker, Acting Deputy Director, NMAC  
Dr. Donald R. Buckner, Chief, Materials Development Branch, NMAC  
Dr. William G. Cooper, Associate Director for Planning  
Miss Mary E. Corning, Assistant Director for International Programs  
Dr. John Cox, Deputy Director, OCCS  
Dr. Roger W. Dahlen, Chief, Biomedical Information Support Branch, EP  
Dr. Tamas E. Doszkocs, Chief, Technical Services Division, LO  
Mr. Benjamin Erdman, Deputy Director, LHNCBC  
Mr. Charles M. Goldstein, Chief, Computer Technology Branch, LHNCBC  
Dr. Henry Kissman, Associate Director for Specialized Information Services  
Mr. Sheldon Kotzin, RML Program Coordinator  
Ms. Linda W. Kudrick, Chief, Materials Utilization Branch, NMAC  
Dr. Joseph Leiter, Associate Director for Library Operations  
Mr. Robert B. Mehnert, Chief, Office of Inquiries and Publications Management  
Dr. A. Donald Merritt, Chief, Health Professions Applications Branch, LHNCBC  
Ms. Marie D. Pinho, Chief, Applications Support Branch, OCCS  
Dr. Henry W. Riecken, Senior Program Adviser, OD  
Mr. Arthur J. Robinson, Jr., EEO Coordinator  
Dr. Warren F. Seibert, Chief, Educational Research and Evaluation Branch, NMAC  
Mr. Bernard G. Silverstein, Chief, MEDLARS Support Branch, OCCS  
Dr. Thomas V. Telder, Chief, Educational Training and Consultation Branch, NMAC  
Dr. James W. Woods, Director, National Medical Audiovisual Center

Others present included:

Dr. Thomas E. Malone, Deputy Director, NIH  
Dr. Richard A. Farley, Deputy Director for Technical Information Systems,  
Science and Education Administration, Department of Agriculture  
Mrs. Bernice M. Hetzner, Professor of Library Science, University of Nebraska,  
Medical Center, Consultant  
Dr. Saul Jarcho, New York Academy of Medicine, Consultant  
Mrs. Ileen E. Stewart, Executive Secretary, Special Study Section, DRG, NIH  
Mr. Alfred R. Zipf, Executive Vice President and Senior Administrative Officer,  
Bank of America, Consultant

Members of the public present:

Ms. Carter Leonard, Reporter, "The Blue Sheet"  
Ms. Gloria Ruby, Staff Member, Office of Technology Assessment  
Mr. Thomas Shorebird, Ocean Systematics, Washington, D.C.

## I. OPENING REMARKS

Dr. Nicholas E. Davies, Chairman, welcomed the Regents, consultants, and guests to the 66th meeting of the Board of Regents. He noted the presence of Helen Foerst, Deputy Chief Nurse Officer of the Public Health Service, serving as an ex officio alternate; Gloria Ruby, staff member of the Office of Technology Assessment; and Thomas Shorebird, of Ocean Systematics, Washington, D.C.

## II. CONSIDERATION OF MINUTES OF PREVIOUS MEETING

The Regents approved the minutes of the October 9-10, 1980, meeting without change.

## III. DATES FOR FUTURE MEETINGS

The Board will meet next on May 28-29, 1981. The dates of October 29-30, 1981, have been confirmed for the fall meeting, and February 4-5, 1982, are the tentative dates for the winter meeting.

## IV. REMARKS BY THE DEPUTY DIRECTOR, NIH

Dr. Thomas E. Malone, Deputy Director of the National Institutes of Health, reported on the impact of the change in administration on NIH. HHS Secretary Schweiker, from his years in the Senate, is knowledgeable about NIH and biomedical research. NIH Director Donald S. Fredrickson has had lengthy discussions with the new Secretary about NIH programs and issues. Mr. Schweiker has a good understanding of these issues and a sincere appreciation of the work of NIH, said Dr. Malone. A new Assistant Secretary for Health, to replace Dr. Julius Richmond has not yet been appointed. Dr. Richmond will remain temporarily as Surgeon General. As it looks now, the NIH leadership will remain intact.

Dr. Malone compared this transition period with that of four years ago. At that time, NIH was grappling with a number of new Congressional mandates, which have since plateaued. There has been little program expansion since that time--in constant dollars the NIH budget has grown very little. NIH was beginning to move into technology transfer and assessment, moving out the agency's traditional boundaries by becoming involved in how research findings may be applied to practice and in assessing and validating existing technologies. There have been many NIH "consensus" conferences since then, in such areas as estrogen therapy and mammography, that have had an impact on health care. Also during the Carter era, NIH moved to stabilize its training programs, and some 10,000 individuals (both post- and pre-doctoral) are now in these programs.

Two years ago the Department began a massive planning effort aimed at developing principles to guide future biomedical research. The set of principles developed reaffirmed the appropriateness of training as an NIH activity and called for stabilizing and protecting the amount of investigator-initiated research supported by NIH. These principles were accepted by the PHS, HHS, Office of Management and Budget, the Office of Science and Technology Policy, and by the Congress. One problem associated with stabilizing NIH research grants, as Dr. Cummings has pointed out in the past, is that it has a negative impact on other NIH programs (such as those of NLM). We are entering a period of great competition among programs when, with inflation taking its toll on level (or even reduced) budgets, it will be

extremely important to protect such non-research programs as training and communications. Dr. Malone also noted that over the last four years it has become apparent that not enough attention has been given to the managerial aspects of NIH's relations with grantee institutions. NIH is now looking closely at such things as cost principles for grantees (time and effort reports and indirect costs, for example), refurbishing of equipment, innovative ways of using existing instruments and devising new instruments, and creating new ways for government, industry, and academia to cooperate.

In summary, Dr. Malone said that NIH has emerged from the transition in good shape. The agency's leadership is stable, NIH enjoys good relations with the new administration, and the principles and mechanisms are in place to deal with the coming period of austerity. In response to a question by Dr. William Mayer about austerity in budgets, Dr. Malone said that NIH hopes to maintain its programs and allow for some growth. Each NIH institute and division will have to take a close look at its activities and priorities and be prepared to compete for funds against other programs. Although NIH has attempted to stabilize its new and renewal research grants to 5,000 per year, this figure is not "untouchable" and can be revised if necessary in order to protect other NIH programs. Mr. William Welsh commented that it does not seem realistic to attempt to maintain current program levels and allow for some growth; the budgets we are likely to be faced with simply will not allow this. Dr. Malone responded by saying the nation can ill afford to cripple vital biomedical research. The next two decades will see critical problems in nutrition, population, aging, and pollution, for example, and the knowledge developed by biomedical research will be crucial in dealing with these problems. Dr. Huth commented that, in making its case for maintaining biomedical research, NIH should cast its arguments in terms of the self-interest of the American people. Dr. Malone agreed and noted that Secretary Schweiker has said that NIH medical scientists should be more active in communicating the benefits of research to the ordinary citizen who would then see that it is in his best interest that the Federal Government continue its level of support for medical research. Mr. James Williams extended this line of discussion to NLM specifically, saying that in all the talk of "leaner and tougher" budgets it should be kept in mind that communications is the "lifeblood" of research and NLM is at the heart of the communications process in the health sciences. As NIH officials set priorities and make compromises among competing programs, he hopes that this interdependency will be kept in mind. Dr. Malone agreed, saying that NIH officials are aware of the Library's crucial role in communications and that such programs as the Lister Hill Center's and the MEDLARS III project must be given "proper priority."

## V. REPORT OF THE DIRECTOR, NLM

Dr. Martin M. Cummings, NLM Director, introduced two new staff members to the Regents: Henry W. Riecken, Ph.D. Senior Program Advisor in the Office of the Director, and John E. Anderson, Director of the MEDLARS III systems Development Team. The Director presented statistics on the NLM budget, noting that the percentage growth in NLM's budget has not kept pace with that of NIH's overall budget. President Carter's budget for FY 1982 shows a sharp decrease in NLM funds available for grants, especially for resource grants which would be reduced by \$1.4 million from 1981 levels. Although the budget is a "no-growth" one, funds for the building of MEDLARS III are protected. Dr. Cummings reviewed the level of NLM staffing over the past five years-- a series of growths and declines. A low of 411 full-time permanent staff was reached last year. NIH provided NLM some relief from personnel constraints and, as a result, we now have 457 staff members. The present freeze on hiring will reduce this figure, however, as attrition takes its toll. The problem of reduced staffing levels is the biggest problem facing the Library in 1981.

The NLM Director next presented several charts showing the trend of workload statistics. Reference inquiries continue at a high level; requests from our on-site users continue to increase dramatically; serials and monographs processed have also risen sharply; inter-library loan requests have declined somewhat over the last three years, a reflection of the good services being offered at local and regional levels. With the continued success of the Regional Medical Library network, NLM is hopeful that this last figure will be reduced even further. The number of computer-based bibliographic services (online and offline searches) continues to rise dramatically. Last year, over 1.8 million searches were done on NLM's data bases; the network has grown to over 1,500 institutions in the U.S. and other countries. Dr. Cummings noted that these online services, and also the Medical Library Assistance Act, are being studied by the Office of Technology Assessment (OTA) at the request of the House Committee on Interstate and Foreign Commerce. This study is part of a larger OTA review of strategies for technology assessment. Gloria Ruby, a member of the staff conducting the OTA study, described briefly its purpose as threefold: to review current strategies in assessing technology; to determine how this information is disseminated after a technology is assessed (this is the part of the study that involves NLM); and to study how reimbursement is made for the application of new technology. Dr. Riecken then reported on a meeting of the OTA study panel he attended January 28. At this meeting there was considerable discussion of MEDLARS/MEDLINE, revolving around several points: Since MEDLARS is unique, how do you evaluate its products? To what do you compare it? There was discussion also about a report by Dr. John Breuer that concluded that basic bio-medical areas were well covered by NLM, but health services and health administration were not. Dr. Riecken said that the discussion revealed that there was disagreement among the panel members as to whether or not there was a problem. Martha Williams pointed out that there were several ways to assess the performance of MEDLINE. For example, both MEDLINE and Excerpta Medica were available online from Lockheed and thus could be compared easily.

Continuing his presentation, Dr. Cummings reported that the Medical Library Assistance Act will expire on September 30, 1981, unless extended by Congress. The Act authorizes funds for resources, research, training, Regional Medical Libraries, special scientific projects, and publications. On the occasions of previous renewals, Congress has heard testimony from NLM's user community as to the usefulness of these programs, and the Act has been renewed without controversy. Since its original enactment, over \$118,000,000 have been provided for medical libraries and information projects. Two elements that may have an effect on the renewal this year are the OTA study, mentioned earlier, and the campaign of a candidate for the presidency of the Medical Library Association who has criticized the NLM grant programs.

The last item of the Director's report related to a bill, introduced by Congressman George Brown of California, that would create an Institute for Information Policy and Research. The bill addresses the challenges to policy makers presented by the explosive growth of microelectronics and telecommunications technologies. The bill (H.R. 8395) is considered a working draft, and Mr. Brown has solicited comments and suggestions from the public.

Following Dr. Cummings' report, Miss Corning introduced to the Regents Dr. Ma Jixing and Dr. Shi Ji-zhao, two Chinese physicians selected by the Chinese Academy of Sciences to spend several months at NLM working with the Library's historical Chinese medical literature.

## VI. REPORT ON NLM PLANNING ACTIVITIES

Dr. William G. Cooper, NLM Associate Director for Planning, briefed the Regents on the status of NLM planning activities. Among the important current projects are the development of narrative justification for presenting NLM's FY 1982 budget to Congress, and the preparation of materials for NLM's planning/appropriation briefing session with the NIH

Director. Both of these have a direct bearing on the preparation of NLM's FY 1983-85 Research Plan, due in mid-1981. An "issues notebook" is also being prepared by the Planning Office. This will be a compendium of succinctly stated key issues that face the Library. Several evaluation projects are under way--an FY 1982 Evaluation Plan for all NLM that will be ready this spring, and the major ongoing evaluation of the Regional Medical Library network. In addition to these, the Department requires that all HHS programs undergo a program performance evaluation. All NLM programs are scheduled to undergo such an evaluation between now and 1984.

Among the Office's other responsibilities are the coordination of activities of the new NLM Program Analysis and Resource Allocation Committee and the Quarterly Program Performance Briefings of the Associate Directors, the design of a management information system for NLM, and work with government and nongovernment agencies in the area of education for health professionals and patient education.

Dr. Cooper reported on the planning/appropriation briefing session with the NIH Director, held on January 26. Among the topics covered were the impact of the stabilization of NIH research and training grants on NLM, NLM's plans and priorities for FY 1982 and 1983, NLM's involvement with the Department's health research initiatives, the renewal of the Medical Library Assistance Act, and the Office of Technology Assessment study described by Dr. Cummings earlier. NLM's priorities as presented to the NIH Director were: (1) improvement in library and information services, (2) development of MEDLARS III, and (3) research and development. Dr. Cooper also reported on the management retreat held last September for NLM senior staff. A number of long-range planning issues were identified at the retreat, including the formulation of appropriate NLM goals, the need for better planning and management data, the need for better planning for NLM research, and the question of how to integrate planning into the decision-making process.

A management information system is needed at NLM, said Dr. Cooper, and his office is working on one. Such a system would be computerized and include resource data (budget and staffing information and data on economic trends), workload data from NLM's programs, descriptive (narrative) data about NLM programs, information on NLM policies and emerging issues, existing and pending legislation, and technology trends.

Responding to Dr. Cooper's presentation, Admiral Cox said he was impressed with the attention being given to planning at NLM. Sophisticated planning is absolutely necessary if the Library is to take advantage of rapidly evolving technology. Some institutions merely react to changing circumstances, others interact with and influence events, and still others are "pro-active"--directing the course of future events. To do the last, it is necessary to have knowledgeable planners and administrators with a large data base of information and the ability to do mathematical and computer modeling. This would allow the organization to posit alternative futures and, by influencing the variables, to control the course of future events to a degree not otherwise possible. The role of the NLM Planning Office, as set forth by Dr. Cooper, makes this a real possibility. Both Admiral Cox and Dr. Mayer warned against having the Planning Office too involved in day-to-day operational decisions in the programs, although the planners must be knowledgeable about NLM activities. Dr. Cummings noted that, in addition to the Central Planning Office, there are six or seven staff members in various NLM components who engage in planning. He asked whether all planning should be centralized at NLM. Admiral Cox suggested that resident planners be kept in individual NLM components, and that they feed their information to an unbiased, independent Planning Office in the Office of the Director. Mr. Welsh noted that at the Library of Congress, planning was centralized in one office, but that managers at all levels were expected also to be planners. Dr. Mayer commented that at the Eastern Virginia Medical Authority he has set up a strong central planning office, with resident planners in the various components

of the organization. The resident planners have a line responsibility to the components' chief, but also a staff responsibility relating to the Vice President for Planning and Development.

## VII. NMAC FUNCTIONS AND RESPONSIBILITIES

Dr. James W. Woods, Director of the Library's National Medical Audiovisual Center (NMAC), reviewed the progress made toward restaffing the Center and restoring its programs to operation following last year's move from Atlanta. Since the last Board meeting, most work areas have been put into at least minimum operation, and even the most highly technical areas will be operational by this fall. NMAC now has a staff of 56, organized into four branches (Materials Development, Materials Utilization, Educational Training and Consultation, and Educational Research and Evaluation) and the Office of the Director. There is a continuing need to recruit staff with backgrounds in the health professions. In reviewing the FY 1981 resources available to NMAC, Dr. Woods said, it became clear that full audiovisual production in all media could not be accommodated. As a result, the decision has been made to concentrate on video-production and to keep film and audio production at a minimum level. One reason for this is that NMAC's planned research activities will be oriented more to video; film and audio production, if needed, could be accomplished by a combination of in-house and contract efforts. Over the last few months, NMAC staff have been reviewing recent research projects (largely contract-supported) to see what the "starting point" is for the Center in its new home. Sixty-seven such projects were identified, twenty-three of them require followup work by NMAC.

In discussion the Center's future direction, Dr. Woods described NMAC's mission as part service and part research. Service functions, already operational, include the film rental program, the interlibrary loan of videotapes, film sales program through the General Services Administration, scheduling and logistics support for all NLM conference rooms, the graphics arts functions for all NLM, and photographic services. Dr. Woods also noted several collaborative efforts with other NLM components: in training (with Library Operations), in the knowledge-base program (Lister Hill Center), in developing AV products describing NLM (with the Public Information Office), and in developing the videocassette loan program (with the Regional Medical Library Program). NMAC is also involved with other NIH components in recording consensus development conferences.

NMAC's research programs are still in the early stage of development. The new videodisc technology will be one important focus of research--a project is already underway with the History of Medicine Division to investigate the videodisc as a medium for storing historical prints and photographs. Computer-assisted-instruction techniques may also be enhanced by videodiscs, an area NMAC plans to investigate. In general, more effective use must be made of the AV technologies available for professional health education. This offers a fertile field for NMAC research activities.

Following Dr. Woods' presentation, Dr. Edward Huth commented that there are still several unanswered questions about NMAC's role. It still is not clear exactly what NMAC should be doing in the eighties. At the recent meeting of the Regents' Subcommittee that deals with NMAC programs, some members expressed the belief that NMAC was not aiming high enough in its goals, that more radical approaches should be considered, and that NMAC may be paying too much attention to traditional services and media production. These comments are offered in the hope that they will stimulate discussion by the Board. The Regents' Subcommittee, Dr. Huth said, should accept Dr. Woods' offer to become involved in formulating NMAC policy. He expressed the hope that the Board would be kept informed as NMAC programs develop.

Dr. Cummings noted that in the past the Regents have been quite involved in influencing NMAC program direction. Shifting Federal policies about AV production have also influenced NMAC activities in the past. The Center's archival function is unique to the organization and its continuation is of great importance. He asked that the Regents articulate other irreducible functions for the Center, both in the service area and in research. There was a general discussion by the Regents about NMAC's research role—are the research activities described really "research?" Admiral Cox cautioned against hasty generalizations about NMAC's role. The Center performs a valuable function, he said, in investigating how best to package biomedical information and in distributing the information efficiently to the widest possible audience. Dr. Schoolman commented that all NMAC service functions have been transferred from Atlanta and new ones are being planned. As to research activities, they may be summarized in three areas: (1) research in assessing the value of AV communications endeavors, (2) research in the technical aspects of media development (computer graphics is an example), and (3) research in presentation and how to educate faculty in effectively using learning devices. The senior staff assembled by NMAC is talented in these areas and interested in pursuing them, Dr. Schoolman said.

Dr. Cummings concluded the discussion by saying that, just as the Regents over the years have changed the direction of NMAC's mission, for example by de-emphasizing AV production and concentrating on health professional education, the assistance of the Regents is now required in helping to examine NMAC's programs and in setting new policies and directions.

#### VIII. ECONOMIC IMPACT OF ONLINE SERVICES ON FILE CREATORS

Professor Martha E. Williams described the results of a study she conducted on the economic impact of online services on organizations that produce and provide online access to data bases. Her study, which will soon be published, resulted from an in-depth look at one data base producer that is also an abstracting/indexing/publishing organization. She reviewed the organization's income, expenses, pricing, and products. There is a serious problem of "migration," that is, the inroads that online services are making into publishers' subscription income. Although the case study is of one producer only, the situation is common to many. There are several concurrent trends evident: increases in data base revenues, increases in royalties charged for data bases, increases in the number of connect hours and the number of online users. At the same time there are decreases in the number of data base leases and licenses and in the number of subscriptions. The problem is to determine the point at which these increases and decreases balance. She noted that originally all income was generated by the sale of printed products (in the organization studied). By the end of 1979, 78% was derived from printed products; by the end of 1981 it will be about 50%. It will be necessary to reallocate a share of the cost of the intellectual effort to create the data base from the printed products to the online service, so that the latter will bear its fair share of production costs. Users of the online service are today paying essentially the same fees (in constant dollars) as they did when the service began (1974), and they have a data base four times the size of the original on which to conduct their searches.

Summing up the data on the many trends she presented, Professor Williams said that these concurrent phenomena must be addressed. Increasing online activity and income and decreasing profits and print subscriptions must be brought into balance. Whether decreasing income from print products is due to increased subscription costs, budget decreases of users, increased online usage, or other influences, is irrelevant. The data base producer must recognize these phenomena and do something to offset them. The future is not at all clear. Electronic publishing (eliminating the interim step of paper publication), consortia of data bases, telecommunications companies' purchase of data bases, are some of the present trends that data base producers must cope with. Relating Professor Williams' study

to NLM, Dr. Cummings commented that a crucial question for us is whether a national institution like the Library should ever be reduced simply to the role of a data-base generator. Profit-making organizations would be happy to see NLM do the enormous task of indexing and cataloging the biomedical literature and then turn over the product to them for vending at a large profit. This is a prospect that NLM may face in the next few years and with which it should be prepared to contend.

#### IX. REVIEW OF THE LABORATORY ANIMAL DATA BANK

Dr. Henry M. Kissman, NLM Associate Director for Specialized Information Services, described the user assessment of the Laboratory Animal Data Bank (LADB), conducted by the Life Science Research Office of the Federation of American Societies of Experimental Biology (FASEB). The study covered user services, the adequacy of the data, procedural methods, funding, cost-effectiveness, and administration. Recommendations were made in each area but, overall the FASEB panel concluded that LADB is a unique and valuable tool for information retrieval in the area of laboratory animal data. The review group recommended that funding to continue the project be sought from other institutes and divisions of NIH, from the National Toxicology Program, from other government agencies such as FDA and EPA, and from private and nonprofit institutions. Unfortunately, Dr. Kissman said, it does not appear that the funding needed to continue the program in FY 1981 will be forthcoming. The NIH Research Resources Coordinating Committee was briefed on LADB and the members were, in general, negative about the prospects of additional funding. The National Toxicology Program also is not able to contribute to the program. Dr. Kissman then provided a phase-out plan for LADB. The contractor will continue to operate online services for six more months, at which time it will end, unless efforts to obtain more funding are successful. Following Dr. Kissman's report, Dr. Mayer commented that LADB, after many years and dollars, cannot justify its continued existence. Demand for the service is low, and even the NIH components do not support it to the extent that they are willing to provide additional funding necessary to develop the system further and operate it. He admitted he had "mixed emotions" about LADB--on the one hand, in a few years, there may be a great need for such a service, and he hopes NLM's experience with LADB will be sufficiently well documented so that it will not have to be reinvented from scratch. On the other hand, in the absence of enthusiasm and commitments from other organizations, it makes sense to close the project down. Dr. Cummings commented that the lesson learned from LADB is that more than just initial enthusiasm and financial assistance are needed on such collaborative projects--long-term formal commitments to build and evaluate a system have to be evident before embarking on a project such as LADB. The consensus of the Regents discussion was that NLM should proceed with its plans to phase out LADB.

#### X. NLM INVOLVEMENT WITH THE BEHAVIORAL SCIENCES

Dr. Henry W. Riecken, NLM Senior Program Advisor, discussed the Library's programs in the behavioral sciences and his planned review of this area. A study of reader requests in the NLM Reading Room (covering two months of 1979) showed that the largest number of requests by far was for literature in psychiatry. He is suspicious of the validity of this result, however, because Lancaster's MEDLARS evaluation in the late sixties showed only 5-6% of all searches were in the behavioral sciences. Lancaster's method may have resulted in underestimation because of the nature of the institutions included in his sample. About this same time, NLM asked the National Research Council to appoint a task force to look at NLM's coverage of the behavioral sciences. Their report recommended that NLM add certain journals to its list for indexing and delete others, and that changes be made to NLM's Medical Subject Headings used in indexing. Developments in the behavioral sciences and its literature since the late sixties justify a new look at NLM's coverage of the field.

Dr. Riecken described how he plans to proceed with his study. He plans to meet with the Journal Selection Committee in the near future to discuss the journal coverage of the behavioral sciences in Index Medicus. He has begun to meet with representatives of other NIH components that have programs impinging on the behavioral sciences to solicit their opinions on how NLM should be involved in this area. A survey of online users is another possibility to discover the characteristics of those who are conducting searches, and possibly systematic trials of MEDLINE by behavioral scientists could be conducted. Professional consultants might be brought in to study the field. Perhaps another task force could be set up by an outside organization like the Institute of Medicine to look into the services and coverage of NLM in the behavioral sciences. Dr. Riecken said he would be glad for any suggestions from the Regents on the subject.

Dr. Huth, who is a member of the Journal Selection Committee, commented that he felt there was a bias on the part of this Committee against journals in the behavioral sciences. He is pleased that Dr. Riecken will be attending their next meeting to discuss this. Dr. Townsend agreed that the time is right for a careful look at NLM's services vis-a-vis the behavioral sciences. This area has become an important part of medical practice. There are even "behavioral medicine wards" in some medical centers, run by psychiatrists in conjunction with internists. Admiral Cox advanced several reasons for the increasing involvement of the behavioral sciences and medical practice--not only do the behavioral sciences impact on medicine in the one-to-one patient/physician relationship, but they have a growing importance in how health-care facilities are organized and managed. He also is enthusiastic about Dr. Riecken's proposed studies for NLM. Professor Williams offered the suggestion that a study of user needs and behavior might examine how MEDLARS is used by subscribers to Bibliographic Retrieval Services (BRS) and Lockheed. In contrast to NLM's own online network, these commercial services have many users who are not primarily medicine-oriented, such as behavioral scientists and practitioners. Mr. James Williams noted that one of the largest groups of users of behavioral-science literature in medical centers are nurses.

## XI. MEDLARS III UPDATE

Dr. Joseph Leiter, NLM Associate Director for Library Operations, and Mr. John Anderson, Director of the MEDLARS III Systems Development Team, described progress on MEDLARS III. The functional specifications, as Dr. Leiter reported at the last meeting, have been completed. A systems analysis of these specifications, detailed definitions of the tasks to be performed, and the formulation of a Request for Proposal (RFP) for a contract to design and implement the system will all be done in this fiscal year. Dr. Leiter said the MEDLARS Development Team has five full-time analysts, one full-time librarian, and several part-time analysts from various components of NLM. Parallel with these actions, NLM is developing a system for automated online input of indexing and cataloging information into the data base. This will eliminate the onerous task of filling out complex input forms and result also in greater consistency of indexing and cataloging. Online input of indexing done at NLM will begin in the fall of 1981, online input of contractor indexing will be implemented in 1982. Also in the area of indexing, Dr. Leiter discussed a study to see how the Associative Interactive Dictionary (AID), developed by Dr. Doszkocs, could be used to improve indexer consistency. The results showed that using AID could in fact improve consistency substantially and it is planned to eventually introduce these techniques into the indexing process. In cataloging, Dr. Leiter said that NLM will be able to use online name authority verification within the next six months. Future plans for cataloging include online input of cataloging data and the conversion to partially MARC-compatible records. Replying to a question from Mr. Williams, Dr. Leiter said that NLM catalogers will be using only NLM name-authority records, but that eventually NLM will have its name-authority records compatible with those of the Library of Congress.

Following Dr. Leiter's report, John Anderson discussed in some detail the implementation of MEDLARS III. The total effort will cost approximately \$6 million and take four years to become fully operational. Although the scope and complexity of MEDLARS III are not to be underestimated, there are somewhat comparable systems within government and the private sector, since all functions called for are within the present state of data processing technology. In projects of this scope, however, failures outnumber successes by a rate of 3 to 2. The premise in building MEDLARS III, he said, is that success or failure will not depend solely on the technology but on commitment to orderly administration and control, long-range planning, design techniques, and implementation methodologies. MEDLARS III enjoys several advantages: (1) management commitment, (2) a strong requirements statement, and (3) a methodology to be used in attacking the problems.

NLM is now analyzing the MEDLARS III work requirements that were formally articulated last fall. This analysis will lead to specifications to which industry designers and implementers can respond to build MEDLARS III. The RFP will be completed by the end of 1981. The actual building and testing of the new system will take place in 1982 and 1983. To minimize the risks, a parallel system will be operated for a period during the change-over from MEDLARS II to MEDLARS III. One of the necessities in the development and implementation of MEDLARS III is to acquire an already-available data base management system. We also hope to be able to acquire the retrieval system in one piece, so as not to have to "reinvent the wheel." A detailed development plan will be given to the NLM management by this September. Following reports of Dr. Leiter and Mr. Anderson, Mr. James Williams said he is highly optimistic about the prospects for MEDLARS III. Competent staff leadership and the detailed planning to date give every hope for a successful implementation. Professor Williams, Mr. Zipf, and Mr. Williams attended a meeting where the MEDLARS III plans were laid out in detail, and the Regents are convinced that the MEDLARS III team is on the right track. Dr. Mayer said it would be helpful if the Regents could have a brief description of MEDLARS III in nontechnical terms. Dr. Cummings promised to provide a two-page summary of the goals and functions of MEDLARS III and what its implementation will mean both to NLM and the health community at large.

## XII. REPORT OF THE ASSOCIATE DIRECTOR FOR EXTRAMURAL PROGRAMS

### Board Operating Procedures

As required annually, Dr. Allen presented for review the Board Operating Procedures—"Guidelines for Adjustments by Staff in Time or Amount of Grant Award." The Board reaffirmed the guidelines without revision.

### NLM Grant Policies

Dr. Allen noted that policies governing NIH and NLM grant programs are established in a number of ways: by legislation, by rules and regulations from the Office of Management and Budget, and by HHS decisions, all set down in the booklet called the "Public Health Service Grants Policy Statement." Additional policies pertaining specifically to the NLM Grant Programs are listed in an addendum to the PHS Policy Statement and consist mainly of policies recommended by the Board of Regents. Dr. Allen identified three pending policy items for discussion by the Board at this and future meetings: Union lists for all types of materials, microfilming of library holdings, and conversion of card-catalog records to machine-readable form. The Board took up the policy for support of union lists. Dr. Allen explained that an NLM task force had reviewed the issue, as instructed by the Board last October, when the Regents favored the inclusion of monographs and audiovisuals under the existing policy. He presented a modified version of the previous policy, which was accepted unanimously by the Board with two minor changes as follows:

Medical Library Resource Project Grant support is allowable for union lists containing detailed information on serial, monograph, and/or audiovisual holdings only where such union lists are compatible with national bibliographic standards and NLM's plans for the collection and use of locator/holding information in the MEDLARS III system.

Technical guidelines for serials exist in RML Region VII, and NLM is reviewing their serials holding data coding manual for resource and hospital libraries. With the Region's agreement, NLM plans to make these guidelines available throughout the country this spring. Guidelines for monographs and audiovisuals will be developed and made available after MEDLARS III establishes a system for these formats.

### Budget Projection

Dr. Allen presented the MLAA (Medical Library Assistance Act) projected budget plan for FY 1981. At the last meeting the Board was advised that the money available for competing applications would be considerably less than the \$3.2 million for FY 1980. The FY 1981 budget shows competing grants reduced to \$2.1 million--the decrease partly due to the increase in individual improvement grants from \$3,000 to \$4,000 which brought some consortia grants up to more than \$40,000 each. Another increase was in the large training grants and computer-in-medicine grants, which have funding commitments over several years. The impact was a steady reduction in the amount of money available for new and competing renewals. In addition, Extramural Programs was advised that it had lost \$1.4 million because of a decision by OMB that the resource grant program should be abolished. NLM appealed the decision and OMB restored the authority for the resource program. Unfortunately, however, the money was not restored, reducing the budget by \$1.4 million. Dr. Allen showed that 57 resource grants are slated to be funded in 1981 for \$1,531,000. In 1982, resource grant moneys will be \$952,000, a decrease of almost \$600,000. Total budget allocation for FY 1982 for all programs is \$8,925,000, down from \$9,825,000 in 1981. Dr. Allen invited Board members to share in setting program priorities in view of the limited funds available.

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In order to accommodate one Board member who had to leave the meeting by 1:00 p.m. the meeting was closed from 10:45 a.m. to 10:55 a.m., January 30, 1981, for the review of two research grant applications, deferred at the October meeting and awaiting policy decisions on union lists. The Board recommended unanimously that both applications be approved when the institutions can demonstrate their compatibility with national guidelines for union lists.

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### XIII. NEEDS IN THE HISTORY OF MEDICINE

Dr. Jeanne L. Brand, Chief of EP's International Programs Branch, noted that the following report was developed in response to the Board of Regents' expressed interest a year ago in learning what medical historians in this country see as the important needs in their field in the coming decade. Dr. Cecil Sheps and other Board members had noted that NLM was the only significant source of support in the field and that no training funds were currently available. They suggested that NLM staff develop a general statement indicating what medical historians today perceive as the important, continuing needs in their field. At this time, Dr. Brand emphasized, the principal support for U.S. scholarship is derived from the NLM Publication Grant Program. Additionally, NLM funds some historical projects in the Special Foreign Currency countries with local currencies.

The present study involved input from 32 medical historians- -a 100% response. There are only 100 to 125 people in this country working seriously in this field. The contributors to this study included representatives from every major U.S. academic institution with programs in the history of medicine. Twenty-two of the group had received previous funding from NIH or NLM. The contributors were asked for their views on the needs in research and publication, in training, and in resources in the history of medicine. Two-thirds of the respondents pointed to the need for continued support for research and publication of scholarly monographs in the history of medicine. They noted the absence today of any support for research in this field offered by funding agencies other than NLM. Support from private foundations is nonexistent. This situation makes NLM's support even more important. They pointed out that the NLM program is very valuable and has resulted in the publication of a number of important books in the field, as well as translations of some medical classics. The majority of those commenting on research support emphasized that funding in the field should not be directed to targeted research. The six-member Study Section on the History of Medicine, which met last July on this subject, gave consideration to the advantages and disadvantages in generating lists of underdeveloped but important research areas in the history of medicine. Among the subjects they mentioned were: historical appraisals of government-sponsored health programs, a comparative history of disease patterns, local medical history, and occupational health and disease. Generally, however, the committee saw little need to encourage or artificially stimulate research on specific topics on the history of medicine. The contributors expressed their concern with the problem of teaching medical history. The number of American medical students exposed to formal education in the history of medicine is decreasing. This is due in large measure to the seriously crowded schedule confronting all medical students. It was the consensus of the contributors that the current scarcity of positions in medical schools for medical historians would not warrant the institution of support for training grants which would underwrite graduate training programs in the history of medicine. Moreover, there are a number of excellent facilities for training in the history of medicine, at Johns Hopkins, Yale, the University of Kansas, Wisconsin, California at San Francisco, and others. The core problem today is the absence of postdoctorate fellowships. The six-member Study Section strongly urged that funds be allocated in national competition for postdoctoral training awards in medical school settings of both physicians and historians. Funds for such a program could be less than \$100,000 annually. Even the training of two to three scholars a year would help to overcome the serious shortage of young scholars who will someday replace existing senior scholars. Because of the scarcity of funds, any training support from NLM should be made available only to those few who have already demonstrated a sustained interest in the field and who are committed to pursue or continue a teaching career. It was the view of several contributors that people rather than resources (preservation, organization, and utilization of historical collections of major scholarly significance and national import) should benefit first from the limited funding; although they acknowledged the value of NLM's current funding for resources. In conclusion, Dr. Brand stated that the review provided further evidence that the NLM program of support for research and publication in this field is responsive to a crucial need and that it should be continued. Although the contributors were asked to place training and research in order of priority, they felt that both research and training support were equally important. Dr. Brand asked Dr. Jarcho and Dr. Sheps for their comments.

Dr. Jarcho reiterated that although support is meager, people do exist who are eager to work in the history of medicine. The subject is essential for the cultural development of this country. Together with the other contributors, he recommended that NLM continue its support for publication and research in the field and add a small number of awards in support of postdoctoral training. No moneys should be made available for resources.

Dr. Sheps emphasized the need for scholarship and research in the history of medicine and the importance of this area for education, particularly education of physicians. It is important to bring attention to 20th-century developments in medicine and their influence on society.

In this country in particular very little has been done. The role that NLM has in general for improving information and for the transfer of knowledge continues to be important in the history of medicine, and some training funds would be valuable. Dr. Sheps supported the provision of NLM funds for postdoctoral training in the history of medicine. He pointed out, in addition, that the concept of summer institutes had proven its value in other fields and expressed the hope that if, as seemed probable, it were unfeasible for NLM to conduct such training, ways might be found to support summer institutes. He hoped that at some time attention could be given to archival activities, possibly with NLM's guidance. Finally, with regard to targeting, he thought that this can be done productively as it has been done over the years at NIH by identifying needed research on the basis of relevance.

After discussion, two motions were passed unanimously by the Board:

1. that NLM staff consider the possibility of developing specific proposals for a small number of postdoctoral training awards, and that the staff consider exploring the possibilities regarding the development of summer institutes in the history of medicine, possibly in conjunction with the American Association for the History of Medicine.
2. that staff of the History of Medicine Division explore the feasibility of developing guidelines on appropriate archival activities for a medical institution.

#### XIV. TRAINING GRANT PROGRAM ASSESSMENT - Second Phase

Dr. Schoolman described the three tasks to be accomplished at this Board meeting:

1. Gain a perspective of the field as it exists today.
2. Reexamine the aims and objectives and decide whether they need to be modified.
3. Identify the issues of importance in which NLM should view these aims and objectives in order to develop recommendations for Board consideration at the May meeting.

Dr. Schoolman concentrated on the computer science aspect and the M.D. health professional as they relate to their present environment. The field has expanded considerably in the last ten years. There are openings for 17,000 trained computer scientists annually, new Ph.D.'s per year are 196, masters 3,000, bachelors 7,000. At the masters and Ph.D. levels the ratio is about seven jobs to every graduate. In addition, there are 600 unfilled faculty positions in computer science in the colleges and universities of this country with little likelihood of being filled. This is because for each of the 196 Ph.Ds there are seven or eight job offers from industry well in advance of graduation with salaries that equal at least those of full professors. Prestige and peer recognition of the computer scientist in industry is far greater than in the academic medical field. Outside the U.S., particularly in Germany, France, and to some extent in Great Britain and Japan, Ph.D. theses in computer science are being encouraged to be written in the context of medicine. The picture is no brighter with regard to M.D.'s. There is but one department of medical computing in a medical school in this country, at the University of Texas at Dallas; and only several sections within different types of departments dealing with medical computing, one in clinical decision-making at Tufts, one in clinical pathology at the University of Missouri in Columbia, and one in ambulatory and community medicine at the University of California in San Francisco. The opportunity for an investigator M.D. either to receive a salary for this endeavor or to get recognition or promotion through publication and research is very small.

Regarding the field itself, Dr. Schoolman made the observation that there is an overselling of the immediate payoff of this activity. At conferences one finds a very large percentage of papers that are devoted to applications and very few papers on the basic foundations for the field. In addition there is overpromising of the usefulness of the applications in either improving the quality of health care or reducing its cost--promises which to some extent have been stimulated by the funding agencies which have insisted upon that type of requirement, and in part by the limited medical understanding of the computer scientists who have developed the applications. The most pressing unfulfilled need is for adequate support to train and develop researchers and to support research in solving some of the basic problems that remain unsolved. Examples of such unsolved issues are knowledge representation and natural language interfaces. The solutions to these problems, while they would undoubtedly lead to a system far superior to any existing at the moment, are likely to be a long way off in the future. There are alternatives to these approaches which may not produce the same solution--may indeed not solve one hundred percent of the problems--but would still be extremely useful. Therefore one should also work on a solution that is feasible and useful now, even if less satisfactory.

In conclusion, Dr. Schoolman noted that during Subcommittee discussions on Wednesday, the general consensus was that the priorities set ten years ago should be reversed. Although the objectives remain the same, the emphasis should probably be shifted toward greater concentration on research training and career development research, and a lesser concern should be given to enhancing the environment. Dr. Schoolman called on Dr. Molnar for his comments.

Dr. Molnar noted that in the field of medical computing the most critical need is to identify individuals whose depth and breadth of training, both in computer science and technology and in the thorough understanding of the issues, qualify them to address the problems now encountered in the field. Everything possible must be done to encourage these individuals to make personal and career commitments in acquiring the background necessary for the leadership needed. At the same time, it is very important that they know that medicine wants and needs them and that there will be sustained research support. There is now no clear perception of what career paths will be in the biomedical-computing field, and opportunities in the commercial market place for these skills are overwhelming. The availability of research support for the intellectual endeavor in this area is a problem and needs to be addressed. Support for "research centers of excellence" with related career development support could be an answer. Research Career Development Awards have extraordinary institutional and Federal commitment and appear to be an appropriate mechanism for support.

Dr. Cummings noted that careful planning and consideration needs to be given to the third phase of the Training Grant Program assessment on whether the advancement of research can be associated with the training experience and education through more integrated mechanisms.

## XV. OTHER BUSINESS

1. After discussion, the Board unanimously passed a resolution urging The Secretary to expedite the introduction of bills into Congress for the extension of the Medical Library Assistance Act. (See Attachment B)
2. Colonel Scotti expressed his concern with NLM's decision to discontinue operation of the Laboratory Animal Data Bank, discussed the previous day. He noted that at past meetings information provided on this subject had always been positive in terms of the system's unique benefit not obtainable elsewhere. The data base will no longer exist because funds for its continuance and expansion have not been found. Its value is too great and a real effort should be made to secure funding. Mr. Kent Smith assured the Board that the issue was brought to the attention of the NIH Director when the NIH Research Resources Committee chose not to provide funds for this data base.

The Board passed a motion that Dr. Fredrickson be asked to take a special look at this problem.

3. Referring to tasks to be accomplished before the May meeting in the area of NMAC and the Computers-in-Medicine Training Grant Program, the Chairman asked that the Board's Lister Hill Center and National Medical Audiovisual Center Subcommittee meet at least once before the May meeting to take up unresolved issues and come up with positive actions or recommendations for the Board's consideration. He appointed Dr. Huth to serve as Chairman of the Subcommittee. In addition, Dr. Davies invited Board members to advise Dr. Cummings of anything that is of concern to them and should be brought before the Board for discussion at future meetings.

4. The Chairman appointed a Nominating Committee for the selection of next year's Board chairman, consisting of Dr. Clark, Chairman, Colonel Scotti, and Admiral Shea. The Committee will make its recommendations to the Board at the May meeting.

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MEETING CLOSED FOR THE REVIEW OF GRANT APPLICATIONS AT 3:00 P.M.  
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XVI. REVIEW OF PENDING APPLICATIONS

Before proceeding with the consideration of pending applications, Dr. Dahlen informed Board members of confidentiality and conflict-of-interest procedures and reminded them to sign, at the conclusion of the grant application review, the statement certifying that they had not participated in the discussion of any application where conflicts of interest might occur.

The Board concurred with the recommendations of the Extramural Programs Subcommittee. A total of 62 applications was reviewed, of which 34 were recommended for approval, 24 for disapproval, and 4 for deferral. Grant applications recommended for approval by the Board are listed in the summary actions (Attachment C). Interim actions taken by EP staff since the May meeting of the Board were noted.

XVII. ADJOURNMENT

The meeting was adjourned at 3:45 p.m., Friday, January 30, 1981.

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Wednesday, January 28, 1981, 2:00 to 4:30 p.m.  
(EP Subcommittee- -List of Attendees under Attachment D)  
Wednesday, January 28, 1981, 2:00 to 5:00 p.m.  
(LHC/NMAC Subcommittee - -List of Attendees under Attachment E)  
Thursday, January 29, 1981, 9:00 a.m. to 3:55 p.m.  
Friday, January 30, 1981, 9:00 a.m. to 3:45 p.m.

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ACTIONS TAKEN BY THE BOARD OF REGENTS

1. The Board passed a motion asking Extramural Programs staff to consider (1) developing specific proposals for a small number of postdoctoral training awards, and (2) exploring the possibilities regarding the development of summer institutes in the history of medicine, possibly in conjunction with the American Association for the History of Medicine.
2. The Board passed a motion asking the History of Medicine staff to explore the feasibility of developing guidelines on appropriate archival activities for a medical institution.
3. The Board passed a resolution urging The Secretary to expedite the introduction of bills into Congress for the extension of the Medical Library Assistance Act (Attachment B).
4. The Board passed a motion that Dr. Fredrickson be asked to take a special look at the problem for continuing support for the Laboratory Animal Data Bank.
5. The Board concurred with recommendations of the Extramural Programs Subcommittee. Grant applications for approval are listed with the summary actions (Attachment C).

I hereby certify that, to the best of my knowledge, the foregoing minutes and attachments are accurate and complete.

*Martin M. Cummings* 3/26/81

Martin M. Cummings, M.D. (Date)  
Executive Secretary

*Nicholas E. Davies* 3/28/81

Nicholas E. Davies, M.D. (Date)  
Chairman

Mr. Robert B. Mehnert  
Chief, Office of Inquiries  
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Washington, DC 20310 202-697-1295

Alternate

WELSH, William J.  
Deputy Librarian of Congress  
Library of Congress  
10 First Street, S.E.  
Washington, DC 20540 202-287-5215

HAHN, James M. (142)  
Director, Learning Resources Service  
Veterans Administration  
1810 Vermont Avenue, N.W.  
Washington, DC 20420 202-389-2781

None

ABDELLAH, Faye G., Ed.D., Sc.D.  
Assistant Surgeon General, and  
Chief Nurse Officer, USPHS, and  
Chief Advisor Long-Term Care  
Policy, OASH/ODSG, PHS  
Parklawn Building, Room 17B09  
5600 Fishers Lane  
Rockville, MD 20857 301-443-6497

MILLER, Monte G., Brig, Gen., USAF, MC  
Commander  
Malcolm Grow Medical Center  
Andrews Air Force Base, MD 20331  
301-981-3001

SCOTTI, Michael J., Col., MC, USA  
Chief, Graduate Medical Education Branch  
Education and Training Division  
U.S. Army Medical Department  
Personnel Support Agency  
Washington, DC 20314 202-693-5455

EXECUTIVE SECRETARY

CUMMINGS, Martin M., M.D.  
Director  
National Library of Medicine  
Bethesda, MD 20209 301-496-6221

## MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

NATIONAL INSTITUTES OF HEALTH

NATIONAL LIBRARY OF MEDICINE

DATE: January 30, 1981

TO : The Secretary  
Through: US \_\_\_\_\_  
ES \_\_\_\_\_  
Acting ASH \_\_\_\_\_  
Director, NIH 13/ 2/19/81

FROM : Chairman, Board of Regents of the National Library of Medicine

SUBJECT: Resolution on Extension of the Medical Library Assistance Act

As Chairman of the Board of Regents of the National Library of Medicine, let me extend to you sincere congratulations on your confirmation as Secretary, HHS. I share the pleasure of members to the Board in having someone in this important position with your outstanding qualifications and experience.

Concerned that appropriation hearings may again exclude the Medical Library Assistance Program because no extension of authorization beyond 1981 has been provided, the Board passed the attached Resolution to solicit your assistance. Obvious from the Resolution, the Board has a very high regard for this important program, which is already familiar to you as a recent member of the Senate Appropriations Committee. We trust that you will agree that its continuation should be insured through introduction of necessary bills to permit enactment of the legislation required and that your office of legislation will take early and appropriate action.



Nicholas E. Davies, M.D.

Attachments

RESOLUTION

BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

JANUARY 30, 1981

The Board of Regents of the National Library of Medicine urges the Secretary to expedite the introduction of bills to extend the authorization of the Medical Library Assistance Act of the Library. Such action is made most urgent by the scheduling of early hearings by the Appropriation Committees of the House and the Senate.

Having been responsible for advising on the operation of this Program, the members of the Board are fully aware of the significant contributions that are being made. The accomplishments that this Program has helped bring about include a heavily utilized national network for biomedical communication, improved mechanisms for sharing knowledge, and the establishment of ready and easy access to health information for physicians and other health workers throughout the country.

Recognizing the potential for continued and even greater contributions through this Act, the Board recommends the earliest possible action on this request.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL I/  
(Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 K10 LM 00061-01		01 76,416
APP: A MODEL FOR INTEGRATING BIOMEDICAL CONCEPTS		
1 K10 LM 00063-01		01 30,795
DISABILITY AND REHABILITATION		02 22,450
1 K10 LM 00064--01		01 40,965
PIONEERING PROTOTYPES OF PRIMARY CARE		02 38,304

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
(Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 T15 LM 07028-01	TRAINING IN HEALTH SCIENCES AND COMPUTER TECHNOLOGY	01 97,714 02 101,593 03 115,812 04 120,876 05 126,260
1 T15 LM 07030-01	COMPUTERS AND DECISION-MAKING IN MEDICINE	01 64,556 02 81,516 03 98,674 04 116,443 05 120,549

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
(Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 G08 LM 03137-01A1	EKHSIN AUDIOVISUAL PROJECT	01A1 55,051 02 54,916 03 54,739
1 G08 LM 03724-01	AUDIOVISUAL CENTER FOR SELF-DIRECTED LEARNING	01 42,956 02 21,748 03 21,848
1 G08 LM 03735-01	CREATE CENTER FOR HISTORY OF PODIATRY	01 37,450

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
 (Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION:	NATIONAL LIBRARY OF MEDICINE	APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1	RO1 LM 03303-01A1		THE AMERICAN SIGN LANGUAGE OF THE DEAF: 1760 TO TODAY	01A1 52,251 02 42,692
1	RO1 LM 03641-01A1		FEEDBACK TECHNOLOGY TO IMPROVE PHYSICIAN JUDGMENT	01A1 163,715 02 160,296 03 174,429
1	RO1 LM 03699-01		TRANSLATION: ORIBASIIUS MEDICA VI, PHILOSTRATUS GYMN	01 23,500
1	RO1 LM 03727-01	DUAL: HD	CHOLERA INFANTUM AND AMERICAN PEDIATRICS	01 6,200
1	RO1 LM 03730-01		PREPARATION OF A MONOGRAPH ON SUCKING LICE	01 31,196
1	RO1 LM 03758-01		PHARMACIST/PATHOLOGIST ONLINE SEARCHING BEHAVIOR	01 46,999 02 52,699
1	RO1 LM 03761-01	DUAL: CA	METAL CARCINOGENESIS BOOK	01 7,800

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
 (Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 G07 LM 03475-01A1		01A1 4,275
	SINGLE-INSTITUTION GRANT	
1 G07 LM 03513-01A1		01A1 4,000
	SINGLE-INSTITUTION GRANT	
1 G07 LM 03516-01A1		01A1 3,000
	SINGLE-INSTITUTION GRANT	
1 G07 LM 03676-01		01 4,500
	SINGLE-INSTITUTION GRANT	
1 G07 LM 03693-01		01 22,997
	CONSORTIUM IMPROVEMENT GRANT	
1 G07 LM 03716-01		01 4,000
	SINGLE-INSTITUTION GRANT	
1 G07 LM 03717-01		01 3,000
	SINGLE-INSTITUTION GRANT	
1 G07 LM 03718-01		01 4,000
	SINGLE-INSTITUTION GRANT	

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
(Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE	APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
	1 G07 LM 03723-01	SINGLE- INSTITUTION GRANT	01 4,000
	1 G07 LM 03729-01	SINGLE- INSTITUTION GRANT	01 4,000
	1 G07 LM 03731-01	SINGLE- INSTITUTION GRANT	01 4,000
	1 G07 LM 03737-01	CONSORTIUM IMPROVEMENT GRANT	01 23,007
	1 G07 LM 03738-01	CONSORTIUM IMPROVEMENT GRANT	01 11,400
	1 G07 LM 03742-01	SINGLE- INSTITUTION GRANT	01 3,003
	1 G07 LM 03744-01	CONSORTIUM IMPROVEMENT GRANT	01 23,303
	1 G07 LM 03749-01	CONSORTIUM IMPROVEMENT GRANT	01 8,944
	1 G07 LM 03752-01	SINGLE- INSTITUTION GRANT	01 4,000

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
(Arranged numerically by program)

COUNCIL DATE: JANUARY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 G07 LM 03755-01	CONSORTIUM IMPROVEMENT GRANT	01 29,656
1 G07 LM 03757-01	SINGLE - INSTITUTION GRANT	01 4,000

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

B O A R D O F R E G E N T S

Extramural Programs Subcommittee Meeting

January 28, 1981

A T T E N D E E S

Subcommittee Members Present:

Mrs. Bernice M. Hetzner (Consultant)  
Dr. Saul Jarcho (Consultant)  
Dr. John L. Townsend  
Mr. James F. Williams II  
Professor Martha E. Williams

NLM Staff Present:

Dr. Martin M. Cummings, Director, NLM  
Dr. Ernest M. Allen, Associate Director for Extramural Programs  
Mrs. Helen S. Bennison, Grants Management Specialist, EP  
Mr. Arthur J. Broering, Deputy Associate Director for Extramural Programs  
Dr. Jeanne L. Brand, International Programs Division, EP  
Mr. Peter A. Clepper, Program Officer, EP  
Mrs. Karin K. Colton, Committee Management Assistant  
Dr. Roger W. Dahlen, Chief, Division of Biomedical Information Support, EP  
Mrs. Doris Doran, Program Officer, EP  
Miss Annette B. Green, Grants Data Clerk, EP  
Mrs. Rose Marie Holston, Program Technical Assistant, EP  
Mrs. Frances E. Johnson, Program Officer, EP  
Mrs. M. Kathleen Nichols, Grants Management Specialist, EP  
Mrs. Marguerite L. Pusey, Administrative Officer, EP  
Dr. Dorothy A. Stroup, Program Officer, EP  
Mr. Randall Worthington, Program Officer, EP  
Dr. Galina V. Zarechnak, Program Officer, EP

B O A R D O F R E G E N T S

Lister Hill Center and National Medical Audiovisual Center

Subcommittee Meeting

January 28, 1981

A T T E N D E E S

Subcommittee Members Present:

Dr. Faye G. Abdellah  
Vice Admiral J. William Cox  
Dr. Nicholas E. Davies (Chairman of the Board)  
Dr. Edward J. Huth  
Dr. Charles E. Molnar

NLM Staff Present:

Dr. Harold M. Schoolman, Deputy Director for Research and Education, OD  
Dr. Lionel M. Bernstein, Director, LHNCBC  
Dr. Merlin Brubaker, Acting Deputy Director, NMAC  
Dr. Donald R. Buckner, Chief, Materials Development Branch, NMAC  
Dr. William G. Cooper, Associate Director for Planning, OD  
Mr. Benjamin Erdman, Deputy Director, LHNCBC  
Mr. Charles M. Goldstein, Chief, Computer Technology Branch, LHNCBC  
Mr. B. Earl Henderson, Chief, Communications Engineering Branch, LHNCBC  
Ms. Linda W. Kudrick, Chief, Materials Utilization Branch, NMAC  
Dr. A. Donald Merritt, Chief, Health Professions Applications Branch, LHNCBC  
Dr. Warren F. Seibert, Chief, Educational Research and Evaluation Branch, NMAC  
Dr. Thomas V. Telder, Chief, Educational Training and Consultation Branch, NMAC  
Dr. James W. Woods, Director, NMAC  
Dr. Harold A. Wooster, Special Assistant for Program Development, LHNCBC

Subcommittee Member Unable to Attend:

Dr. Ismael Almodovar

Members of the Public Present:

None

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
NATIONAL INSTITUTES OF HEALTH  
NATIONAL LIBRARY OF MEDICINE  
Bethesda, Maryland

A G E N D A

67th Meeting of the

BOARD OF REGENTS

9:00 a.m., May 28-29, 1981

Board Room  
National Library of Medicine

MEETING OPEN: All day on May 28 and from 9:00 a.m. to 2:00 p.m. on May 29.

MEETING CLOSED: From 2:00 p.m. to adjournment on May 29 for the review of grant applications.

- . CALL TO ORDER AND INTRODUCTORY REMARKS Dr. Nicholas E. Davies
- I. REMARKS BY THE ASSISTANT SECRETARY FOR HEALTH-designate Dr. Edward N. Brandt, Jr.
- II. REMARKS BY THE ASSOCIATE DIRECTOR FOR EXTRAMURAL RESEARCH AND TRAINING, NIH Dr. William F. Raub
- III. CONSIDERATION OF MINUTES OF LAST MEETING (Agenda Book) TAB I Dr. Nicholas E. Davies
- IV. DATES OF FUTURE MEETINGS TAB II  
1981 and 1982 Calendars  
Next Meeting: October 29-30, 1981 (Th-F)  
Winter Meeting: February 4-5, 1982 (Th-F)  
Spring Meeting: May 20-21, 1982 (Th-F) OR  
May 27-28, 1982 (Th-F)
- V. REPORT OF THE DIRECTOR, NLM TAB III Dr. Martin M. Cummings
- COFFEE BREAK

5/1/81

VII. REVIEW OF CURRENT USER CHARGE POLICY FOR ONLINE SERVICES

TAB VI

- A. Domestic
- B. Foreign

Tab A  
Tab B

Mr. Kent A. Smith  
Miss Mary E. Corning

Discussion

Prof. Martha E. Williams,  
Mr. William J. Welsh,  
Discussants  
Board Members

LUNCH CATERED IN CONFERENCE ROOM "B" 12:45 - 1:45

VIII. NMAC PROGRAM OBJECTIVES AND PLANS

TAB IV

Dr. James W. Woods

Discussion

Dr. Edward J. Huth and  
Dr. Faye G. Abdellah,  
Discussants  
Board Members

IX. BOARD OF SCIENTIFIC COUNSELORS' REVIEW

TAB V

Dr. Lionel M. Bernstein

- A. Document Storage, Retrieval, and Distribution Research Program

Tab A

Mr. B. Earl Henderson

COFFEE BREAK

- B. Knowledge-Base Research Program

Tab B

Dr. A. Donald Merritt

Discussion

Dr. Edward J. Huth  
Dr. Charles E. Molnar, and  
Mr. James F. Williams II,  
Discussants  
Board Members

X. REPORT OF THE NOMINATING COMMITTEE

Dr. Eloise E. Clark

XI. DIRECTOR'S AWARD

Dr. Martin M. Cummings

(Photograph to be taken of Board Members in front of Library)

R E C E S S            \* \* \* \* \*

DINNER . . . . . Bethesda Naval Officers' Club  
 Cocktails (Cash Bar) . . . . . 6:30 p.m.      Second Floor  
 Dinner (Dutch Treat) . . . . . 7:30 p.m.      "Bridge Room"

SPEAKER: Dr. Nicholas E. Davies  
Chairman of the Board of Regents of the  
National Library of Medicine

TOPIC: "Princess, Porcupines and Public's Health"

R E C O N V E N E : Friday, May 29, 1981, 9:00 a.m.

\* \* \* \* \*

- XII. REPORT OF THE ASSOCIATE DIRECTOR FOR EXTRAMURAL PROGRAMS TAB VII Dr. Ernest M. Allen
  - A. 1982 Budget Option --Program Emphases Tab A
  - B. Extramural Programs Workload Tab B
  - C. Union Lists Tab C

Discussion EP Subcommittee and Board Members
  
- XIII. CONCLUSION OF TRAINING GRANT PROGRAM ASSESSMENT TAB VIII Dr. Harold M. Schoolman

Discussion Dr. Charles E. Molnar, Discussant Board Members

COFFEE BREAK
  
- XIV. RML CONTRACT REVIEW TAB IX Mr. Sheldon Kotzin

Discussion Dr. Faye G. Abdellah and Dr. Max Michael, Jr., Discussants Board Members

LUNCH (No formal arrangements.)
  
- XV. SURVEY OF AUDIOVISUAL EQUIPMENT SUPPORTED BY NLM GRANTS TAB X Mrs. Doris J. Doran

Discussion Dr. Max Michael, Jr., Discussant Board Members
  
- XVI. NEW BUSINESS Dr. Nicholas E. Davies

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MEETING CLOSED FOR GRANT APPLICATION REVIEW -- 2:00 p.m.

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- XVII. SPECIAL APPLICATIONS (Gray Book)
  - A. Publication TAB I Dr. Jeanne L. Brand
  - B. Research TAB II Dr. Roger W. Dahlen

XVIII. SUMMARY STATEMENTS

A. Publication	<u>TAB III</u>	Dr. Jeanne L. Brand
B. Special Scientific Project	<u>TAB IV</u>	Dr. Roger W. Dahlen
C. Research	<u>TAB V</u>	" " " "
D. New Investigator	<u>TAB VI</u>	" " " "
E. Resource	<u>TAB VII</u>	" " " "
F. Improvement	<u>TAB VIII</u>	" " " "

XIX. ADJOURNMENT

3:00 p.m.

Dr. Nicholas E. Davies

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH  
NATIONAL LIBRARY OF MEDICINE

BOARD OF REGENTS

MINUTES OF THE 67th MEETING  
May 28-29, 1981

BOARD ROOM  
NATIONAL LIBRARY OF MEDICINE  
BETHESDA, MARYLAND

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE

THE BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

Minutes of Meeting 1/ 2/

May 28-29, 1981

The Board of Regents of the National Library of Medicine was convened for its sixty-seventh meeting at 9:00 a.m. on Thursday, May 28, 1981, in the Board Room of the National Library of Medicine, Bethesda, Maryland. Dr. Nicholas E. Davies, Chairman of the Board of Regents, and Attending Physician, Piedmont Hospital, Atlanta, Georgia, presided. In accordance with P.L. 92-463 and the Determination of the Director, NIH, and as announced in the Federal Register on April 17, 1981, the meeting was open to the public from 9:00 a.m. to 5:15 p.m. on May 28 and from 9:00 a.m. to 12:15 p.m. on May 29, and closed from 12:15 to 1:15 p.m. on May 29 for the review, discussion, and evaluation of grant applications. A Board roster is enclosed under Attachment "A."

Board members present were:

Dr. Ismael Almodóvar  
Dr. Edward N. Brandt, Jr., (May 28)  
Vice Admiral J. William Cox (May 28)  
Dr. Eloise E. Clark (May 28)  
Dr. Gwendolyn S. Cruzat  
Dr. Nicholas E. Davies  
Dr. Emmet F. Ferguson, Jr.  
Dr. Edward J. Huth  
Dr. William D. Mayer (May 29)  
Dr. Charles E. Molnar  
Dr. John L. Townsend  
Mr. James F. Williams II  
Ms. Martha E. Williams

Alternates to Board members present were:

Dr. Faye G. Abdellah, representing Dr. Edward N. Brandt, Jr.  
Dr. Turner Camp, representing Dr. Donald L. Custis  
Mr. James M. Hahn, representing Dr. Donald L. Custis  
Brig. General Monte B. Miller, representing Lt. General Paul W. Myers  
Colonel Michael J. Scotti, representing Lt. General Charles C. Pixley  
Mr. William J. Welsh, representing Dr. Daniel J. Boorstin

Correction to January 29-30 minutes: Mr. James M. Hahn was not listed under those alternates attending the January meeting. The minutes stand corrected to show that Mr. Hahn was in attendance, representing Dr. Donald L. Custis.

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1/ For the record, it is noted that members absent themselves from the meeting when the Board is discussing applications from their respective institutions (interpreted to mean the entire system of which a member's institution is a part) or in which a conflict of interest might occur. Only when an application is under individual discussion will the Board member absent himself. This procedure does not apply to "en bloc" actions.

2/ The Board of Regents, when considering the extramural programs of NLM, also constitutes and serves as the National Medical Library Assistance Advisory Board.

National Library of Medicine staff members attending this meeting included:

Dr. Martin M. Cummings, Director  
Mr. Kent A. Smith, Deputy Director  
Dr. Harold M. Schoolman, Deputy Director for Research and Education  
Dr. Ernest M. Allen, Associate Director for Extramural Programs  
Mr. John Anderson, Director, MEDLARS III, LO  
Dr. Clifford A. Bachrach, Head, Medical Subject Headings Section, LO  
Mr. Harry D. Bennett, Director for Computer and Communications System  
Mr. Albert Berkowitz, Chief, Reference Services Division, LO  
Dr. Lionel M. Bernstein, Director, Lister Hill National Center for Biomedical Communications  
Dr. John B. Blake, Chief, History of Medicine Division, LO  
Dr. Jeanne L. Brand, Chief, International Programs Branch, EP  
Mr. Arthur J. Broering, Deputy Associate Director for Extramural Programs  
Dr. Merlin Brubaker, Acting Deputy Director, NMAC  
Dr. Donald R. Buckner, Chief, Materials Development Branch, NMAC  
Dr. William G. Cooper, Associate Director for Planning  
Miss Mary E. Corning, Assistant Director for International Programs  
Dr. Roger W. Dahlen, Chief, Biomedical Information Support Branch, EP  
Mr. Benjamin Erdman, Deputy Director, LHCBC  
Mr. Charles M. Goldstein, Chief, Computer Technology Branch, LHCBC  
Mr. B. Earl Henderson, Chief, Communications Engineering Branch, LHCBC  
Dr. Henry M. Kissman, Associate Director for Specialized Information Services  
Mr. Sheldon Kotzin, RML Program Coordinator  
Ms. Linda W. Kudrick, Chief, Materials Utilization Branch, NMAC  
Dr. Joseph Leiter, Associate Director for Library Operations  
Mr. Robert B. Mehnert, Chief, Office of Inquiries and Publications Management  
Dr. A. Donald Merritt, Chief, Health Professions Applications Branch, LHCBC  
Dr. Henry W. Riecken, Senior Program Adviser, OD  
Mr. Arthur J. Robinson, Jr., EEO Coordinator  
Dr. Thomas V. Telder, Chief, Educational Training and Consultation Branch, NMAC  
Dr. James W. Woods, Director, National Medical Audiovisual Center

Others present included:

Dr. William F. Raub, Associate Director for Extramural Research and Training, NIH (May 28)  
Dr. Saul Jarcho, New York Academy of Medicine - - Consultant  
Dr. Max Michael, Jr., Assistant Vice President for Health Affairs, Jacksonville Hospitals  
Educational Programs, Inc. - - Consultant  
Mrs. Ileen E. Stewart, Executive Secretary, Special Study Section, DRG, NIH (May 29)

Members of the public present:

Ms. Carter Leonard, Reporter, "The Blue Sheet" (May 28)  
Ms. Melinda Renner, Independent Consultant (May 29)

## I. OPENING REMARKS

Dr. Nicholas E. Davies, Chairman, welcomed the Regents, consultants, and guests to the 67th meeting of the Board of Regents.

## II. CONSIDERATION OF MINUTES OF PREVIOUS MEETING

The Regents approved the minutes of the January 29-30, 1981, meeting without change.

## III. DATES FOR FUTURE MEETINGS

The Board will meet next on October 29-30, 1981. The dates of February 4-5, 1982, were confirmed for the winter meeting, and May 20-21, 1982, are the tentative dates for the meeting next spring.

## IV. REMARKS BY THE ASSISTANT SECRETARY FOR HEALTH

Dr. Edward N. Brandt, Jr., Assistant Secretary for Health, was introduced to the Regents by Dr. Davies. Dr. Brandt was brief in his formal remarks preferring to respond to questions from the Regents. He noted that the occasion of a new Administration gives Federal agencies a chance to reevaluate their missions and programs and to map out the direction for the future. The advice of bodies like the Board of Regents is crucial in this and he is open to their suggestions and participation in this process. If Federal health advisory groups abrogate their responsibility, the Office of the Assistant Secretary for Health will not be diffident in assuming the role for them. Dr. Brandt noted that in the few months he has been in the Administration the medical education community has not offered advice and help, although given the opportunity. As for the National Library of Medicine, he emphasized that during tenures at the University of Oklahoma and the University of Texas he had been a strong supporter of their library budgets. He is fully supportive of the programs of NLM and will do all in his power to see that they continue and are funded within the fiscal constraints and anti-inflation programs of the new Administration.

Dr. Cummings asked about the fate of the Department's omnibus bill that contains, among other things, renewal authorities for certain NLM programs. Dr. Brandt said that although the bill was late in being submitted by the Department, it stands a reasonably good chance of being received favorably and passed. Several problems have yet to be resolved, namely, the future of the National Center for Health Care Technology and the National Research Service Awards. Overall, however, he is optimistic about the chances of the Administration's bill. Dr. Ferguson commented that small medical libraries in the United States benefit greatly from the programs of the Medical Library Assistance Act (contained in the omnibus bill) and he hopes that these modest grants to small libraries will be continued. Dr. Brandt agreed, and said that these grants have done as much as anything else to enhance the continuing education of health professionals. He strongly supports this program.

Dr. Schoolman raised the question of NLM's relationships with the private sector in the dissemination of information. There is increasing pressure in the western world to abandon the tradition of free libraries and to move toward libraries becoming self-supporting by charging for the services they provide. This notion, at least as it pertains to biomedical information services, is catastrophic. It would create an elite of those who have access

and can afford the costs. Dr. Brandt replied that, although the new Administration is concerned about the proper roles of the Federal and State governments and private sector, and about unnecessary Federal involvement in health care delivery, there are certain areas such as the need for the free flow of information, where tradition and the necessity to be free of competitive and profit-type restrictions dictate otherwise. Libraries ought to be protected from these pressures. On the other hand, he said, there may be a place for private industry to be involved with the dissemination of source information in a way that would be effective and solve some fiscal problems. He has no preconceived ideas about this, however. The appropriate role of the Federal Government in medicine, Dr. Brandt said, is knowledge-development and dissemination. The latter is a defensible role of the National Library of Medicine and whether it should be shared with the private sector is an open question. He said that he does not see any needed changes in the way NLM is currently operating.

Mr. James Williams pointed out that the Congress has repeatedly affirmed that the health of the Nation is served through the support of the National Library of Medicine, and that NLM's information services to health professionals have never been compromised by the Congress. In the future, medical libraries will be more dependent than ever on NLM's resources and products. There should be no proprietary intrusion into the products and services of the NLM and that the Library's position as the world's greatest resource for biomedical literature should not be endangered. Dr. Brandt replied that he is convinced that the major problem facing medicine is inflation, and that to bring inflation under control it will be necessary to cut Federal spending. The Administration hopes to do this while at the same time preserving essential Federal functions. It will be important to retain the base of knowledge development and dissemination as carried out by NIH and NLM. While retaining this base, however, it will be necessary for the Board of Regents to review NLM programs to see where some less important activities could be temporarily suspended, until inflation is brought under control. He does agree with Mr. Williams on the importance of NLM's role in biomedical communications.

Concerning commercial participation in information dissemination, Dr. Huth noted that medical publishers compete and price their products properly. However, in the case of information distribution we are dealing with a few large systems that require large investments. This provides the potential of monopolistic abuse, he said, and it would be ironic if we traded an information system operating for the public good under the close scrutiny of Congress and the Department for one operated by an oligarchic industry. Dr. Brandt agreed with Dr. Huth, but he retains an open mind about the role of private groups. At the present time, however, he does not see commercial organizations becoming involved in the essential functions of NLM.

Following a discussion on how the new Administration plans to deal with increasing health-care costs, Colonel Scotti remarked that one area that should not be cut back is support for health-science library services. The experience of the military is that maintaining good library and information services is a compensatory mechanism that offsets the deleterious effects of cuts in travel, meetings, consultants, etc. Mr. Welsh pointed out that NLM's role in sharing resources is right in line with the new Administration's philosophy. For example, there is a current cooperative project involving the Library of Congress, NLM, and the University of Texas to share resources to minimize certain costs at the three institutions. Dr. Brandt remarked that this kind of program is clearly consistent with the concept of the Administration that there be a Federal-State-private partnership in areas where the Federal Government has a demonstrable role. Also, Dr. Brandt noted, NLM has been successful over the years in training librarians and other specialists who are now competently providing information services around the country. Now we should be approaching these people to work interdependently with us to accomplish our goals.

## V. REMARKS BY NIH ASSOCIATE DIRECTOR FOR EXTRAMURAL RESEARCH & TRAINING

Dr. William F. Raub, NIH Associate Director for Extramural Research and Training, characterized the extramural themes of NIH as involving stability, simplicity, and honesty. The stability issue was first raised under Secretary Califano and a resulting five-year research plan placed high priority on researcher-initiated grants. The plan stabilized at 5,000 the number of new and competing renewal research grants. Inflation, coupled with level budgets, has meant that, to protect the funding level of the 5,000 research grants, other NIH programs (such as resources, training grants, and clinical trials) must suffer. This has led to internal tensions at NIH. Dr. Raub identified two facets of the "simplicity" theme—the first is the continuing debate on accounting methods (principally dealing with indirect costs) of NIH vis-à-vis grant-recipient institutions. The second is the attempt to eliminate "distinctions without differences" in styles of administering grants among the NIH components. The third major theme, "honesty," involves fraud in science. This subject has recently been the subject of newspaper stories, journal articles, and Congressional hearings. The Department has established debarment procedures, reported to the Regents last October. NIH continues to be concerned with the vexing problem of protecting the due process rights of investigators and at the same time seeing that Federal Government funds do not get "ripped off" or that misrepresented science results from Federal support.

Dr. Huth commented that he is not persuaded that fraud in science is widespread. He suggested the possibility of flagging entries in the MEDLARS files when it comes to light that an article is based on forged or otherwise fraudulent data. A more widespread problem, according to Dr. Huth, is duplication, multiple reporting, and the retreading of the same data in several journal articles by one author. Perhaps grant reviewers should inspect closely the bibliographies of grant applicants to see if there is excessive reporting of the same data. Dr. Cummings said that NLM might agree to flag articles in MEDLARS where the journal editor certifies that the data are spurious.

In reply to a question by Dr. Molnar, Dr. Raub said that the "buffer pool" of money that is being squeezed to maintain 5,000 research grants amounts to some 25 percent of the total NIH budget. The hardest hit element, Dr. Raub said, is the research contract. Center grants have also been affected seriously by the fiscal constraints.

## VI. REPORT OF THE NLM DIRECTOR

Dr. Cummings introduced Mr. Kenneth Carney who has recently been promoted to the position of NLM Executive Officer, and Mr. Kenneth Cooke, newly appointed Assistant Executive Officer. The Director discussed the Library's budget prospects. NLM (and the Department) is still operating under a Congressional Continuing Resolution that expires June 5, 1981. The current budget level for NLM is \$44.7 million. For FY 1982, the Reagan budget is essentially the same as that proposed by the Carter Administration—slightly less than \$48 million. Dr. Cummings believes that NLM has been treated fairly by the new Administration. The most significant difference between the 1981 and 1982 budgets is a reduction of grant funds for the Extramural Programs from \$9.8 to \$8.9 million. NLM is now developing the 1983 budget. In the area of personnel, Dr. Cummings said, NLM has been instructed to change its counting procedure to a new system of "full-time equivalency." NLM has been given the opportunity to make a case for increasing its personnel ceiling by seven and is optimistic that it will receive this increase.

The Director described recent activities related to renewal of the Medical Library Assistance Act (MLAA), whose grant authorities will expire September 30, 1981. This is the sixth review for renewal since the 1965 legislation was enacted. The Senate subcommittee concerned with renewing the legislation assigned the task of reviewing the MLAA to a staff member who is a resident in pediatrics in Baltimore. A draft bill called for deleting the authorities for

training grants, publication grants, and special scientific project grants. Since the introduction of the bill, NLM has provided extensive information about the grant programs to the Committee staff, to constituents, and to the Department. The medical library community, Dr. Cummings said, did a good job in informing the Congress about the importance of the Act. The initial list of witnesses for the first hearing, however, could be characterized as somewhat hostile to NLM; it included one medical librarian, the president of a European publishing company, a physician/librarian, and there was a proposal to add another representative of the commercial sector. NLM protested that there was no Federal representative or a member of NLM's user community allowed to testify. Subsequently, the European publisher was replaced by the president of an American information company (which is known to be hostile to the Library). At the hearings, the librarian representative, Priscilla Maiden of the University of Utah, was most effective speaking on behalf of medical libraries and in support of NLM. NLM was surprised when there was testimony offered by a representative of Congress' Office of Technology Assessment (OTA) based on an incomplete, unapproved draft report to which NLM and others have taken serious exception. After the hearings, the Committee met and considered the bill (which contains authorizations for other health programs in addition to the MLAA). The Senate's deadline for legislative action was May 15. The Department's omnibus bill, referred to earlier by Dr. Brandt, was submitted after the deadline. Although it contains language favorable to the renewal of the MLAA, its fate is uncertain. On the positive side, however, this bill will at least signal to the Congress that the Administration favors the MLAA and wishes the present authorities extended for three years. As to the House of Representatives, Mr. Waxman introduced H.R.2562 into his subcommittee on March 17, a bill that calls for renewal of the Act for one year at the present level of funding (\$8.9 million). There have been no public hearings on this bill. NLM has been advised that, if the MLAA authorities expire in September with no legislative action taken by Congress, the Congress could allow the programs to continue through the appropriations process under a Continuing Resolution.

Dr. Cummings reported on the draft report about MEDLARS by the Office of Technology Assessment (OTA). The OTA study has been reported to the Board previously (October 1980 and January 1981). The study was not directed to the Medical Library Assistance Act but to the Library's MEDLARS bibliographic retrieval system. Even though members of the study team have made several visits to NLM, it would appear from their report that there is still confusion about MEDLARS--what can and cannot be expected of it. The tenor of the descriptive portions of the report would lead the reader to believe that NLM is an innovator in providing quality services; the summary and conclusions, however, seem to bear little relevance to the body of the report and put undue emphasis on negative aspects. An unbiased written opinion of the report by a professor of sociology at the University of Cincinnati (whose comments as an expert in the "evaluation of objectivity" were sought by someone outside of NLM) concludes that the report, in the name of objectivity, attempts to balance positive and negative. In the words of the professor's evaluation: "The summary seems much more subjective than the text of the report. The use of qualifiers such as 'nevertheless', 'but', and 'however', seem to follow every positive comment. If I were a Congressman and read only the summary, I would conclude that the National Library of Medicine should turn over MEDLARS to private vendors for development and distribution; that the National Library of Medicine is interested in evaluation but its efforts to date are weak and ineffective; that funds and efforts should be directed away from computerization; that more attention should be given to traditional library services and functions; and that the National Library of Medicine is autocratic in dealing with the Regional Medical Libraries. Many of these comments are not substantiated by the text in this report. In fact, the remainder of the report points out the need for MEDLARS and other automated systems and the good job the National Library of Medicine has done in these areas. I conclude that the authors of this report expect people to read only the summary and, furthermore, the authors want to project an unfavorable image of the

National Library of Medicine." Dr. Cummings said that these views are close to his own. He added that, although the study has been under way for many months, the OTA reviewers have not asked to interview him, although more than a dozen other NLM staff have been interviewed. Nor has he been officially asked to comment on the draft report, although it has been released to Congress and others. NLM staff, however, have reviewed the report, and their collective comments and corrections have been sent as an appendix to a letter from Dr. Cummings to OTA's Dr. Joyce Lashoff. The Director invited the Regents to study carefully the implications of OTA's draft report.

A related matter, discussed by Dr. Cummings, is a contractor study performed for OTA by Patricia Wolf that constitutes a chapter in the OTA draft report described above. The subject is the relationship of the private and public sectors. In the Director's view, there is no evidence that the public sector viewpoint was sought; the chapter consists mostly of anecdotal accounts from the private sector competitors of NLM. This is an important and broad public issue that needs careful review, public discussion, and resolution. It is unfortunate that NLM has been chosen as the target in the opening shots of this debate which involves all of science and technology.

The last item reported by Dr. Cummings was that the Laboratory Animal Data Bank (LADB) will probably be continued by the Battelle Corporation after August. It is also being offered to the public through the National Technical Information Service.

Dr. Clark asked whether Dr. Lashoff had responded to Dr. Cummings' recent letter raising objections to the draft report. The Director said that she replied stating that the draft report has yet to be reviewed by OTA's advisory panel and by selected individuals. NLM's comments on the report will be considered. Mr. Welsh noted that he, in his position at the Library of Congress, had received a copy of the draft report and had commented on it to OTA. Several other members of the NLM Board had also been sent a copy by OTA.

After discussion by the Regents about the study and the nature of the Board's response, several Regents and NLM staff were designated to prepare a letter from the Chairman of the Board to OTA. On the second day of the meeting, May 29, the Regents unanimously approved the text of this letter (Attachment B) and directed that it be sent to Dr. Gibbons, Director of OTA.

## VII. USER-CHARGE POLICY FOR ONLINE SERVICES

Mr. Kent A. Smith, NLM Deputy Director, presented information dealing with the evolution of NLM user charges for online services. Two major issues discussed were the appropriateness of the current policy for online services and the current pricing structure. These two issues were given added importance by an amendment to S.800 (Senator Hatch's bill), now before the Congress, which states that "The Secretary shall not, directly or indirectly, make available or provide information products. . . unless the users of such products are charged fees which recover the full cost." Services to nonprofit organizations, government agencies, and international organizations are exempt (unless they provide services to profit-making organizations).

In providing some background information for the Regents, Mr. Smith noted the classes of NLM online users. Current institutional users of NLM's online services are: hospitals (43%), commercial organizations (22%), research institutions (9%), medical schools (9%), allied health institutions (5%), and others (12%). As of April 1981, there were 1456 U.S. institutions in the network, while in 1973 there were only 200 participants. Although medical schools are only 9% of all user institutions, Mr. Smith noted they generate about 23% of the billing

charges. Hospitals and commercial users are the fastest growing category of users. In FY 1980 there were 1.8 million online and offline searches on the data bases; this figure is expected to rise to 2.0 million this year. Current user charges are \$8 per hour (nonprime) and \$15 per hour (prime time) for all data bases except TOXLINE and TOXBACK (\$21 and \$28) and CHEMLINE (\$45 and \$52). Offline prints are billed at the rate of \$0.15 per page. Over the years the imposition of charge increases has reduced slightly the immediate usage of the system, but in each case usage quickly recovered and continued its rapid climb.

The current user charge policy has four aspects, Mr. Smith said: The biomedical community of users shares the costs for online services with NLM; NLM recovers from users costs associated with providing service; all users are treated and charged equally; and charges are imposed to ensure continued equal access, to provide a degree of management control over growth, and to make the service independent of NLM appropriations. This user charge policy is consistent with the original NLM Act, OMB Circular A-25, congressional desire, and directives of the Board of Regents. Mr. Smith cited language from each of these sources to support the policy. In order to recover costs incurred by NLM in providing online services, Mr. Smith indicated the average hourly connect charge would have to be \$19.81. Mr. Smith presented to the Regents two alternative pricing structures that would recover NLM costs: a rise in charges to \$15 per hour (nonprime time) and \$22 per hour (prime time), and a straight charge of \$20 per hour. The advantage of a differential over a straight charge is that it tends to level off the system usage over the day—avoiding midmorning and midafternoon peaks. The page charge of \$0.15 would remain the same.

Following Mr. Smith's presentation, Miss Mary E. Corning, NLM Assistant Director for International Programs, reported to the Regents about NLM's policies on charging international users for MEDLARS/MEDLINE. She reviewed the history of the bilateral quid pro quo arrangements between NLM and the foreign MEDLARS Centers and noted that they were consistent with a Federal Council for Science and Technology Policy issued in 1966. The concept and the mechanism in its earlier application had the approval of the Department of State. The Board of Regents periodically reviewed these arrangements and made site visits. The Director of NLM has reported on them consistently to Congress. A quid pro quo is maintained in these arrangements whereby a foreign institution, designated to serve as a national biomedical health information resource, funds or performs certain services (indexing, keyboarding) in return for MEDLARS tapes and/or online access to NLM. MEDLARS tapes have been available on a license domestically since 1971 through the National Technical Information Service and an equivalency between the prices established for domestic licensees and the foreign quid pro quo Centers has been maintained over the years. The charge for NLM's data bases range from \$50,000 (for the complete MEDLARS file, first year) to \$1,000 annually for some of the smaller data bases, like SERLINE. NLM has initiated, effective January 1981, a modification in the minimum requirement for those foreign Centers with direct online access to NLM. The quid pro quo is now \$5,000 for the first six months of a Center's operation and \$20,000 for each year thereafter.

There are now thirteen countries and one international organization (PAHO) with which NLM has quid pro quo agreements. Five countries and PAHO mount NLM tapes on their own computers, the remainder come online to NLM. Miss Corning said that of the 250,000 articles indexed in 1980, NLM staff indexed 25%, 25% were indexed by domestic contractors funded by NLM, 11% were performed by the foreign Centers, and about 37% were done by contractors funded by the foreign Centers. NLM benefits from these quid pro quo arrangements not only by receiving indexing input but also in vocabulary development, systems and programming assistance, and other technical aspects of MEDLARS development. Overall benefits are the return to NLM and the information industry, extensive and effective use of the system, as well as foreign policy considerations.

Miss Corning noted several factors that will influence the future of these international agreements: ECE efforts, Federal/Private Sector issues and European/US competition. Ongoing networking activity within the European community will provide access to data bases without regard to national boundaries in Europe.

Miss Corning reviewed various options for the future. One which should be given serious consideration is to place both tape and online centers on a usage fee basis with the provision of services internationally. In any event, it is important for NLM to receive usage statistics from licensees and Foreign Centers. These data can be used to justify before Congress NLM's generating and maintaining the data bases. These statistics are not now provided by commercial vendors. Miss Corning presented her report for review and comment but suggested that final Board action await completion of her study and analysis.

Following Mr. Smith's and Miss Corning's presentations, Professor Martha Williams discussed a recent study she conducted on the subject of pricing structures for various online data bases. Her analysis covered the seven major online services in the U.S. and Canada; 234 discrete data bases are available from these services. She supports both NLM's proposed price increase, as presented by Mr. Smith, and the idea that foreign and domestic online vendors be treated equally and without limitation as to where they sell their services within the free world. She strongly recommends use fees as a straightforward means of charging and as a means of obtaining feedback on data-base use. There is no U.S. medical data base competing with MEDLINE, she added. NLM's price structure should be reviewed annually so that it may be adjusted for inflation and to recover costs for the value of improvements made in the system.

Mr. Welsh suggested that the NLM Director be given the flexibility to determine the pricing structure for the Library's online services. Admiral Cox recommended that NLM, with its ten-year experience in operating the online service, provide long-term (3- to 5-year) cost predictions to NLM online users so that they can plan for the future. Dr. Cummings said that previous Boards have given the NLM Director the authority to alter prices for online services in response to changing situations. If this policy holds, NLM would probably announce a rate increase to become effective October 1, 1981. Professor Williams' analysis would seem to support such a move.

Dr. Townsend moved and the Regents approved unanimously, that the Board accept the analyses of Mr. Smith and Professor Williams and affirm the Director's decision to announce a price increase for online domestic users.

It was also clear from the discussion that the Board of Regents continues to support a reasonable cost-sharing approach, that is, a system in which NLM supports the generation of the data bases, and the users in the biomedical community pay the costs of accessing the system.

#### VIII. NMAC PROGRAM OBJECTIVES AND PLANS

Dr. James Woods, Director of NLM's National Medical Audiovisual Center (NMAC), reviewed the mission of the Center as published in the Federal Register, and then described briefly nine program objectives (goals) for NMAC. These goals, said Dr. Woods, were developed by the Center's senior staff as a group effort. The goals are: (1) participate in collaborative research and development projects with the health-science community; (2) produce (or acquire) and distribute instructional materials; (3) produce prototype instructional materials using innovative approaches and new technology; (4) promote efficient use and sharing of curriculum delivery resources throughout the health education professions; (5) provide a/v media services

and support to NLM and, as appropriate, other Federal health agencies; (6) provide a/v consultation to the health professional education community; (7) encourage and prepare health professional education faculty to apply a/v methods in instruction; (8) study the effectiveness of a/v instructional materials and systems to identify areas needing special efforts; and (9) facilitate cooperation among biomedical communications activities throughout the field of professional health education. The foregoing goals (and the following program areas) were developed with several underlying basic strategies in mind. These strategies are to involve the health-science professional education community and professional societies as much as possible in determining broad future needs and specific projects; to select research targets that will involve collaboration with other NLM and NIH components; to emphasize a/v media that will permit local modification and adaptation; and to de-emphasize the importance of the specific content of those audiovisual projects designed to test new technologies and innovative applications.

Dr. Woods described a number of specific projects that NMAC has already begun or will be undertaking in the future. Among these projects are to review the NMAC training site network, study the use being made of the AVLINE data base, investigate the use of videodisc technology for health-science instruction, develop microcomputer-based education materials, reformat NLM's Prints and Photographs Collection on videodisc, edit and distribute videotapes documenting NLM's Communications Technology Satellite (CTS) program, field-test the Advance Terminal System, and operate film and videocassette loan programs.

Following Dr. Wood's report, Dr. Edward Huth presented to the Regents a report from the Board's LHC/NMAC Subcommittee. The Subcommittee met on May 27 to hear presentations by the NMAC Branch Chiefs. The Subcommittee offered a number of recommendations: "(1) In view of the shrinking financial resources for many health-care and educational institutions and hence what they can invest in preparing and using a/v and other educational materials, we urge continued technical and organizational leadership and guidance by NMAC for these institutions. (2) For the same reason we support increased efforts by NMAC in disseminating information by any possible means to the health institutions and the health professions on the availability of a/v materials and in facilitating their distribution by any means, including the RML system. (3) We suggest efforts by NMAC to identify strong national a/v needs not likely to be met by commercial producers, and affordable or commercial pricing for educational institutions and health professionals, and either to produce these materials itself or to devise means to assist educational institutions, singly or in consortia, to produce them. (Parenthetically, we need more information on the reasons for the present apparently spotty distribution of sustained use of a/v material.) (4) We urge continued and expanded efforts toward establishing a national health educational-materials network, as presently exemplified by an NMAC proposal to involve RMLs in a/v materials distribution. (5) We urge continued support by the NMAC of archival functions of the NLM.

These five recommendations, said Dr. Huth, are in essence unqualified support for NMAC programs, present and proposed. The Subcommittee has more recommendations that call for a sharper look by NMAC at itself and continuing surveillance of NMAC activities by the NLM Management with attention to possible options for changes in structure and management. The subcommittee urged that NMAC try to prepare a broader, fuller, updated, and forward-looking statement of mission that would relate to current and coming national priorities and realities in health-professions education, even if the statement is not explicitly labelled "mission." Also, they urged that NMAC prepare a clear statement and sequence of priorities for NMAC in toto and for priorities within its branches.

Dr. Huth said that the Subcommittee had some concerns: "We are concerned that some restructuring of NMAC components and activities within the entire NLM structure may be in order. We see some NMAC activities as perhaps properly being within other NLM divisions.

We wonder whether some proposed NMAC activities might be more effectively located within the boundaries of the Lister Hill Center. This is another way of saying that some NMAC functions are more likely to be unique to a "national audiovisual center" and others may not be. Second, we are concerned that NMAC is labeling as "research" some activities that we would regard more simply as data-gathering in behalf of development and program planning or as development of technical means. We think a tighter definition of "research" should be used. Third, because NMAC, having had to face the triple threats of a move from Atlanta to its new quarters, a need to build a new staff, and a need to work out fair boundaries with on-the-site enterprises, is in a critical period, the members of the Subcommittee see a clear need for NLM top management to monitor carefully the functions and functioning of NMAC managers and units, with a view to identifying promptly any needs for changing structural or managerial responsibilities."

Following Dr. Huth's report, Dr. Abdellah, a member of the Subcommittee, commented that NMAC's budget appeared too small (especially in comparison with the Lister Hill Center's) to accomplish what it has set out to do. Dr. Molnar, also a Subcommittee member, commented that some NMAC projects appear understaffed. It will be important for NMAC to set priorities among the projects so that those that most need doing will have adequate staff allocated to them. In response to a question from Colonel Scotti about the adequacy of space to house NMAC's archival materials, Linda Kudrick, Chief of NMAC's Materials Utilization Branch, replied that NMAC is assembling a core collection of archival audiovisual materials and, at the same time, identifying other organizations that have archival collections. NMAC would not duplicate these other collections, but act as a clearinghouse, directing requesters to them.

#### IX. BOARD OF SCIENTIFIC COUNSELORS' REVIEW

Dr. Lionel M. Bernstein, Director of the Lister Hill National Center for Biomedical Communications, reported on the first meeting of NLM's new Board of Scientific Counselors, held at NLM on April 30 and May 1, 1981. Three members of the Board of Regents attended this meeting--Dr. Huth, Dr. Molnar, and Mr. Williams. Seven major research and development activities of the Lister Hill Center were reviewed, and draft reports were written and have been circulated to the Board's members for modification. A final report will be issued in July. Dr. Bernstein read brief comments by the Counselors on each of the seven activities: Electronic Document Storage and Retrieval; Video Processing Laboratory; Integrated Library System; Digital Videodisc; Distributed Information Delivery System; Advanced Terminal System, and the Knowledge Base Research Program. The final report, to be distributed to the Board of Regents, will serve as a base for developing the overall Lister Hill Center research and development agenda. Dr. Bernstein summarized the Board of Scientific Counselors' generally favorable view of the R and D programs of the Center and the Board's recognition of need in some areas for strengthening of interbranch activities and for improved long-term planning.

Following Dr. Bernstein's report, Mr. Earl Henderson, Chief of the Lister Hill Center's Communications Engineering Branch, reviewed the Center's Electronic Document Storage and Retrieval (EDSR) Program. This is an R and D effort to develop a prototype system to store, retrieve, and distribute documents, and to explore the application of this prototype to a national operational system. The goal of the program is to provide a solution to the problem of storing NLM's archival collection and to improve the efficiency of the interlibrary loan service. The Electronic Document Storage and Retrieval System would be compatible with other automated library systems such as the LHC's Integrated Library System and MEDLARS III. Three categories of users are being considered: (1) a remote distribution center which could receive either a copy of an optical disc containing the required information,

or the data in bulk over high-speed transmission links; (2) an end-user station that could receive and display the material onsite; and (3) a shared facility, using available commercial or U.S. Postal Service electronic nodes. A great deal of the technology being studied for its application to the EDSR is state of the art. The EDSR system will be able both to scan paper documents as well as input machine-readable material. The output will be in the form of either hardcopy or CRT display. The overall capability of the system will depend on several factors: the speed at which material can be entered, the amount of material that can be stored, and the speed at which material can be delivered or output. High-speed document handlers and optical discs are two technologies being investigated. Mr. Henderson showed the Regents a series of photographs displaying textual and half-tone images on a CRT. Yet to be considered are copyright implications, although this will not delay the development of a prototype system and its testing on a local network in the Washington, D.C., area.

Following Mr. Henderson's presentation, Dr. A. Donald Merritt, Chief of the Lister Hill Center's Health Professions Applications Branch, described the LHC Knowledge Base Research Program. This is an integrated, interdisciplinary research effort to synthesize and represent, from the enormous mass of biomedical literature, the state of current knowledge on a medical subject and, subsequently, to test knowledge-based systems for suitability in allowing practitioners access to this information. There are three major components in the process: medical content research applicable to the knowledge bases, medical computer science research for representation of knowledge-based content, and biomedical communication processes research directed towards the acceptability and use of knowledge-based systems.

Content development has focussed on three areas: hepatitis, peptic ulcer, and genetic disease. The Hepatitis Knowledge Base has been developed and is undergoing continuous updating by a consensus of experts; it is now being field-tested. The text for the Peptic Ulcer Knowledge Base is being developed in collaboration with the Center for Ulcer Research and Education at UCLA and the VA Center at Los Angeles. The Human Genetics Knowledge Base is being developed in collaboration with content experts, including Victor McKusick, at the Johns Hopkins University Medical Center. This last knowledge base will be larger than the others and will contain a large number of visuals (clinical photographs, figures, tables) in addition to textual information. The potential of the videodisc is being investigated by LHC and NMAC specialists for application to the Human Genetics Knowledge Base. Dr. Merritt showed a series of slides demonstrating aspects of genetic diseases that are difficult, perhaps impossible, to describe adequately in words but that might be put on videodisc and included in this knowledge base.

Medical computer science is integral to the Knowledge Base Research Program and has several facets, for example: indexing strategies and coding systems, how the computer will acquire the information in a useful form, machine assistance for identifying data in the knowledge base that need to be updated, natural language understanding, data base management systems, theoretical foundations for processing medical information, and distributed processing.

Following Dr. Merritt's presentation, Dr. Molnar commented that the establishment of the Board of Scientific Counselors is an important step in the evolution of the Lister Hill Center. He reported that overall the Board was enthusiastic about the Center's progress in establishing priorities and developing programs. The LHC is a unique resource and should be protected and allowed to evolve its long-term projects. Mr. Williams noted that the Scientific Counselors were an impressive advisory group and he recommended that the Regents individually get in touch with LHC staff and become more familiar with the Center's programs. As demonstrated at the meeting of Scientific Counselors, the LHC programs are truly at the "cutting edge" of technology and have made great strides in the last few years. Dr. Huth stated that the successful development of the Knowledge Base Program would be a capital achievement for the NLM.

## X. REPORT OF THE NOMINATING COMMITTEE

Dr. Eloise E. Clark, Chairman of the Nominating Committee, reported that the Committee was unanimous in its choice of Professor Martha E. Williams as the next Chairman of the Board. The Board accepted the Committee's recommendation and elected Professor Williams to serve as Chairman of the Board of Regents from August 4, 1981, through August 3, 1982.

## XI. DIRECTOR'S AWARD

Dr. Cummings presented to Dr. William G. Cooper, NLM Associate Director for Planning, the 1981 NLM Director's Award. Dr. Cooper was cited for his excellent leadership as Acting Director of the National Medical Audiovisual Center from March through November 1980.

## XII. REPORT OF THE ASSOCIATE DIRECTOR FOR EXTRAMURAL PROGRAMS

Dr. Ernest M. Allen described FY 1981 and 1982 budget projections for NLM's Extramural Programs, a difficult task since they are hampered by uncertainties about the scope of the extension of the Medical Library Assistance Act (MLAA) and the not-yet-passed authorization and appropriation bills. Proposed authorization reductions and other changes for the programs under the Act have resulted only in speculations of what might happen when the Senate and House versions and the Department's proposal are finally considered and action is taken. The Senate Bill, S.800, proposed by Senator Orrin G. Hatch, Chairman of the Subcommittee on Labor and Resources, asks for the repeal of authorities for Publication, Special Scientific Project, and Training Programs, and for a three-year renewal of all other programs at a level of \$6.0 million each year. The House Bill, H.R.2562, proposed by Congressman Henry A. Waxman, Chairman of the House Subcommittee on Health and Environment, asks for a continuation of one year of all existing authorities at an authorization level of \$9.0 million. The Department proposes in S.1285 and H.R.3724 that all authorities be continued for three years at a level of \$8,925,000 for FY 1982 and unspecified amounts for the next two years. With the foregoing disparities in mind, it is most difficult to come up with meaningful budget projections.

Dr. Allen explained that if the Special Scientific Project (SSP), Publication, and Training authorities are repealed, the question arises as to how to protect the investment that has already been made to date. The time invested by the principal investigator is even more important than money. In the case of the Publication and SSP grants, NLM will try to prevent a total collapse by requesting an exemption from an HHS (Health and Human Services) policy stating that the appropriation of a given year cannot support two or more grant years of a project. If the exemption were granted, the 1981 projected budget would have to be reevaluated to protect noncompeting grants by doubling or tripling the amounts awarded from FY 1981 funds. If the exemption were denied, then the Office of Extramural Programs could support some of the recommended projects, those with assurances from the grantee institution and the principal investigator that necessary support for completion of the project would be found. In the case of the Training Grant authority, if repealed, it is expected that the Congress will provide "grandfather-clause" protection for current trainees, requiring approximately \$700,000 for FY 1982.

Dr. Allen then reported on personnel reductions in the Office of Extramural Programs. Personnel restrictions governmentwide, moratoria on purchasing, restrictions on travel, and similar items led to a formal and continuing study of resource allocations for NIH and in turn for NLM. Because of a decrease in workload in the grants areas, a logical decision was to transfer some of the staff to other parts of NLM. Two program officers and one program analyst have been transferred to date.

Followup report was also made on "support of union lists," as follows:

1. Support for union lists will not be available from Resource Project Grants. The more appropriate mechanism for supporting union lists, in those cases where support is indicated, will be the contract. Cooperative regionwide union lists, for example, may be considered for support from RML contracts.
2. NLM is already in the process of developing a national locator/holdings data base as part of the MEDLARS III system.
3. Technical guidance will be given by NLM Library Operations governing the merger of regional data into a national system. (See NLM NEWS May 1981.)
4. Small portions of Improvement Grant consortia funds will be allowed for development of local union lists.

### XIII. CONCLUSION OF TRAINING GRANT PROGRAM ASSESSMENT

Dr. Harold M. Schoolman, NLM Deputy Director for Research and Education, brought together the views and issues that were expressed in the course of the examination of the Training Grant Program. He distributed a position paper (Attachment C) which was reviewed by the LHC/NMAC Subcommittee of the Board on May 27, and he summarized the issues and recommendations as follows: The principles that were enunciated by the Board ten years ago are still valid today. However, a slight shift in emphasis of NLM's training investment from faculty education to faculty development seems appropriate. Given the needed resources, the time appears propitious for the establishment of the professional identity of Medical Information Problem Solving (MIPS). Since enough resources are not likely to become available soon, realistic alternatives must be considered. The alternatives should preserve the greatest possible flexibility. In addition to existing training, career development and research projects, a research career award and a new faculty development scholarship should be considered. The MIPS scholarship should have the following important features: (1) Institutional commitment and nomination of candidates, (2) a consortium of training institutions, and (3) an investment of significance in the selection and support of these scholars. The addition of five people a year--up to 35 or 40 over the next seven to eight years, who are competent, well-trained career experts in this field--would probably more than double the existing number who are now engaged in this activity. And if even half of them, in pursuing this career, could also build an institutional base, that would double the number of institutions in this country where this activity was not only taking place, but also where the concepts were being introduced into the training and development of the health science students.

Dr. Mayer raised the question, given the present situation, of how a long-term commitment of at least five to ten years can be assured. Dr. Cummings responded to Dr. Mayer's concern and noted that this program, like many others that the Library has undertaken, was developed as a result of default by other parts of the Federal structure. However, this program is a much more costly venture than most. Prior to this Board meeting, he had discussed the matter of funding with NIH, because NIH has a significant program that calls for support of 10,000 trainees, an investment of about \$150 million. NIH's reaction was sufficiently positive that, if the Board were to invite NIH to consider supporting the program, the invitation would be well received. Dr. Mayer emphasized that the need is great and the approach of linking the career development to institutional commitment is an appropriate one. The Board should encourage NLM to look at this program in the balance of the entire resources available to

extramural programs and also encourage others within NIH to look at it. There is clearly a justification for the training of people who will have an overall impact on this field over the next decade. The Board of Regents accepted the concept of the program idea and the suggested plan for alternate funding if NLM is unable to come up with the necessary budget resources.

#### XIV. SURVEY OF AUDIOVISUAL EQUIPMENT SUPPORTED BY NLM GRANTS

Mrs. Doris Doran, former EP Program Officer, reported on this study, conducted by Dr. Max Michael, Jr., a former Board member, who gave his own observations to the Board later; Ms. Carol Hampton, a former Biomedical Library Review Committee member; and herself. The study was undertaken in response to the question: Should NLM support audiovisual equipment? Between 1975 and 1980 32 awards were made for approximately \$2.5 million. Almost all of this money was used to establish learning resource centers within health sciences libraries, primarily medical schools and hospitals. The balance was used for anything that was needed to establish the a/v activities.

The study team focussed on institutions which had received funding for audiovisual equipment. Six institutions were selected at random and site-visited: Franklin Square Hospital, Baltimore; Cornell University Medical College, New York; Muhlenberg Hospital, Plainfield, New Jersey; Tuskegee School of Veterinary Medicine, Tuskegee, Alabama; Cherry Hospital, Goldsboro, North Carolina; and Dorothea Dix Hospital, Raleigh, North Carolina. Mrs. Doran gave a brief account of some of the observations made by the site-visit team and emphasized that the survey included only a very small sampling of grants funded by NLM and an even smaller sample of the total activity conducted throughout the country. The hardware that was purchased with NLM funds is used at all six institutions in varying degrees. It is least used at Franklin Square Hospital; however Franklin Square Hospital did not have the benefit of the a/v guidelines that NLM now makes available to grantees. Nevertheless, there are a number of opportunities the librarian at Franklin could use to the Institution's advantage. Muhlenberg and Cornell are two consortium arrangements which are practicable and economical. Cornell is continuing the program with its own funds. Muhlenberg is working with a limited budget on a year-to-year basis. In all six institutions the users were mainly health professionals. It was no surprise to find that physicians were not using the audiovisuals for their own continuing education. They were using them, however, in teaching. The most significant problem that emerged was that of data collection. The librarians at the institutions need training in this area. The best data collections were found at Cornell and Cherry Hospital, although even there help is needed. Of the six institutions visited, the NLM funds had significant and positive impact in five of the six institutions. The only disappointment was the library at Franklin Square Hospital. In the other five libraries there is continued and often increased funding, dedication of space, utilization of a/v materials to enhance curriculum planning, and a spin-off—the improvement of the more traditional library services.

Dr. Michael then shared his observations with the Regents. He confessed that, although a non-believer in audiovisual materials himself, he has now changed his views in certain areas and noted that the funds provided by NLM were of substantial help. Not only did they improve all the institutions' a/v educational facilities, but they also improved the traditional library facilities. The pattern that emerged during their visits was that the one group that utilizes these materials most of all are the nurses, particularly the nursing students. Another fascinating group were the health-care technicians, particularly at Cherry Hospital. With principally a/v materials they acquire the skills needed in their jobs, and thus a number have gone on to become nurses, physicians' assistants, and drug technicians. Residents and medical students at Dorothea Dix Hospital utilized the material when studying for their board exams and internal exams. Food handlers, particularly at Muhlenberg, with the help of audiovisual material, were shown how to serve food trays properly to the patients. This has not only had a

positive influence on the patients but has lifted the morale of these employees. Dr. Michael noted that, as expected and already mentioned, physicians did not use the materials in their continuing education. However, he feels that this might change in the future with medical students being exposed now at an early age to a/v equipment. The exciting things were the things that the team did not expect to find.

Dr. Camp stated that the trend at the VA hospitals is the ready acceptance of audiovisual materials by nurses. VA hospital libraries are now specifically set up with an a/v section. He is convinced that audiovisuals are a plus in the system. Mr. Hahn noted that one of the things he found was that a/v software is one of the most sharable items in the library.

#### XV. REGIONAL MEDICAL LIBRARY CONTRACT REVIEW

Mr. Sheldon Kotzin, RML Program Coordinator, reported on the conclusion of NLM's competitive contract review for Regional Medical Library services in Regions V and VI, Kentucky-Ohio-Michigan and Southeastern, respectively.\* The Technical Evaluation Team was chaired by Dr. Max Michael, Jr., and the Board Subcommittee by Dr. Faye G. Abdellah. Before reporting on the outcome of the last contract review, Mr. Kotzin explained briefly the makeup of the RMLs and the services they provide. All Regional Medical Libraries, except Region IV, which is headquartered at NLM, are based either at medical school libraries or medical society libraries. The network hierarchy consists of about 3,000 hospital libraries, referred to as basic units; about 100 resource libraries, which are primarily academic medical school libraries; eleven Regional Medical Libraries; and NLM.

For the past four years the RML budget has been approximately \$3.0 million per year nationwide. The growth of the NLM online system, a vital service provided by libraries who participate in the network, has grown since its inception in 1973 from 212,000 to 1.8 million searches per year. The online centers across the country increased from 190 in 1973 to over 1,300 in 1980. RMLs also provide searching for patrons at their own institutions. The growth of document delivery has paralleled the expansion of the online system, primarily because as users identify needed information they then request the materials from their library or on interlibrary loan from libraries in the RML network.

Document delivery remains the cornerstone of the RML program. It has increased from about a quarter million to approximately two million interlibrary loans annually throughout the network.

Mr. Kotzin then concentrated on the latest and final competitive contract review. While the whole process, which began in January 1980, was timeconsuming, it encouraged the existing regional medical libraries to reevaluate their programs and operating budgets. In two regions, including the Southeastern Region, proposals were submitted not only from the incumbent institution but from another as well. In Region V only the incumbent institution-- Wayne State-- submitted a proposal and was found technically responsive to the statement of work for providing regional services. NLM staff completed the budget negotiations and the services to be performed by the Region and recommended Wayne State to receive the RML contract for Region V. The situation in Region VI was not quite as routine. Two proposals were received, one from the incumbent institution, Emory University, and the other

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\*Dr. Nicholas E. Davies and Mr. James F. Williams absented themselves during the presentation and discussions relating to Regions V and VI.

from the Medical University of South Carolina. Both institutions were fairly similar in terms of library statistics. However, although statistics are important, more important is the technical merit as measured by the response the two institutions provided to the evaluative criteria. The Technical Evaluation Team, after examining the responses to questions and after site-visiting both institutions, found the proposal from Emory to be of slightly higher merit. The Board Subcommittee concurred with the Technical Team's findings. Dr. Michael gave a summary of the technical review and noted that it was their recommendation to award the contract to Emory with the proviso that an onsite visit be made in one year to ascertain if the weaknesses have been corrected. Dr. Townsend reported that the Board Subcommittee concurred with the Technical Evaluation Team and found that Emory's proposal better reflected RML objectives.

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**MEETING CLOSED FOR THE REVIEW OF GRANT APPLICATIONS**  
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**XVI. REVIEW OF PENDING APPLICATIONS**

Before proceeding with the consideration of pending applications, Dr. Brand informed Board members of confidentiality and conflict-of-interest procedures and reminded them to sign, at the conclusion of the grant application review, the statement certifying that they had not participated in the discussion of any application where conflicts of interest might occur.

The Board concurred with the recommendation of the Extramural Programs Subcommittee. A total of 93 applications was reviewed, of which 45 were recommended for approval, 47 for disapproval, and one for deferral. Grant applications recommended for approval by the Board are listed in the summary actions (Attachment D). Interim actions taken by EP staff since the January Board meeting were noted.

**XVII. ADJOURNMENT**

The meeting was adjourned at 1:45 p.m., Friday, May 29, 1981.

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Wednesday, May 27, 1981, 2:00 to 4:00 p.m.  
(EP Subcommittee--List of Attendees under Attachment E)

Wednesday, May 27, 1981, 1:00 to 5:00 p.m.  
(LHC/NMAC Subcommittee--List of Attendees under Attachment F)

Thursday, May 29, 1981, 9:00 a.m. to 5:15 p.m.  
Friday, May 30, 1981, 9:00 a.m. to 1:45 p.m.

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ACTIONS TAKEN BY THE BOARD OF REGENTS

1. The Board recommended approval of a price increase for online domestic services to be announced by the NLM Director.
2. The Board approved the text of a letter to be sent by the Chairman to the Director of the Office of Technology Assessment (Attachment B).
3. The Board unanimously elected Professor Martha E. Williams to serve as Chairman of the Board of Regents from August 4, 1981, through August 3, 1982.
4. The Board accepted the concept of changing the Training Grant Program by shifting the emphasis from faculty education to faculty development.
5. The Board concurred with recommendations of the Extramural Programs Subcommittee. Grant applications recommended for approval are listed in the summary actions (Attachment D).

I hereby certify that, to the best of my knowledge, the foregoing minutes and attachments are accurate and complete.

*Martin M. Cummings* 7/15/81

Martin M. Cummings, M.D. (Date)  
Executive Secretary

*Nicholas E. Davies* 7/24/81

Nicholas E. Davies, M.D. (Date)  
Chairman

CHAIRMAN

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Board of Regents' Roster - continued

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National Library of Medicine  
Bethesda MD 20209

May 29, 1981

John H. Gibbons, Director  
Office of Technology Assessment  
U. S. Congress  
Washington, D. C. 20510

Dear Dr. Gibbons:

On behalf of the Board of Regents of the National Library of Medicine and by their order (voted on May 28, 1981 at the 67th Meeting), I am writing to express deep concern for a recent staff report on the National Library of Medicine by the Office of Technology Assessment. The Board of Regents was aggrieved by the inaccuracies and distortions of the study, by the action of the OTA staff in distributing the report without soliciting comments from the Director or from the Regents of the Library, and, most importantly, by the use of this unapproved internal staff paper in testimony before the Committee on Labor and Human Resources of the Senate in connection with its hearing on the authorization of National Library of Medicine programs. Let me explain our concern.

This spring the staff of the Office of Technology Assessment prepared a draft report on the National Library of Medicine that covered several aspects of the Library's operations, including its bibliographic retrieval system (MEDLARS), training for MEDLARS searchers, the service program for interlibrary loans, and several evaluation studies of its services. The report, I regret to say, contains a number of inaccuracies and unsubstantiated (as well as unattributed) allegations. Most troublesome, however, is its Summary which strains to find fault and emphasizes unduly the negative features in the body of the report.

This informal report (including the biased Summary) was distributed to some members of the Congress and their staffs as well as to librarians, information specialists and other members of the professional community without prior review by OTA's own Advisory Panel, without review or approval by the

OTA Board, and without extending the courtesy of requests for comments to either the Director of the Library, to myself, or to the Board of Regents. I regret to add that this omission occurred despite an invitation to discuss the study that was extended to the OTA staff by the Regents at their January, 1981 meeting.

These defects in intragovernmental decorum and procedure notwithstanding, a senior officer of OTA, Dr. David Banta, chose to use this draft report as the basis for his testimony on the Library's authorization before the Senate Committee on Labor and Human Resources (1 April 1981). In his testimony, Dr. Banta reported the criticism, at best misguided, of NLM's evaluation studies and then identifies three "issues ... that may be pursued further." The first issue is the allegation that the Library's "coverage of such fields as health care delivery is rather poor" (we disagree); and that MEDLINE "tends not to index such information as government reports and reports of NIH grant-supported research." To be sure, NLM deliberately refrains from duplicating the work of the National Technical Information Service (NTIS) which does index government reports, and the Library does not index NIH quarterly or final grant reports since a central NIH organ does perform this function. (NLM does maintain a special file (CANCERPROJ) for work-in-progress on cancer that covers all reported cancer research however funded).

Dr. Banta's second "issue" is the statement that "length of training of individuals who search NLM's data bases has been declining." The change several years ago from batch processing to interactive searching permitted a huge saving in training time. Subsequent shortening of the training period was a response to trainees' complaints that too much material was being compressed into a single course. Accordingly, some efficiencies were introduced into the training schedule and the course split into several segments beginning with a self-instructional unit that can be completed at the student's home base, and followed by one-week segments of increasing complexity. This program permits flexibility in tailoring instruction to the needs and qualifications of the individual student. A review of searcher training is now in progress and further re-design can be expected when that is complete.

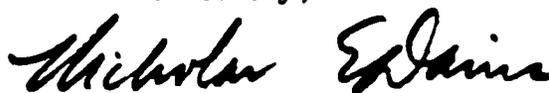
Dr. Banta's third "issue" is that "programs and projects supported by the Medical Library Assistance Act could be examined with respect to their merit and priority." This view suggests he is either not aware of the Board of Regents' involvement in the continuing review of these programs and priorities, or does not believe our review is sufficient. In fact, NLM uses the same "dual review" procedure for evaluation of technical merit followed elsewhere in NIH.

More disturbing than this failure to acknowledge the Regents' responsibility for program quality and relevance, however, is Dr. Banta's insertion of the Summary (and only the Summary) of the OTA staff report in the record of the hearing. As I have indicated, we believe the Summary, read alone, gives a distorted and unbalanced picture of this Library and could do damage to an institution that serves the nation well. To do such damage, albeit done perhaps carelessly or inadvertently, in such an important forum as the United States Senate provokes our vigorous protest.

Dr. Martin M. Cummings, Director, National Library of Medicine and I would be pleased to meet with you or the OTA Advisory Board to resolve these issues. We are committed to providing Congress with accurate information that may be of assistance in their deliberations. We share your responsibility in this regard and we look forward to working with you in the national interest.

I regret the necessity to write you as I have, but I am in duty bound to convey the view of the Library's Regents with which I am in full accord.

Sincerely,



Nicholas E. Davies, M.D.  
Chairman  
Board of Regents

cc:  
Assistant Secretary for Health  
Director, NIH

POSITION PAPER ON TRAINING GRANTS  
IN  
COMPUTERS IN MEDICINE

Background

Ten years ago the Board of Regents, after careful consideration of the recommendations of consultants, directed the National Library of Medicine to an aggressive and continuing role in support of computer application to information handling research to meet the needs of medical research, medical education and health care delivery. Many terms have been proposed to describe the field of interest, but none are completely satisfactory. Although the term Medical Informatics has been generally accepted overseas, it is not popular in this country, perhaps because it suggests automatic data processing and is too broad a term for our purposes. Similarly, medical computing or computers in medicine for slightly different reasons are considered inadequate. Both terms imply a primary role of the computer and neither adequately describes the concern with information manipulation.

NLM is concerned with various aspects of information handling. These include knowledge representation, data base construction, indexing and retrieval, modeling of biologic systems and clinical decision making. The research purpose is to seek a greater understanding of how information can be structured and manipulated in order to better support decision making in biomedicine. The computer is a critically important tool in much of this effort.

Clearly, some term or terms to identify our interest is highly desirable. Since recently, the term computers in medicine may have

May 10, 1981

become a liability. It is suggested that we adopt the descriptor, "Medical Information Problem Solving."

The Board of Regents has stressed that medical information problem solving is a complex activity requiring the effective interactions of experts in the health sciences, the computer sciences, linguistics, the information sciences, cognitive psychology and others. They were at that time less concerned with the training in any of these disciplines than they were with training of potential or existing health science faculty who would contribute to the development of the environment that would support and nourish this interdisciplinary interaction. They assumed that this training would in some instances be pursued to a point of research careers.

In the ten years that have passed since those recommendations were made, many things have changed. Computers and microelectronics are totally pervasive in current society. From desktop computers for home use to electronic games on television, our literature, movies and daily lives are so constantly exposed to information manipulation that we not only assume anything is possible, but also that it's already been done. No one is any longer awed by the technology.

In medicine, large numbers of research medical scientists have become familiar with, and daily use, the computer as a research tool. Increasingly, the clinical and laboratory scientists, such as pathologists, radiologists, hematologists, and internists are also using the computer

as a tool. Indeed, the whole hospital staff has learned to use the computer as a hospital management tool.

Computers are increasingly finding their way into office medical practices. Initially obtained for office management purposes, they are now being used for patient record management, and there is a beginning introduction of educational materials for use by office computers.

From this early experience, there is a slow but increasing recognition of this field in the execution of the functions of the health science institutions. From early support for quantitation and measurement in biologic experimentation, and quality control in clinical laboratories, greater dependency is developing. There are even some who realize that the health scientist of tomorrow will require a different type of education, one with much less emphasis on the acquisition of information and much more emphasis on data interpretation and information processing.

In computer science, a field that ten years ago was populated almost entirely by engineers, physicists, psychologists and mathematicians, enough time has elapsed to create a cadre of people who consider themselves computer scientists, and indeed now a reasonable number have actually been trained in computer science.

There now exist a half-dozen or so sections or otherwise identified units within the health science departments which have as their prime aim, research in some aspect of medical information problem solving. Perhaps the oldest is at the University of Utah. The University of Texas Health Science Center at Dallas has established a Department of Medical Computing

and Washington University in St. Louis is planning an Institute of Biomedical Computing with the joint support of the School of Engineering and the School of Medicine. Perhaps most remarkable about this last development is that the dean and five Department Chairmen of the School of Medicine have led the support of this development.

One way or another, the role of information technology in the health sciences is rapidly expanding. Hopefully, an appropriate match between task and capability will evolve. From all this it is safe to conclude that although the environment has changed dramatically in the ten years since the Board's position was stated, the major issues are unchanged. The time is ripe for a strong push to establish the professional identity of a field of medical information problem solving and strive for the development of "centers of excellence," career development and sustained research support.

The simultaneous support of these goals, however desirable, is well beyond our available resources. In view of the current economic climate, it does not appear likely that the additional resources could be gained in the appropriation process, still it remains an alternative to be considered. Faced however, with that economic climate, prudence demands that other alternatives be examined.

The situation is additionally complicated because the very changes which have so altered our perception of automated information handling have catapulted our society into the economics of the information age by creating an enormous demand for a knowledgable work force.

Without repeating the details presented at the last Board meeting, it is clear that medical information problem solving cannot presently compete against the demands of industry for the manpower needed to further its endeavors. While no two people working in this field will give the same numerical answer to the question, "How many well trained, competent investigators are now working in the field?" all the replies would be small numbers. Thus, an addition of even five such people a year would in a five-year period have a very significant impact. We believe, therefore, that the National Library of Medicine's resources should be used to support individuals in a career development and research career program. We believe that in spite of the adverse economics, etc., there are enough "mavericks" who, given the opportunity, will become so enthralled with the problem that they will accept lesser economic gains if some meaningful career opportunity is clearly available. The problem is to pick "winners" and support them in a place favorable to their career development. All mechanics for support should be examined and as many as possible be kept available to provide the greatest flexibility possible.

The beginning of the development of organizational loci within the health science institutions as exemplified by the Department of Medical Computing in Dallas and the proposed Institute of Biomedical Computing at Washington University are surely what the Board of Regents hoped for ten years ago when they placed such great emphasis on the enhancement of the environment. If there were sufficient replication of these departments, the major objectives of the training program would have been realized.

But such departments and institutes are built by and around people, well trained, very competent, highly motivated people. It is therefore time, we believe, to slightly shift the emphasis of NLM's training investment from what might have been called faculty education to faculty development. If NLM can contribute in the next five years to the development of even 20 such well trained, competent, highly motivated people, around whom new departments could be built and existing departments strengthened, the impact would be enormous. But the development of such a department requires more than people. It requires institutional commitment. We therefore believe that the institution ought to nominate individuals to compete to become an NLM Scholar in medical information problem solving. This nomination by a health science institution should be accompanied by an explicit commitment to provide the candidate, upon completion of his scholarship, an opportunity for a permanent faculty position, space and support for the pursuit and development of his endeavors.

Just as the number of skilled researchers in this field is small, so too are the number of institutions that have the combination of resources, interest and faculty to provide strong post-doctoral experience. Among this small number is the National Institutes of Health itself. Few, if any among this small number can provide a superior experience in all aspects of this multidisciplinary field. While one might be very strong in artificial intelligence, it might be less desirable as a training site in data base structure or linguistics, mathematical modeling of biologic systems, etc. We therefore propose that these institutions with acknowledged excellence in some aspect of medical information problem solving be

invited to join a consortium for faculty development. In this manner, the acknowledged excellence in every aspect of this field would be available to the NLM scholar regardless of where it was located. Since the investment in each scholar would be considerable, every effort must be made to limit the awards to outstanding candidates. The award should be a prize and no second prizes should be awarded. We envision the operation of the program to be as follows:

1. Nomination of Candidates: Any health science institution in the country may nominate a candidate for the NLM MIPS Scholarship. The institution in making the nomination will make a commitment of a faculty appointment to the candidate upon the completion of the scholarship, or will indicate that the candidate's current faculty appointment will be maintained. The institution will also indicate how this NLM scholar fits into their plans for curricular and organizational development of increased emphasis on medical information problem solving. The institution will also submit a proposed faculty development program lasting from one to five years.
2. Qualifications of Candidates: The NLM MIPS Scholars Program is a post-doctoral program. M.D. candidates will be expected to have had at least one year of graduate medical training. Ph.D. candidates may come from any discipline (e.g., physiology, psychology, computer science, information science, mathematics, engineering), but they will be expected to have already demonstrated their interest and capability in some aspect of medical information problem solving. Candidates

are expected to make a career commitment to the field and to be prepared upon completion of this scholarship to take advantage of the institutional commitment of their sponsors.

3. Selection of Candidates: Because of the large investment in each scholar, considerable effort and perhaps unusual expense must go into the selection process. We propose that there be established a general policy and selection committee, preferably with a six-year rotating membership. This committee would consist of outstanding leaders in related fields as well as representatives of the consortium of training institutions including the NIH.

The committee would have as its charge two functions:

1. To recommend to the Board of Regents program policy.
2. To recommend to the Board of Regents NLM MIPS scholars.

The selection process would begin with a preliminary screening of all applications by the committee. This would be done either by mail or computer conferencing. In this initial screen the committee would eliminate all those applications which in their judgment clearly fail to satisfy the program requirements and standards.

The remaining candidates would be invited to participate in a three-day seminar on medical information problem solving conducted by members of the selection committee. The seminar would then be used in lieu of interviews to assess the candidates. If the selection committee wishes, it may also interview candidates individually at this time. Final recommendation would then be made to the NLM Board

of Regents. The committee may recommend selection of as many candidates as they wish. That number may also be zero.

In addition to making recommendations on those candidates they consider worthy of award, they will for those candidates they recommend, carefully review the proposed program and make such recommendations for changes as they feel appropriate. They will also review each year the proposed program of the successful scholars. In these reviews they will be aided by written reports of the Training Chairman of the participating training institutions where the scholar has spent time. Finally, from among the faculty of the training institutions, each scholar, with the the agreement of the faculty member and the approval of the committee, will be assigned a faculty adviser for the duration of the scholarship.

#### 4. Characteristics of the Award:

##### a. Stipend -

Although, as indicated earlier, it will be impossible for NLM to be truly competitive, the stipend must be large enough to make it possible for the pursuit of this endeavor, even at some financial sacrifice. For this purpose, a minimum starting stipend of \$25,000 would appear essential. This stipend should be augmented by the annual federal cost of living increase. Supplementation of income by sponsoring institutions should be permitted, providing such supplementation is not based upon

assumption of any duties or responsibilities that would not have been pursued in a non-supplemented execution of the scholarship.

b. Moving Expenses

Within the period of the scholarship it is anticipated that the scholar will move several times in order to reap the benefit of strengths of the participating training institutions. Except under rare circumstances, however, a minimum of nine months and more likely a year or more will be spent in each training site selected. For these moves, moving expenses in accordance with government regulations will be provided. For lesser period of time, only travel expenses will be provided.

c. Travel Expenses -

Travel expenses should provide for two meetings a year and one visit a year to another laboratory. This is an important part of the scholarship program and should be as generous as possible. \$2,500 a year is perhaps a reasonable estimate today, but it probably will have to be adjusted each year in accordance with inflation.

d. Institutional Award -

No funds will be available, either for institutional overhead or support of institutional personnel. However, the scholarship will pay such tuitions or fees as are the normal practice for that institution.

With these provisions in mind, the cost of the scholarship may be roughly estimated as follows:

Year One - \$30,000

Year Two - \$32,500

Year Three - \$35,100

Year Four - \$37,900

Year Five - \$41,200

or an average of \$35,340

Assuming 30 scholars in the program, the annual cost of fully operating would be approximately just over \$1,000,000 a year. These figures are under estimates since it is unlikely the initial stipend can be maintained at \$25,000 throughout a five-year period. However, this would leave approximately \$2,000,000 for new investigator, RCDA, and research project awards.

Finally, if this proposal does not seem practicable, consideration should be given to pooling the available monies from the training grants and using it to support a combination of new investigator, RCDA and research projects in a traditional mode.

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
1 G07 LM 03187-01A1	SINGLE-INSTITUTION GRANT	01A1 4,000
1 G07 LM 3477-01A1	SINGLE-INSTITUTION GRANT	01A1 4,841
1 G07 LM 03498-01A1	SINGLE-INSTITUTION GRANT	01A1 4,150
1 G07 LM 03774-01	SINGLE-INSTITUTION GRANT	01 4,000
1 G07 LM 03781-01	CONSORTIUM IMPROVEMENT GRANT	01 33,372
1 G07 LM 03789-01	SINGLE-INSTITUTION GRANT	01 4,000
1 G07 LM 03792-01	CONSORTIUM IMPROVEMENT GRANT	01 25,296
1 G07 LM 03810-01	SINGLE-INSTITUTION GRANT	01 4,000
1 G07 LM 03812-01	SINGLE-INSTITUTION GRANT	01 4,500

1/Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
1 G07 LM 03818-01	CONSORTIUM IMPROVEMENT GRANT	01 9,024
1 G07 LM 03819-01	CONSORTIUM IMPROVEMENT GRANT	01 38,300
1 G07 LM 03821-01	SINGLE-INSTITUTION GRANT	01 4,000
1 G07 LM 03828-01	SINGLE-INSTITUTION GRANT	01 3,000
1 G07 LM 03832-01	CONSORTIUM IMPROVEMENT GRANT	01 24,000

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: MAY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE	APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
	1 G08 LM 03773-01	WESTERN CAROLINA CENTER LEARNING RESOURCE CENTER	01 30,304 02 20,749 03 21,530
	1 G08 LM 03813-01	QUALITY ASSURANCE PROPOSAL	01 41,315 02 41,520
	1 G08 LM 03822-01	HEALTH EDUCATION MATERIALS RESOURCE CENTER	01 49,903 02 27,500 03 22,490
	1 G08 LM 03841-01	LEARNING RESOURCE CENTER-SERVICE DISTRIBUTION PROJECT	01 45,175 02 24,697 03 25,642

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: MAY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
2 R01 LM 03120-04	A COMPUTER ASSISTANT FOR INFORMATION RETRIEVAL	04 88,650 05 94,650 06 104,000
2 R01 LM 03123-04	BIBLIOGRAPHIC RETRIEVAL FOR THE HOSPITAL LIBRARY	04 142,275 05 154,315 06 133,535
2 R01 LM 03446-02	MASS SPECTROMETRY - A FUNDAMENTAL REVIEW	02 23,712
1 R01 LM 03592-01A1	RUSSIAN AND SOVIET PHYSICIANS, 1890-1932	01A1 20,148
1 R01 LM 03708-01	EDITION OF THE COMPLETE FREUD/FLIESS LETTERS	01 13,190 02 13,374 03 15,061
1 R01 LM 03746-01	C.E.A. WINSLOW: A BIOGRAPHY	01 14,504 02 16,680
1 R01 LM 03765-01	SIR ARTHUR NEWSHOLME & PREVENTIVE MEDICINE: 1880-1940	01 3,060 02 15,800 03 2,050
1 R01 LM 03768-01	CLASSICAL ARMENIAN GALENIC CORPUS	01 13,009
1 R01 LM 03770-01	ILBERG: UEBER DIE SCHRIFTSTELLEREI DES KL GALENOS	01 5,000 02 5,000

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: MAY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
1 R01 LM 03782-01	THE NATIONAL INSTITUTE OF HEALTH: THE EARLY YEARS	01 16,147
1 R01 LM/OH 03785-01	ALICE HAMILTON AND OCCUPATIONAL HEALTH, 1870-1935	01 13,300
1 R01 LM 03787-01	FAMILY AND FERTILITY CONTROL IN 19TH CENTURY AMERICA	01 19,069
1 R01 LM 03788-01	HEALTH AND WELFARE OF THE RUSSIAN WORKER, 1880-1914	01 25,000 02 25,000
1 R01 LM 03795-01	THE ECONOMIC BOTANY OF LITTLE-KNOWN FOOD-PLANT RESOURCES	01 22,500
1 R01 LM 03796-01	STUDY OF USAGE AND COSTS OF HEALTH SCIENCES LIBRARIES	01 82,716
1 R01 LM/DA 03799-01	THEORETICAL AND HISTORICAL BASIS OF DRUG CONTROLS	01 20,145 02 21,650
1 R01 LM 03800-01	SUPPORT OF INDIVIDUAL AND GROUP INFORMATION NEEDS	01 56,857 02 61,430 03 61,667
1 R01 LM 03801-01	EVALUATION AND GRAPHICS FOR MEDICAL DATA REPORTING	01 85,462 02 76,132

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

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(Arranged numerically by program)

COUNCIL DATE: MAY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
1 R01 LM 03802-01	AUTOMATIC PROCESSING OF TIME IN MEDICAL NARRATIVE	01 19,342 02 21,140 03 23,110
1 R01 LM 03833-01	MEDICAL ETHICS AND ABORTION IN ENGLAND, 1800-1914	01 3,983

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: MAY 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
1 R23 LM 03371-01A1	KNOWLEDGE ENGINEERING USED IN MEDICAL CURRICULUM DESIGN	01A1 23,074 02 24,421 03 26,280
1 R23 LM 03392-01A1	REPRESENTATION OF COMPUTER-BASED THERAPY PLANS	01A1 34,078 02 34,906 03 33,698
1 R23 LM 03826-01	ANALYTIC AND COMPUTER AIDS TO MEDICAL DECISION MAKING	01 35,100 02 35,948 03 36,330
1 R23 LM 03823-01	NATURAL LANGUAGE INTERFACE TO MEDICAL DATA BASE SYSTEMS	01 37,499 02 28,346 03 29,173

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	PROJECT TITLE	AMOUNTS RECOMMENDED
1 K10 LM 00066-01		01 56,630
	CRIMINAL VIOLENCE AND PUBLIC HEALTH	
1 K10 LM 00068-01		01 35,300
	SELF-DIRECTED LEARNING - PROFILES OF GREAT PHYSICIANS	02 20,394

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

BOARD OF REGENTS

Extramural Programs Subcommittee Meeting

May 27, 1981

ATTENDEES

Subcommittee Members Present:

Dr. William D. Mayer  
Dr. Saul Jarcho (Consultant)  
Dr. John L. Townsend  
Mr. James F. Williams II  
Professor Martha E. Williams

NLM Staff Present:

Dr. Martin M. Cummings, Director, NLM  
Dr. Ernest M. Allen, Associate Director for Extramural Programs  
Mrs. Helen S. Bennison, Grants Management Specialist, EP  
Mr. Arthur J. Broering, Deputy Associate Director for Extramural Programs  
Dr. Jeanne L. Brand, International Programs Division, EP  
Mr. Peter A. Clepper, Program Officer, EP  
Mrs. Karin K. Colton, Committee Management Assistant  
Dr. Roger W. Dahlen, Chief, Division of Biomedical Information Support, EP  
Mrs. Frances E. Johnson, Program Officer, EP  
Mrs. M. Kathleen Nichols, Grants Management Specialist, EP  
Mrs. Marguerite L. Pusey, Administrative Officer, EP  
Dr. Dorothy A. Stroup, Program Officer, EP  
Mr. Randall Worthington, Program Officer, EP  
Dr. Galina V. Zarechnak, Program Officer, EP

BOARD OF REGENTS

Lister Hill Center and National Medical Audiovisual Center

Subcommittee Meeting

May 27, 1981

ATTENDEES

Subcommittee Members Present:

Dr. Faye G. Abdellah  
Dr. Ismael Almodovar  
Dr. Gwendolyn S. Cruzat  
Dr. Nicholas E. Davies (Chairman of the Board)  
Dr. Edward J. Huth  
Dr. Charles E. Molnar

NLM Staff Present:

Dr. Harold M. Schoolman, Deputy Director for Research and Education, OD  
Dr. Lionel M. Bernstein, Director, LHNCBC  
Dr. Merlin Brubaker, Acting Deputy Director, NMAC  
Dr. Donald R. Buckner, Chief, Materials Development Branch, NMAC  
Dr. William G. Cooper, Associate Director for Planning, OD  
Ms. Linda W. Kudrick, Chief, Materials Utilization Branch, NMAC  
Dr. Marjorie Kuenz, Research Education Specialist, NMAC  
Dr. Thomas V. Telder, Chief, Educational Training and Consultation Branch, NMAC  
Dr. James W. Woods, Director, NMAC

Subcommittee Member Unable to Attend:

Vice Admiral J. William Cox

Members of the Public Present:

None

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
NATIONAL INSTITUTES OF HEALTH  
NATIONAL LIBRARY OF MEDICINE  
Bethesda, Maryland

A G E N D A

68th Meeting of the

BOARD OF REGENTS

9:00 a.m., October 29-30, 1981

Board Room  
National Library of Medicine

MEETING OPEN: All day on October 29 and from 9:00 a.m. to 12:15 p.m. on October 30.

MEETING CLOSED: From 12:15 p.m. to adjournment on October 30 for the review of grant applications.

- CALL TO ORDER AND INTRODUCTORY REMARKS Prof. Martha E. Williams
- REMARKS BY THE ACTING DIRECTOR, NIH Dr. Thomas E. Malone
- I. CONSIDERATION OF MINUTES OF LAST MEETING TAB I Prof. Martha E. Williams  
(Agenda Book)
- II. DATES OF FUTURE MEETINGS
- Next Meeting: February 4-5, 1982 (Th-F)
- Spring Meeting: May 20-21, 1982 (Th-F)
- Fall Meeting: October 7-8, 1982 (Th-F) or  
October 14-15, 1982 (Th-F)
- PLEASE NOTE: American Society for Information Science  
Annual Meeting, Columbus - 10/17-21/82
- III. REPORT OF THE DIRECTOR, NLM TAB II Dr. Martin M. Cummings
- COFFEE BREAK
- IV. USER CHARGES FOR NLM COMPUTER SERVICES TAB III Mr. Kent A. Smith  
Miss Mary E. Corning
- Discussion Prof. Martha E. Williams,  
Discussant, and  
Board Members

10/6/81

LUNCHEON CATERED IN CONFERENCE ROOM "B"

I. MEDLARS III UPDATE

TAB IV

Dr. Joseph Leiter  
Mr. John Anderson

Discussion

Board Members

II. REPORT ON OCTOBER 5-6 MEETING OF NLM BOARD OF SCIENTIFIC COUNSELORS

Dr. William G. Cooper

Discussion

Dr. Charles E. Molnar,  
Discussant, and  
Board Members

COFFEE BREAK

. STATUS OF NMAC PROGRAMS

TAB V

Dr. William G. Cooper

Discussion

Dr. Edward J. Huth,  
Discussant, and  
Board Members

ELEVENTH REGENTS' AWARD FOR SCHOLARSHIP OR TECHNICAL ACHIEVEMENT

Prof. Martha E. Williams

. DIRECTOR'S AWARD

Dr. Martin M. Cummings

R E C E S S

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DINNER . . . . .  
Cocktails (Cash Bar) . . . . . 6:30 p.m.  
Dinner (Dutch Treat) . . . . . 7:30 p.m.

Bethesda Marriott Hotel  
"SALON E"  
"MARYLAND ROOM"

SPEAKER: Mr. Harrison Bryan  
Director-General  
National Library of Australia

TOPIC: "The Australian Connection"

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R E C O N V E N E: October 30, 1981, 9:00 a.m.

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|--|--|---|
| <p>II. REPORT OF THE ASSOCIATE DIRECTOR<br/>FOR EXTRAMURAL PROGRAMS</p> <p>A. Budget Projection for FY 1982</p> <p>B. Training</p> <p>Discussion</p> | <p><u>TAB VI</u></p> <p><u>Tab A</u></p> <p><u>Tab B</u></p> | <p>Dr. Ernest M. Allen</p><br><br><br><p>Board Members</p>  |
| <p>III. REEVALUATION OF RESEARCH GRANT POLICIES</p><br><br><p>Discussion</p><br><br><p>COFFEE BREAK</p>  | <p><u>TAB VII</u></p>  | <p>Dr. Ernest M. Allen<br/>Mr. Peter A. Clepper</p><br><br><p>Dr. William D. Mayer,<br/>Discussant, and<br/>Board Members</p>   |
| <p>V. RML NETWORK REVIEW</p><br><br><p>Discussion</p><br><br><p>NEW BUSINESS</p>   | <p><u>TAB VIII</u></p>                                       | <p>Ms. Lois A. Colaianni<br/>Mr. Sheldon Kotzin</p><br><br><p>Dr. William D. Mayer,<br/>Mr. James M. Hahn,<br/>Mrs. Bernice M. Hetzner,<br/>Discussants, and<br/>Board Members</p><br><br><p>Prof. Martha E. Williams</p> |

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MEETING CLOSED FOR THE REVIEW OF GRANT APPLICATIONS - 12:15 P.M.

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|---|---|---|
| <p>I. SPECIAL APPLICATIONS</p> <p>A. Publication</p> <p>B. Research</p> <p>C. Resource</p>  | <p>(Gray Book)</p> <p><u>TAB I</u></p> <p><u>TAB II</u></p> <p><u>TAB III</u></p>   | <p>Dr. Jeanne L. Brand</p> <p>Dr. Roger W. Dahlen</p> <p>" " " "</p>  |
| <p>II. SUMMARY STATEMENTS</p> <p>A. Publication</p> <p>B. Special Scientific Project</p> <p>C. Research</p> <p>D. Career Development</p> <p>E. Resource</p> <p>F. Improvement</p> | <p><u>TAB IV</u></p> <p><u>TAB V</u></p> <p><u>TAB VI</u></p> <p><u>TAB VII</u></p> <p><u>TAB VIII</u></p> <p><u>TAB IX</u></p> | <p>Dr. Jeanne L. Brand</p> <p>Dr. Roger W. Dahlen</p> <p>" " " "</p> <p>" " " "</p> <p>" " " "</p> <p>" " " "</p> |
| <p>III. ADJOURNMENT</p>   | <p>1:00 p.m.</p>  | <p>Prof. Martha E. Williams</p>   |

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH  
NATIONAL LIBRARY OF MEDICINE

BOARD OF REGENTS

MINUTES OF THE 68th MEETING  
October 29-30, 1981

BOARD ROOM  
NATIONAL LIBRARY OF MEDICINE  
BETHESDA, MARYLAND

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE

THE BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

Minutes of Meeting 1/2/  
October 29-30, 1981

The Board of Regents of the National Library of Medicine was convened for its sixty-eighth meeting at 9:00 a.m. on Thursday, October 29, 1981, in the Board Room of the National Library of Medicine, Bethesda, Maryland. Professor Martha E. Williams, Chairman of the Board of Regents, and Professor of Information Science, Coordinated Science Laboratory, University of Illinois, Urbana, Illinois, presided. In accordance with P.L. 92-463 and the Determination of the Director, NIH, and as announced in the Federal Register on September 10, 1981, the meeting was open to the public from 9:00 a.m. to 5:15 p.m. on October 29 and from 9:00 a.m. to 11:45 a.m. on October 30, and closed from 11:45 a.m. to 12:30 p.m. on October 30 for the review, discussion, and evaluation of grant applications. A Board roster is enclosed under Attachment "A."

Board members present were:

Vice Admiral J. William Cox (Oct. 29)  
Dr. Eloise E. Clark (Oct. 29)  
Dr. Gwendolyn S. Cruzat  
Dr. Emmet F. Ferguson, Jr.  
Dr. Edward J. Huth  
Dr. William D. Mayer  
Dr. Charles E. Molnar  
Dr. John L. Townsend  
Professor Martha E. Williams

Alternates to Board members present were:

Dr. Faye G. Abdellah, representing Dr. Edward N. Brandt, Jr.  
Dr. Turner Camp, representing Dr. Donald L. Custis  
Ms. Donna Griffiths, representing Lt. General Charles C. Pixley  
Mr. James M. Hahn, representing Dr. Donald L. Custis  
Brig. General Monte B. Miller, representing Lt. General Paul W. Myers  
Rr. Admiral Frances T. Shea, representing Vice Admiral J. William Cox  
Mr. William J. Welsh, representing Dr. Daniel J. Boorstin

Unable to attend:

Dr. Ismael Almodovar  
Ms. Shirley Echelman  
Colonel Michael J. Scotti

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1/ For the record, it is noted that members absent themselves from the meeting when the Board is discussing applications from their respective institutions (interpreted to mean the entire system of which a member's institution is a part) or in which a conflict of interest might occur. Only when an application is under individual discussion will the Board member absent himself. This procedure does not apply to "en bloc" actions.

2/ The Board of Regents, when considering the extramural programs of NLM, also constitutes and serves as the National Medical Library Assistance Advisory Board.

National Library of Medicine staff members attending this meeting included:

Dr. Martin M. Cummings, Director  
Mr. Kent A. Smith, Deputy Director  
Dr. Ernest M. Allen, Associate Director for Extramural Programs  
Mr. John Anderson, Director, MEDLARS III, LO  
Mr. Harry D. Bennett, Director for Computer and Communications System  
Mr. Albert Berkowitz, Chief, Reference Services Division, LO  
Dr. John B. Blake, Chief, History of Medicine Division, LO  
Dr. Jeanne L. Brand, Chief, International Programs Branch, EP  
Mr. Arthur J. Broering, Deputy Associate Director for Extramural Programs  
Dr. Donald R. Buckner, Special Assistant to the Director, NMAC  
Mrs. Lois Ann Colaianni, Deputy Associate Director for Library Operations  
Dr. William G. Cooper, Acting Deputy Director for Research and Education, OD  
Miss Mary E. Corning, Assistant Director for International Programs  
Dr. Roger W. Dahlen, Chief, Biomedical Information Support Branch, EP  
Dr. Tamas E. Doszkocs, Chief, Technical Services Division, LO  
Mr. Charles M. Goldstein, Chief, Computer Technology Branch, LHNCBC  
Mr. B. Earl Henderson, Acting Deputy Director, LHNCBC  
Dr. Henry M. Kissman, Associate Director for Specialized Information Services, SIS  
Mr. Sheldon Kotzin, Chief, Bibliographic Services Division, LO  
Ms. Linda W. Kudrick, Chief, Materials Utilization Branch, NMAC  
Dr. Joseph Leiter, Associate Director for Library Operations  
Mr. Robert B. Mehnert, Chief, Office of Inquiries and Publications Management  
Dr. Henry W. Riecken, Acting Associate Director for Planning, OD  
Mr. Arthur J. Robinson, Jr., EEO Coordinator  
Dr. Warren F. Seibert, Chief, Educational Research and Evaluation Branch, NMAC  
Dr. Thomas V. Telder, Chief, Educational Training and Consultation Branch, NMAC  
Dr. Michael Weisberg, Assistant Chief, Educational Training and Consultation Branch, NMAC

Others present included:

Dr. Thomas Malone, Acting Director, NIH  
Mr. Douglas Hussey, Policy Analyst, Division of Legislative Analysis, NIH  
Mr. Harrison Bryan, Director-General, National Library of Australia, Canberra  
Dr. H. Westley Clark, Health Counsel, Minority Staff (Senator Kennedy's Office),  
Senate Committee on Labor and Human Resources  
Dr. Richard A. Farley, Director, National Agricultural Library  
Mrs. Bernice M. Hetzner, Professor of Library Science, University of Nebraska  
Medical Center--Consultant  
Mr. Kenneth Myer, Chairman of the Library Council of Australia, Melbourne  
Dr. John F. Sherman, Vice President, Associations of American Medical Colleges, DC  
Mrs. Ileen Stewart, Executive Secretary, Special Study Section, DRG, NIH  
Mr. James F. Williams II, Associate Director of Libraries, Wayne State University  
Purdy Library--Consultant

Members of the public present:

Mr. Jeff Christie, Reporter, "The Blue Sheet"  
Ms. Peggy Miller, Staff, Kaye, Scholar, Fierman, Hays & Handler  
Ms. Gloria Ruby, Staff Member, Office of Technology Assessment

## I. OPENING REMARKS

Professor Martha E. Williams, Chairman, welcomed the Regents, consultants, and guests to the 68th meeting of the Board of Regents.

She then commented on the situation of declining funds for information science research and development from such sources as NLM and the National Science Foundation. In past years, the Federal Government has been an important source of such support, and much of the early work in developing computerized databases and online systems was through government support. The information industry has benefited immensely from these government activities and much of NLM's research and development has found application in the private sector. She cited as examples NLM's work in developing MEDLINE, videodisc applications, and the Integrated Library System. She deplored the current situation that has the public and private sectors at loggerheads over the "competition" issue, and urged that there be greater effort to foster mutual understanding and to develop common terminology and definitions.

## II. CONSIDERATION OF MINUTES OF PREVIOUS MEETING

The Regents approved the minutes of the May 28-29, 1981, meeting without change.

## III. DATES FOR FUTURE MEETINGS

The Board will meet next on February 4-5, 1982. The dates of May 20-21, 1982, were confirmed for the spring meeting, and October 7-8, 1982, are the tentative dates for the following meeting.

## IV. REMARKS BY THE ACTING DIRECTOR, NIH

Dr. Thomas E. Malone reported on the search for a new NIH Director and efforts to fill a number of other high-level vacancies at NIH. It is crucial to attract talent of high caliber to fill these positions, he said, if we are to take advantage of recent exciting research advances in DNA and CAT, for example. NIH has been fairly treated in the first round of budget cuts and is bracing itself for future cuts. He expressed the hopes that NIH will be allowed to set its own priorities in absorbing budget reductions. Recent public utterances by the President's Science Advisor, the HHS Secretary, and the HHS Assistant Secretary for Health have all been highly supportive of NIH's role in basic research. Dr. Malone mentioned several issues that are of current concern at NIH: recent publicized cases of fraud in research, criticism of NCI's chemotherapy program, and abuse of laboratory animals. NIH is now emphasizing not only the accrual of new research knowledge, but the application of such knowledge in health care. Allied with this is increased interest at NIH in prevention. NIH is now developing a program to coordinate prevention activities in such areas as smoking and health, nutrition, and hypertension. Dr. Malone emphasized, however, that these prevention efforts will not be at the expense of basic research, NIH's primary mission.

Dr. Cummings welcomed Mr. Kenneth Myer, Chairman of the Library Council of Australia, and Mr. Harrison Bryan, Director-General of the National Library of Australia. He also noted several staff matters: Dr. Schoolman is on sabbatical leave for nine months; Dr. Cooper was named Acting Deputy Director for Research and Education; Dr. Riecken has become Acting Associate Director for Planning; Mr. Earl Henderson was made Acting Deputy Director for the Lister Hill Center following Dr. Bernstein's stepping down as Director; and Mr. Mark Rotariu is the new Acting Budget Officer.

Dr. Cummings noted that 1981 is the 25th anniversary of the National Library of Medicine Act. He reviewed the functions of the Library and the role of the Board of Regents as specified in the Act, commenting that the counsel of the Regents will be invaluable in assisting NLM to chart a proper course in the issue of public good versus private enterprise.

The NLM budget outlook for FY 1982 is not bright. The Senate recommended the same level as the Administration's request, \$47,677,000. The House subsequently recommended a budget decrease of \$1,425,000, as a result of the reduction of the amount in the 1981 renewal authorization for the Medical Library Assistance Act. Until a new budget is passed by the Congress and signed by the President, NLM will continue to operate under a Continuing Resolution. Dr. Cummings read excerpts from a report issued by the House Appropriations Committee on September 23, 1981, that supported NLM's efforts to develop MEDLARS III and took note of NLM's expanding online services (and the mechanism of user charges to pay full costs of access). The report also addressed NLM's efforts in toxicology information services, grant assistance, audiovisuals, and research and development.

Finally, the NLM Director spoke to the issue of public/private sector competition. He noted some of its historical antecedents and remarked that several important events this year have brought the issue to wide attention. The first was a proposed amendment to Senate Bill S.800 that would require NLM to charge full-cost recovery for all its services and products. The amendment (which failed to become law) would exempt nonprofit and certain other organizations, but they in turn could not provide services to nonexempt organizations. This would be most difficult for NLM to administer, Dr. Cummings said. Also this year there were two reports bearing on the public/private issue: a major study by the National Commission on Libraries and Information Science (NCLIS) and a lesser one by a National Academy of Sciences Panel on Issues of Scientific Communication (Assembly of Mathematical and Physical Sciences). In addition to the two reports, the American Library Association and the Medical Library Association have both issued explicit resolutions stating that the public interest is well served by NLM's present policy of equal access to information collected, compiled, and disseminated by the Federal Government.

## VI. USER CHARGES FOR NLM SERVICES

Mr. Kent Smith, Deputy Director, described the Library's policy on pricing of its computerized information services, which had been considered and reaffirmed by the Regents at their last meeting. A new rate structure took effect October 1, 1981. He reviewed several important events over the last year: the cost-recovery amendment (which may be introduced again in 1982), the studies of

NLM's services that are being conducted by the General Accounting Office and Office of Technology Assessment, the NCLIS report, the positions of the Medical Library Association and the American Library Association, and an analysis by NLM staff of the costs associated with providing online services.

Miss Mary E. Corning, Assistant Director for International Programs, addressed the topic of user charges as they affect NLM's international users. She recounted the history of NLM's quid pro quo agreements and described the present mechanisms of access to NLM's databases. She continued the discussion of the May 1981 Board meeting on moving from a fixed-fee structure to one based on actual usage of the system and asked that the Regents consider and advise NLM on the desirability of such a change.

Before general Board discussion of the user charge issue, Professor Williams described in some detail the nature of the "information/data chain." which begins with the generator (author), ranges through several layers of publishers, processors, and vendors, and winds up with the end user. At each stage, she said, there is value added to the information and its cost increases. At the same time, proprietorship and the ability to monitor or control its use decrease. Two kinds of data resources may be distinguished, she said: those which are for the common good (and may not be profitable either for the short or long term), and those which have an obvious immediate or potential market value. In general, the Federal Government tends to produce the former kind, the private sector the latter. She concluded by noting several problem areas that must be taken into account in pricing data, including copyright, varying governmental and intergovernmental arrangements.

During discussion by the Regents, the proposed amendment that would require NLM to recover the full cost of all its services and products was described by Dr. Cruzat as having a potentially "devastating" effect on libraries, and by Dr. Ferguson as having a similar effect on the medical community. Dr. Huth commented that the heart of the matter is the concept of the public good versus private advantage and that important benefits to the Nation will be lost if present information services are not maintained. Dr. Cummings noted that the task of acquiring, indexing, and cataloging the world's biomedical literature with strict quality standards was onerous if not awesome. It is unrealistic to expect NLM to continue to do this and then give this product to someone else to sell for profit. Following discussion by the Board, the Chairman appointed two working groups of Regents to consider the national and international aspects of the issue and to make recommendations, to the full Board later in the meeting. The two recommendations, in the form of resolutions, were subsequently reviewed and approved and appear in Attachments B and C.

## VII. MEDLARS III UPDATE

Dr. Joseph Leiter, Associate Director for Library Operations, and Mr. John Anderson, MEDLARS III Project Director, reported to the Regents on MEDLARS III progress since their last report to the Board in January 1981. Two milestones have been met: completion of a detailed project plan that describes the scheduling and management of the MEDLARS III implementation, and completion of a detailed system development plan that deals with the technical requirements for the new system. The present schedule calls for the award of contract by September 1982

and implementation beginning in October 1982. Mr. Anderson described the plans for online data entry for indexing and cataloging, automated interlibrary loan request and referral system, and public catalog access.

Responding to the presentations, Mr. James Williams commented that the procurement strategy that is being developed by NLM is well defined and there is every reason to expect success. MEDLARS III will be a great improvement over the present system and will take optimum advantage of new technology.

#### VIII. REPORT ON BOARD OF SCIENTIFIC COUNSELORS' MEETING

Dr. William G. Cooper, Acting Deputy Director for Research and Education, reported briefly on the October 5-6 meeting of the NLM Board of Scientific Counselors. That body reviewed several NLM projects: the Knowledge Base Research Program, to which the Board gave high priority; the Distributed Information Delivery System, for which the Toxicology Data Bank has been selected as prototype; the archival Electronic Data Storage and Retrieval Program; the Advanced Terminal System, which is being field-tested; the Integrated Library System, which despite staff losses, has been issued in a new version and is now being operated successfully in several libraries; the Digital Videodisc Program; and certain of the programs of the National Medical Audiovisual Center.

Dr. Molnar commented that the new Board of Scientific Counselors is now well acquainted with the research and development programs of the Lister Hill Center and should in the future concentrate on examining in depth specific areas that need attention. The Board was concerned about the lack of progress in applying the LHC's new DEC System-20 computer to R&D programs and voiced the opinion that there needs to be closer collaboration between the Center's computer sciences staff and the Knowledge Base Research Program. Members were also concerned about the deleterious effect on LHC programs of the continuing freeze on hiring.

#### IX. STATUS OF NMAC PROGRAMS

Dr. William G. Cooper reported on progress of the National Medical Audiovisual Center in carrying out the five recommendations made by the Board at its last meeting. (1) To maintain its AV leadership role in the health-science community NMAC will monitor AV trends and needs, consult with institutions to assist them in effectively utilizing new educational technology, and sponsor faculty training and workshops. (2) To disseminate information about available instructional materials, and instructional materials themselves, NMAC operates a film rental program and a videocassette interlibrary loan service and will be studying how to improve these and related services dealing with dissemination. (3) To identify AV needs not being met by commercial producers and to encourage the production of needed materials, NMAC will collaborate with professional organizations to determine specific needs in the various biomedical disciplines and then, using the latest technologies and media, NMAC will produce or collaborate in the production of experimental models of health-science instructional packages. (4) To establish a national health-education materials network, NMAC will cooperate with the Regional Medical Libraries to expand AV distribution services and also establish a National Educational Materials Network to provide information about the availability of educational materials at NMAC and elsewhere. (5) To serve an archival function, NMAC will further develop a national resource for

information on historical films in the health sciences and also adapt new methods (such as videodisc technology) to serve its archival role. Dr. Cooper listed several other important NMAC activities not falling within the five recommendations. These involve supporting certain projects of other NLM components, such as evaluating Lister Hill Center videotapes, producing videodiscs to support LHC projects, providing graphics and photographic support for NLM programs, assisting in the development of MEDLARS instructional units, and coordinating the use of NLM conference facilities.

Dr. Edward Huth noted that many of NMAC's activities have an important and beneficial spin-off for the private sector since they serve to stimulate the interest of the health-science community in commercially available hardware and software. He noted also that the distinction between AV and print media was becoming blurred and that both can now be captured electronically, for example on videodiscs.

#### X. PRESENTATION OF AWARDS

Chairman Martha Williams presented the Eleventh Regents Award for Technical Achievement to Charles Goldstein, Chief of the Computer Technology Branch. Mr. Goldstein was honored for his work in developing the Integrated Library System (ILS). In presenting the award, Professor Williams termed the ILS "a major research and development achievement which has been demonstrably successful in a prototype operational system and can be expected to reach significant widespread use in the future."

Dr. Cummings presented the 1981 NLM Director's Award to Frieda Weise of the Reference Section. Ms. Weise was cited for her recent monograph, Health Statistics: A Guide to Information Sources, which was selected as one of the outstanding academic books of 1980-81. She was also praised for her exemplary professional contributions as an instructor in continuing education courses and as a member of the editorial board of Medical Reference Services Quarterly.

#### XI. REPORT OF THE ASSOCIATE DIRECTOR FOR EXTRAMURAL PROGRAMS

Dr. Ernest M. Allen reported on the FY 1981 obligations (\$9.83 million) and the FY 1982 budget projections (\$7.5 million) for NLM's Extramural Programs. In 1982, as in 1981, noncompeting research grants will take the largest share of available funds. Competing research grants would be reduced from ten to four, the Training Grant moratorium would be continued (only noncompeting Training grants would be funded), no new Special Scientific Projects will be initiated, and Publication Grants will be cut from fourteen to four. Special consideration will be given to the resource program awards, particularly in the improvement grant area. The one-year authorization and the reduced funding will also delay the implementation of the Medical Information Problem Solving Scholarship Training Program which the Board recommended in May 1981. Public announcement of the small postdoctoral training program in the History of Medicine, which was recommended by the Board in January, must also be delayed at least until next year.

#### XII. REEVALUATION OF RESEARCH GRANT POLICIES

Mr. Peter A. Clepper, EP Program Officer, reported on NLM's Computers-in-Medicine Program, initiated in 1979 to stimulate computer science research in the management of knowledge. Five program projects became a core effort, involving five-year

commitments to support multidisciplinary teams in addressing artificial intelligence and clinical problem solving, medical databases and clinical investigation, and representation of biomedical knowledge by computer. Mr. Clepper noted three programs that have interests related to NLM's in this area: The National Science Foundation's Division of Information Science and Technology, which sponsors research in information science and information technology; the National Center for Health Services Research (HHS) whose interests include the computerized ordering of medical data to assist decisions and the evaluation of clinical decision systems for their impact and practicability in health-care delivery; and the Biotechnology Resources Program of the NIH Division of Research Resources, which supports four computer resource centers concerned with computer-assisted decision-making.

At the end of FY 1981 NLM's research grants amounted to \$3.8 million. Commitments for future support are \$3.02 million in FY 1982 and \$2.5 million in FY 1983. In FY 1981 principal investigators reported 80 refereed journal articles or book chapters as well as over 30 formal presentations to national and international science societies. It seems appropriate, Mr. Clepper said, to continue the research program in two areas: computers in medicine, and health librarianship-health information science. A meeting with officials from the other agencies would help define respective roles and identify specific areas of mutual advantage. A formal statement of NLM's research program goals and policies should be developed, and more appropriate descriptive titles should be suggested for the Board's consideration.

Board members agreed that NLM's research program has been successful and that the proposed activities are appropriate and desirable. Dr. Mayer noted that rapidly emerging capabilities for managing health knowledge result from advances in the computer sciences. In formal program descriptions the different terms used, such as "information management," should be carefully defined. We must recognize that although users will be able to address data and knowledge bases by themselves, there will be a continuing need for "brokers" of this information and libraries will continue as essential components of effective delivery of health information. Dr. Molnar pointed out that existing computer tools require longrange intellectual efforts for full exploitation. Long-term "not-for-profit" research has a vital role for advancing the state of science in this area.

### XIII. RML NETWORK REVIEW

Mrs. Lois Ann Colaianni, Deputy Associate Director for Library Operations, briefly reviewed the history and funding of the Regional Medical Library Program since its inception under the Medical Library Assistance Act in 1965 and the selection of the first RML at Harvard University in 1967. NLM has encouraged costsharing in the network, and user charges for document delivery were instituted in 1976. Although these methods have helped stretch the available funds, it has become obvious that the program must now undergo changes as a result of reduced funding projected for FY 1982 and future years.

Mrs. Colaianni explained that over the past few months NLM staff, with written input from network participants, and a group of consultants, including Board members Dr. William Mayer and Mr. James Hahn, have arrived at the following recommendations on a revised statement of the mission and program goals for the immediate future:

"Provide health sciences practitioners, investigators, educators, and administrators in the United States with timely, convenient

access to health care and biomedical information resources through a nationwide network of health sciences libraries and information centers to be coordinated by the National Library of Medicine.

This mission will be carried out by programs designed to achieve the following goals:

- To provide health professionals in any part of the country with equal access to a basic level of information services.
- To encourage the development of optimal efficiency and performance for meeting information needs at each health sciences library.
- To test, evaluate, and implement improved methods of providing information.
- To encourage the sharing of resources and expertise among network institutions.

Also recommended were a restructuring of regional advisory committees and the establishment of a Network Advisory Committee to advise NLM staff on planning for the future of the network. Mrs. Colaianni pointed out that the proposed changes will necessitate recompeting the RML regions.

Following Mrs. Colaianni's presentation, Mr. Sheldon Kotzin, Chief of the Bibliographic Services Division, presented a proposed reconfiguration of the RML regions. He noted that the programs and the strengths of the present network and new technological advances were reviewed to arrive at a more cost-effective regional configuration while at the same time preserving the quality services now offered. Costs under the proposed configuration will be reduced considerably for overhead and administrative functions, providing more funds for program services.

A seven-region configuration was found to meet all the objectives. The plan combines the five eastern seaboard regions into two larger groupings, and combines two existing regions in the midwest. The remaining four regions will stay the same, having demonstrated that maximum cooperation and good performance can occur for minimal costs in a large geographic area. A seven-region configuration will reduce NLM's annual RML support significantly and increase the amount of direct service funds in each region. Direct Federal support for document delivery will terminate in FY 1982. NLM would continue to support document delivery by providing national backup for document delivery, locator tools, etc., manage the online network, and develop and share new methods for information transfer. Also, it is recommended that NLM should concentrate its efforts on national programs and no longer serve as an RML, unless overriding economic reasons require fewer contracts, or no other qualified institution is interested in providing RML services for the area.

Dr. Mayer commented on two items. (1) It is clear that reducing the regions will reduce the cost, and the approach that was described comes about as close to matching the dollar demand and creating the least disruption in services. He felt that the proposed configuration's regional boundaries should not be absolute; if there is a good reason for changes in the configuration, these should be considered. Guidelines need to be issued soon if

the time schedule for recompeting is going to be met. (2) The Board of Regents should be involved in developing the Request for Proposal. Mrs. Hetzner endorsed the idea of a network-wide RML advisory committee which could lessen some of the program differences from region to region. Also, the reconfiguration of the network should be announced to the regions as soon as possible to quell further speculations and rumors. Mr. Kotzin stated that an official announcement will be made through the next issue of the NLM NEWS, and the COMMERCE BUSINESS DAILY will carry an announcement on the intent to issue an RFP early in 1982. In addition, the changes will be discussed during the November 1981 RML Director's meeting.

Dr. Cummings responded to Mrs. Hetzner's concerns, noting that this consideration is not a new one. For at least three years NLM has met with the RML directors advising them that the day would come when NLM no longer felt eleven regions could be supported. In addition to the budgetary considerations, NLM felt that the newer technologies could be used in the network to affect savings and improve efficiency.

Dr. Mayer presented for the Board's consideration a resolution to (1) approve the mission and goals statement of the Regional Medical Library Program, (2) support the seven-region reconfiguration plan, and (3) recommend that NLM no longer serve as a Regional Medical Library at the time of reconfiguration unless there are overriding economic reasons or no other qualified institution desires to provide RML services. The Board of Regents unanimously accepted the proposed changes (Attachment D).

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MEETING CLOSED FOR THE REVIEW OF GRANT APPLICATIONS - - 11:45 A.M.  
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XIV. REVIEW OF PENDING APPLICATIONS

Before proceeding with the consideration of pending applications, Dr. Brand informed Board members of confidentiality and conflict-of-interest procedures and reminded them to sign, at the conclusion of the grant application review, the statement certifying that they had not participated in the discussion of any application where conflicts of interest might occur.

The Board concurred with the recommendations of the Extramural Programs Subcommittee. A total of 63 applications was reviewed, of which 30 were recommended for approval, 29 for disapproval, and four for deferral. Grant applications recommended for approval by the Board are listed in the summary actions (Attachment E). Interim actions taken by EP staff since the May Board meeting were noted.

XV. RESOLUTION HONORING DR. ALLEN

Dr. Cruzat offered a resolution (Attachment F) for the Board's consideration wishing Dr. Ernest M. Allen well on his retirement and acknowledging his accomplishments in the public health service. The Board of Regents accepted the resolution unanimously and with pleasure.

XVI. ADJOURNMENT

The meeting was adjourned at 12:30 p.m., Friday, October 30, 1981.

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Wednesday, October 28, 1981, 2:00 to 4:30 p.m.  
(EP Subcommittee- -List of Attendees under Attachment G)

Wednesday, October 28, 1981, 2:00 to 5:00 p.m.  
(LHC/NMAC Subcommittee- -List of Attendees under Attachment H)

Thursday, October 29, 1981, 9:00 to 5:15 p.m.

Friday, October 30, 1981, 9:00 to 12:30 p.m.

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ACTIONS TAKEN BY THE BOARD OF REGENTS

1. The Board passed a resolution regarding the public/private sector pricing issue and recommended that NLM's present pricing structure for online services be retained. (Attachment B)
2. The Board passed a resolution regarding NLM's international bilateral quid pro quo MEDLARS arrangements and endorsed a change from a fixed-fee to a use-fee rate structure for MEDLARS tapes. (Attachment C)
3. The Board presented the eleventh Regents' Award for Technical Achievement to Mr. Charles Goldstein.
4. The Board passed a resolution supporting the reconfiguration of the Regional Medical Library Program and recommending that NLM no longer serve as a Regional Medical Library. (Attachment D)
5. The Board concurred with the recommendations of the Extramural Programs Subcommittee. Grant applications recommended for approval are listed in the summary actions (Attachment E).

\*\*\*\*\*

I hereby certify that, to the best of my knowledge, the foregoing minutes and attachments are accurate and complete.

Martin M. Cummings 11/4/82  
Martin M. Cummings, M.D. (Date)  
Executive Secretary

Martha E. Williams 11/7/82  
Martha E. Williams (Date)  
Chairman



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 Asst. Secretary for Health, HHS  
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MYERS, Paul W., Lt., Gen., USAF, MC  
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PIXLEY, Charles C., Lt., Gen., MC, USA  
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HAHN, James M. (142)  
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 Commander  
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SCOTTI, Michael J., Col., MC, USA  
 Chief, Graduate Medical Education Branch  
 Education and Training Division  
 U.S. Army Medical Department  
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EXECUTIVE SECRETARY

CUMMINGS, Martin M., M.D.  
 Director  
 National Library of Medicine  
 Bethesda, MD 20209 301-496-6221

## RESOLUTION

## BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

OCTOBER 30, 1981

The Board of Regents of the National Library of Medicine considered with care the user charge issue for on-line services as it affects public and private sectors. By law NLM provides "services to public and private agencies, organizations, institutions and individuals." For decades the policy of the Board for NLM services has been one of equal access and equal charges for all users. The cost of building data bases and housing them should be the governmental responsibility of NLM, but accessing the system should be paid by the user.

For the public good, scholarly and scientific health information should be easily available and accessible. The Board views with grave concern the amendment to S-800 advocating a differential pricing structure and imposing a difficult administrative burden on health information providers. These changes violate the principle of the public being the ultimate beneficiary of the biomedical information. The responsibility of NLM is to provide to the public equal access to its library and information services.

In accordance with its responsibilities as defined in Public Law 84-941, the NLM Board of Regents rejects the proposal to establish a differential pricing structure for users, and recommends to the Secretary, DHHS the retention of the present pricing structure, which reflects the recovery of full costs of accessing the information.

RESOLUTION

BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

October 30, 1981

The Board of Regents of the National Library of Medicine (NLM) periodically reviews NLM's international bilateral quid pro quo MEDLARS arrangements. The Board's latest review again concludes that these arrangements continue to be useful and effective.

Accordingly, the Board

1. continues to endorse the quid pro quo concept for the international MEDLARS arrangements
2. endorses a change from a fixed fee for the MEDLARS tapes to a use fee rate structure
3. endorses the maintenance of equivalent tape fee structures for domestic licensees and international bilateral MEDLARS centers
4. endorses the continuation of the quid pro quo levels for online international bilateral centers with rates consistent with domestic online user rates
5. recommends that the Board continue to delegate to the NLM Director authority to adjust price structures in response to changing situations
6. requests the Director, NLM, to analyze the impact of the use fee and minimum charge structures in a year and report back to the Board

## RESOLUTION

## BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

OCTOBER 30, 1981

The Board of Regents of the National Library of Medicine approves the mission and goals statement of the Regional Medical Library Program which directs the program to provide health sciences professionals in the United States with timely, convenient access to health care and biomedical information resources.

The Board of Regents of the National Library of Medicine supports the reconfiguration of the Regional Medical Library Program. It believes that fewer Regional Libraries can continue to serve national needs in a more cost-effective arrangement. The new regional boundaries developed by staff appear to cause the least disruption to this program which has served so effectively the Nation's biomedical community. The plan which describes a seven region network would appear to be a reasonable approach to this end. The Board approves this new configuration with the understanding that minor modifications may be desirable as the reconfiguration is implemented.

In addition, the Board endorses the recommendation of the Consultants' Review Panel that at the time of the reconfiguration NLM no longer serve as a Regional Medical Library unless there are overriding economic reasons or no other qualified institution desires to provide RML services.

(Arranged numerically by program)

COUNCIL DATE: OCTOBER 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 R23 LM 03889-01	NEUROLOGIC CONSULTATION COMPUTER PROGRAM	01 37,225 02 35,975 03 35,975
1 R23 LM 03893-01	PROTEIN STRUCTURAL KNOWLEDGE ENGINEERING	01 37,416 02 36,475 03 33,230
1 R23 LM 03894-01 DUAL: NS	COMPUTER-BASED CONSULTATION SYSTEM IN DEAF-BLINDNESS	01 36,234 02 35,183 03 36,083

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: OCTOBER 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER                      SHORT TITLE

1 K04 LM 00070-01

COMPUTER-BASED PATHOLOGY CONSULTANT

AMOUNTS RECOMMENDED	
01	34,900
02	34,900
03	34,900
04	34,900
05	34,900

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: OCTOBER 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

AMOUNTS

APPLICATION NUMBER

SHORT TITLE

RECOMMENDED

3 P01 LM 03396--03S1

03S1 42,815

STUDIES IN CLINICAL REASONING AND INFORMATICS THEORY

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: OCTOBER 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 G08 LM 03852-01		01 35,214
		02 29,134
		03 27,427
	NURSING STAFF EDUCATION: A LIBRARY MULTIMEDIA APPROACH	
1 G08 LM 03861-01		01 35,690
		02 52,876
		03 58,899
	WYOMING HEALTH SCIENCES INFORMATION NETWORK PROJECT	
1 G08 LM 03864-01		01 71,241
	REDESIGN AND STANDARDIZATION OF THE MEDOC INDEX	
1 G08 LM 03883-01		01 98,328
		02 81,642
	ROSS A MC FARLAND COLLECTION	

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
2 R01 LM 02800-05	DEVELOPMENT/EVALUATION OF HEALTH INFORMATION SHARING	05 53,850
1 R01 LM 03849-01	THE AMERICAN HOSPITAL IN THE TWENTIETH CENTURY	01 21,189 02 21,339 03 40,806
1 R01 LM 03851-01	"CANCER: SCIENCE, POLICY AND ETHICS"--MSS PREPARATION	01 3,500
1 R01 LM 03856-01	A SYSTEMATIC EXAMINATION OF THE LITERATURE REVIEW	01 25,000 02 25,000
1 R01 LM 03867-01	EVALUATION OF CURRENT MONOGRAPHS HOLDINGS	01 20,880
1 R01 LM 03874-01	TARGETED SCIENCE CITATION STUDIES	01 87,602 02 93,337 03 97,027
1 R01 LM 03892-01	RECONSIDER: PROTOTYPE DEVELOPMENT AND EVALUATION	01 100,364 02 117,557
1 R01 LM 03897-01	REVIEW OF RELAXATION METHODS IN THE TREATMENT OF STRESS	01 25,867

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 R01 LM 03899-01	ENGLISH TRANSLATION OF CHIARUGI'S "ON INSANITY" (1793)	01 12,375
1 R01 LM 03908-01	DUAL: HS	01 2,450
	MEDICINE, SPORTS, AND AMERICAN SOCIETY, 1870-1920	02 2,000
		03 3,500

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

COUNCIL DATE: OCTOBER 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER

1 K10 LM 00072-01

SHORT TITLE

THE INFLUENCE OF MENSTRUATION ON WOMEN'S LIVES

AMOUNTS  
RECOMMENDED

01 31,880

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

(Arranged numerically by program)

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE

APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
1 G07 LM 03562-01A2	SINGLE-INSTITUTION GRANT	01A1 4,000
1 G07 LM 03845-01	SINGLE-INSTITUTION GRANT	01 7,982
1 G07 LM 03848-01	SINGLE-INSTITUTION GRANT	01 4,000
1 G07 LM 03854-01	SINGLE-INSTITUTION GRANT	01 4,000
1 G07 LM 03869-01	SINGLE-INSTITUTION GRANT	01 3,210
1 G07 LM 03879-01	CONSORTIUM IMPROVEMENT GRANT	01 22,559
1 G07 LM 03886-01	SINGLE-INSTITUTION GRANT	01 4,250
1 G07 LM 03887-01	SINGLE-INSTITUTION GRANT	01 4,142

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

APPLICATIONS RECOMMENDED FOR APPROVAL BY COUNCIL 1/  
(Arranged numerically by program)

COUNCIL DATE: OCTOBER 1981

INSTITUTE/DIVISION: NATIONAL LIBRARY OF MEDICINE	APPLICATION NUMBER	SHORT TITLE	AMOUNTS RECOMMENDED
	1 G07 LM 03890-01	SINGLE-INSTITUTION GRANT	4,450
	1 G07 LM 03891-01	SINGLE-INSTITUTION GRANT	4,000
	1 G07 LM 03895-01	CONSORTIUM IMPROVEMENT GRANT	9,897
	1 G07 LM 03900-01	CONSORTIUM IMPROVEMENT GRANT	15,705

1/ Approval recommendations are not final but are the basis upon which subsequent BID determinations and negotiations will determine final awards.

Resolution of the Board of Regents of the  
National Library of Medicine

October 30, 1981

The Board of Regents of the National Library of Medicine honors the outstanding contributions of Ernest M. Allen, Sc.D., in a Federal career spanning four decades. Specifically, the Board appreciates Dr. Allen's direction of the Extramural Program of the National Library of Medicine for the last 8 years. During this time he has never failed to impress the Regents with the quality of his leadership, his dedication, and his fair-mindedness in the vital area of grants administration. Dr. Allen was the architect of the highly successful and frequently imitated system of Federal biomedical research grants. The entire American health establishment owes him a debt that can never be repaid.

His friends on the National Library of Medicine Board of Regents wish him well on his retirement.

BOARD OF REGENTS

Extramural Programs Subcommittee Meeting

October 28, 1981

Subcommittee Members Present:

Dr. Gwendolyn S. Cruzat  
Mrs. Bernice Hetzner (Consultant)  
Dr. William D. Mayer  
Dr. John L. Townsend  
Ms. Donna Griffiths (Colonel Scotti)

NLM Staff Present:

Dr. Martin M. Cummings, Director, NLM  
Dr. Ernest M. Allen, Associate Director for Extramural Programs  
Mrs. Helen S. Bennison, Grants Management Specialist, EP  
Mr. Arthur J. Broering, Deputy Associate Director for Extramural Programs  
Dr. Jeanne L. Brand, Chief, International Programs Division, EP  
Mr. Peter A. Clepper, Program Officer, EP  
Mrs. Karin K. Colton, Committee Management Assistant  
Dr. Roger W. Dahlen, Chief, Division of Biomedical Information Support, EP  
Mrs. M. Kathleen Nichols, Grants Management Specialist, EP  
Mrs. Marguerite L. Pusey, Administrative Officer, EP  
Ms. Roberta Spolin, Grants Management Specialist, EP  
Mr. Randall Worthington, Program Officer, EP  
Dr. Galina V. Zarechnak, Program Officer, EP

B O A R D O F R E G E N T S

Lister Hill Center and National Medical Audiovisual Center

Subcommittee Meeting

October 28, 1981

A T T E N D E E S

Subcommittee Members Present:

Dr. Faye G. Abdellah  
Vice Admiral J. William Cox  
Dr. Edward J. Huth  
Dr. Charles E. Molnar

NLM Staff Present:

Dr. Martin M. Cummings, Director  
Dr. William G. Cooper, Acting Deputy Director for Research and Education, OD  
Dr. Robert H. Cross, Program Analyst, LHNCBC  
Mr. B. Earl Henderson, Acting Deputy Director, LHNCBC  
Ms. Linda W. Kudrick, Chief, Materials Utilization Branch, NMAC  
Dr. Warren F. Seibert, Chief, Educational Research and Evaluation Branch, NMAC  
Dr. Thomas Telder, Chief, Educational Training and Consultation Branch, NMAC  
Dr. George R. Thoma, Acting Chief, Communications Engineering Branch, LHNCBC  
Dr. Michael Weisberg, Assistant Chief, Educational Training and Consultation  
Branch, NMAC  
Dr. James W. Woods, Acting Chief, Materials Development Branch, NMAC  
Dr. Harold M. Wooster, Special Assistant for Program Development, LHNCBC