

**DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**NATIONAL INSTITUTES OF HEALTH**

**NATIONAL LIBRARY OF MEDICINE**

**BOARD OF REGENTS**

**MINUTES OF THE 112TH MEETING**

**MAY 21-22, 1996**

**BOARD ROOM**

**NATIONAL LIBRARY OF MEDICINE**

**BETHESDA, MARYLAND**

*check #*

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE

THE BOARD OF REGENTS OF THE NATIONAL LIBRARY OF MEDICINE

Minutes of Meeting <sup>1/2/</sup>

May 21-22, 1996

The Board of Regents of the National Library was convened for its one-hundred-and-twelfth meeting at 9:00 a.m. on Tuesday, May 21, 1996, in the Board Room of the National Library of Medicine, Bethesda, Maryland. Dr. Carol M. Newton, Professor, Department of Biomathematics, School of Medicine, University of California, Los Angeles, chaired the meeting. In accordance with P.L. 92-463 and the Determination of the Director, NIH, as announced in the Federal Register, the meeting was open to the public from 9:00 a.m. to 3:15 p.m. on May 21 and from 9:00 a.m. to 12:40 p.m. on May 22. The meeting was closed from 3:15 to 4:00 p.m. on May 21 for the review, discussion, and evaluation of grant applications. A Board roster is enclosed under Attachment A.

**Board members present were:**

Dr. Carol M. Newton, Chair  
Dr. Tenley E. Albright  
Dr. Marion Ball  
Dr. Edwin Cortez  
Dr. Michael DeBakey  
Dr. Sherrilyne Fuller

Dr. Robert J. Joynt  
Dr. George H. Nolan  
Dr. Steven J. Phillips  
Dr. James A. Zimble

**Alternates to ex officio members present were:**

Ms. Wendy Carter, representing Dr. Kenneth W. Kizer.  
Lt. Col. Kristen Raines, representing Lt. Gen. Alcide M. LaNoue.  
Dr. Kathleen A. McCormick, representing Dr. Audrey F. Manley.  
Dr. Richard Rowberg, representing Dr. James H. Billington.  
Capt. William Wurzel, representing Adm. Frederic Sanford.  
Col. Klaus O. Schafer, representing General Edgar R. Anderson.  
Capt. Vernon Schinski, representing Dr. James A. Zimble (Tuesday.)  
Mr. Keith Russell, representing Ms. Pamela Q.J. Andre.

<sup>1/</sup> For the record, it is noted that members absent themselves from the meeting when the Board is discussing applications (a) from their respective institutions or (b) in which a conflict of interest might occur. This procedure applies only to individual discussion of an application and not to "en bloc" actions.

<sup>2/</sup> The Board of Regents, when considering the extramural programs of NLM, also constitutes and serves as the National Libraries Assistance Advisory Board.

**National Library of Medicine staff members attending this meeting included:**

Dr. Donald A. B. Lindberg, Director  
Mr. Kent A. Smith, Deputy Director  
Dr. Harold Schoolman, Deputy Director for Research and Education  
Dr. Dennis A. Benson, Chief, Information Resources Branch, NCBI  
Dr. Donald Buckner, Special Assistant, LHCNCBC  
Mr. Fernando Burbano, Director, Information Systems  
Dr. Marjorie Cahn, Special Expert, National Information Center on Health Services  
Research and Health Care Technology, LO  
Mrs. Lois Ann Colaianni, Associate Director for Library Operations  
Ms. Kathleen Cravedi, Special Expert, Office of Inquiries and Publications Management, OD  
Dr. Roger W. Dahlen, Chief, Biomedical Information Support Branch, EP  
Ms. Gale Dutcher, Special Assistant to the Associate Director, SIS  
Mr. Donald S. Fredrickson, Chair, NLM Long Rang Planning Panel on International Programs  
Ms. Betsy Humphreys, Assistant Director for Health Services Research Information  
Mr. Charles Kalina, Executive Secretary, HPCCIT  
Dr. Lawrence Kingsland III, Assistant Director for Applied Informatics  
Dr. David J. Lipman, Director, NCBI  
Dr. Alexa McCray, Chief, Educational Technology Branch, LHCNCBC  
Mr. Robert B. Mehnert, Chief, Office of Inquiries and Publications Management, OD  
Mr. David Nash, Equal Opportunity Officer, NLM  
Dr. James Ostell, Chief, Information Engineering Branch, NCBI  
Mr. Donald Poppke, Executive Officer, OD  
Dr. Elliot R. Siegel, Associate Director, Health Information Programs Development  
Dr. Melvin Spann, Deputy Associate Director, SIS  
Ms. Karen Wallingford, Office of Health Information Programs Development  
Dr. Fred Wood, Office of Health Information Programs Development  
Mr. Richard T. West, Chief, Office of Program Planning and Evaluation, EP

**Others present included:**

Dr. Harold Varmus, Director, NIH  
Mr. Dan Beavin, Director, Wheaton Regional Library  
Dr. Lois E. DeBakey, Professor of Scientific Communications, Baylor College of Medicine,  
Consultant to the Board of Regents  
Dr. H. Kenneth Walker, Professor of Medicine, Emory University School of Medicine

**OPENING REMARKS**

Dr. Carol Newton, Chair, welcomed the Regents, consultants, and guests to the 112th meeting of the Board of Regents of the National Library of Medicine.

## **II. REMARKS FROM THE ACTING SURGEON GENERAL**

Dr. Kathleen McCormick of the Public Health Service read a message from Dr. Audrey F. Manley, Acting Surgeon General which outlined recent organizational changes within the Office of the Assistant Secretary for Health. There are current legislative challenges to the Office of the Surgeon General, although the bills that would abolish the Office have not been given serious consideration. The PHS believes it was successful in countering the arguments in a recent draft report by the Government Accounting Office that claimed large savings could be effected by converting Commissioned Corps officers to civil service. There are two reports on tobacco under development by the Surgeon General and one on physical activity and health. Other topics currently under review: the public health infrastructure and managed care, the public health workforce, academic health centers, and urban enterprise zones. Following Dr. McCormick's presentation, Dr. James A. Zimble commented that although the Board of Regents should not take an official position on the ultimate fate of the Commissioned Corps and the Public Health Service, individual Regents are free to express their opinions in other forums. In response to a question from Dr. Lindberg, Dr. McCormick said that the Agency for Health Care Policy and Research would no longer be supporting the development (or maintenance) of clinical practice guidelines. The Agency will instead concentrate on developing the "evidence" on which other organizations can base guidelines.

## **III. CONSIDERATION OF MINUTES OF PREVIOUS MEETING**

The Regents approved without change the minutes of the January 23-24, 1996 meeting.

## **IV. FUTURE MEETING DATES**

The Board will meet next on September 24-25, 1996. Next winter's meeting will be January 28-29, 1997. The proposed dates of May 13-14, 1997, were accepted and confirmed for next spring's meeting.

## **V. REPORT FROM THE BOARD SUBCOMMITTEE ON OUTREACH AND PUBLIC INFORMATION**

Dr. Michael DeBakey (chair) and several members of the Board Subcommittee on Outreach and Public Information, which met this morning, reported briefly on their meeting. One important topic discussed was NLM's policy on information services to the general public. Dr. Lindberg said that this is an area that NLM has approached cautiously; efforts have been limited to such subjects as AIDS, cancer, clinical practice guidelines, and environmental health. He said that the crucial factor is not the technology--NLM's machines will be able to handle greater workloads--but the content of the information: who will validate it and maintain its currency? Dr. Tenley Albright commented that with all the recent publicity surrounding the introduction of the Internet Grateful Med, the time is propitious for the Library to

consider whether and how to move toward more public access. Dr. Steven Phillips said that with many more organizations, such as HMO's, becoming serious dispensers of medical information, there is bound to be confusion on the part of the public. Dr. David Lipman reinforced the notion of fragmentation of information sources by saying that recently he had tried four "free" services that provide access to NLM's MEDLINE. This is bound to confuse the professional community and is something for the NLM to be concerned about. Dr. Lois DeBakey said that it is important to let the public know that these information services come from the National Library of Medicine and are taxpayer created and supported. Dr. Albright moved that the Board of Regents encourages NLM staff and the Regents Subcommittee on Outreach and Public Information to carry out the outreach projects listed in part C of the Subcommittee's agenda. The motion was unanimously passed.

## **VI. REPORT FROM THE NIH DIRECTOR**

Dr. Harold Varmus said that NLM is a key player in the "revolution that is upon us," for example, its GenBank is an important component of research in molecular biology and is accessed millions of times a year. NLM has other roles in research, for example, the Visible Human Project and the training programs the Library supports. The Library, by being a "Reinvention Laboratory," has also been a leader in attaining increased administrative efficiency. In the area of communications and outreach, NIH is proud not only of what NLM has accomplished, but of progress made across the campus. There is still a way to go, however, since he just saw the results of a poll conducted in California that showed that only 16 percent of those interviewed thought they could name the Federal agency that supported medical research; of that 16 percent, only one quarter actually knew. Every NIH component has a responsibility for outreach; NLM should focus on getting its information services widely used. Dr. Varmus said that NIH has fared well in funding, and the President's budget for FY 1997 calls for a 3.9 percent increase. The actual fiscal year 1997 level is still of course an unknown. The President's 1997 proposal does have sufficient funds for 200 more grants than 1996 and also funds for the construction of the NIH Clinical Center. This will mean some belt-tightening in other areas around NIH. Following Dr. Varmus's presentation, Dr. Sherrilyne Fuller asked him about NLM's role in supporting the public's awareness of NIH. He suggested that the Board should discuss this matter with Anne Thomas, NIH Associate Director for Communications. Dr. Varmus also said that overall NIH must make a special effort to see that the most up-to-date information resulting from the research it conducts and sponsors is made quickly and easily accessible by the public. Dr. Lois DeBakey commented that letting the public know about the work of NLM and NIH stimulates public support for their programs. Dr. Varmus said that although he has no problem with the public becoming familiar with the individual NIH institutes, the Congress generally deals with the NIH, and especially its budget, as one entity.

## **VII. REPORT FROM THE NLM DIRECTOR**

Dr. Donald A. B. Lindberg reported on the state of the NLM budget. The FY 1996 appropriation (\$141.5 million) would be increased to \$146.6 million in the President's 1997 budget. The increase of \$5.1 million would include \$4 million for High Performance Computing and Communications-related

projects, \$0.1 million for AIDS-related information services, and \$1.0 million for inflation. It includes \$4 million in "no-year" money (money that does not have to be spent in a specific year) that the Library will use in its role as a Reinvention Laboratory. Also, NLM has received permission to enter into personal service contracts, which will be most useful in dealing with rising workloads and declining numbers of permanent staff. In the area of personnel, Dr. Lindberg noted that full-time permanent (FTE) at the NLM has declined from 636 in 1992 to 571 today. "If we lose good people, we lose functions," he said. The Library contracts out as much as it can, he added. Three new staff members were introduced to the Board: Mrs. Alberta Sandel, secretary for the Office of the Director; Dr. James Ostell of the NCBI (NLM's first member of the highly competitive new NIH Senior Biomedical Research Service); and Mr. Robert Ploger, who has received a fellowship from the NCBI under the new Technical Intramural Research Training Award Program. Dr. Lindberg reported next on the OMB effort to consolidate Federal computer data centers [the Board of Regents at its last meeting approved a resolution that was sent to the HHS Secretary proposing that NLM's computer operation not be a part of such consolidation]. A recent visit to the NLM by John Callahan, HHS Assistant Secretary for Management and Budget, went well and we are optimistic that he will exempt NLM from OMB's requirements. On another topic, Dr. Lindberg described the recent protest by one of the companies bidding for a keyboarding contract from NLM. This resulted in a serious gap in the inputting of references into MEDLINE and the *Index Medicus* resulting in a backlog. The GSA administrative law judge who heard the protest has told NLM to reconsider the offers and to make a final decision by July 1. In the meantime there are now several streams by which references are being added: the present contractor has been allowed to return to work; NLM is seeking multiple new contractors; NLM staff (and a few new employees) have been keyboarding and proofing records; some documents are being scanned for input; and we will soon be entering data received electronically direct from publishers. We will eventually eliminate the backlog, Dr. Lindberg said, and be stronger and smarter for the experience. Dr. Phillips suggested a Board action that would state that the Regents have been kept well informed of the problem, that the circumstances were not predictable, and that the Board agrees with the multiple steps now being taken to deal with the problem. This suggestion will be put in the form of a motion and acted on later. Dr. Lindberg reported briefly on the Senate NIH authorization hearings held earlier this year. He (and other institute directors) testified before Senator Nancy Kassebaum and Senate Committee on Labor and Human Resources. He showed a brief clip of his testimony.

## VIII. REPORT FROM THE NATIONAL NETWORK OF LIBRARIES OF MEDICINE

Ms. Becky Lyon, head of the National Network of Libraries of Medicine Office, reviewed some of the accomplishments of the Network over the past 5-year contract period, briefly described the process of re-competing the contracts for the eight Regional Medical Libraries, and covered some of the special emphases in the new 5-year contracts that took effect May 1, 1996. Ms. Lyon described several successful special projects in recent years, including a multi-state Mississippi Delta project and an anecdote about how a NN/LM hospital librarian worked with her management to get Internet access for the institution. She cited a number of statistics from the past 5 years: NN/LM membership has increased 22 percent to some 4700 libraries; DOCLINE libraries increased 25 percent to 2833; more than 11.6

million document delivery requests were filled through DOCLINE; Internet access has gone up from 34 percent at the end of 1993 to 44 percent; more than 125 member libraries have assisted the RMLs in carrying out outreach projects (the RMLs conducted 427 exhibits); and more than 104,000 health professionals were reached directly through NN/LM programs. For the present contracts, the request for proposal was issued in March 1995. Three review groups, made up of NLM staff and non-NLM librarians and health professionals, evaluated the technical proposals. There were site visits in the two regions where there were competing institutions. In the end, contracts totaling 34 million over five years were awarded to eight institutions. The existing Regional Medical Libraries were successful in all instances in the recompetition. The new contracts will emphasize use of the National Information Infrastructure for communication, and the RMLs will assist health professionals and librarians to become connected to the NII. Outreach programs will continue to focus on rural and minority populations, with special emphasis on inner city areas. The three NN/LM online training centers have been reduced to one under the new contracts (at the New York Academy of Medicine). The trainers will travel around the country to conduct classes in other regions. (NLM will continue to hold some classes in Bethesda.) Three 3-year pilot programs are included in the contracts--a consumer health information center, a research and evaluation center to support testing of new NLM products and other technology-related matters, and a training support center that will support NN/LM training needs of health science librarians. Although none of these centers has been funded yet, funds should become available over the five years of the contracts.

Following Ms. Lyon's presentation, Dr. Kenneth Walker, former Regent and a member of the contract site visit team, said that all Regents should have the opportunity to conduct a site visit of an RML. It provides a unique sense of how the network operates and shows how the institutions strive to meet the needs of their constituencies. Ms. Wendy Carter, who also participated in the review, said that the Regional Medical Libraries are wonderful showcases for NLM programs. She was impressed by how serious the network institutions are in conducting outreach programs and reaching health professionals. Dr. Marion Ball, who had the RML at the University of Maryland under her jurisdiction, testified as to the dedication and the enthusiasm of the librarians and others at all levels in the RML in reaching out to the health professional community. Dr. Michael DeBakey said that in retrospect perhaps the most important recommendation made by the President's Commission on Heart Disease, Cancer, and Stroke (which he headed in the early 1960s) was that directing the establishment of a formal network of health science libraries. Dr. Sherrilynn Fuller, who also has an RML under her jurisdiction at the University of Washington, said that what she appreciated most is the flexibility she has under the contract in administering the program.

## **IX. NLM DIRECTOR'S AWARDS**

Dr. Lindberg presented NLM Director's Awards to: Dr. David Lipman for "contributions of inestimable value to the research mission of the National Library of Medicine and for leading the National Center for Biotechnology Information to international prominence"; and to Mr. Joseph Fitzgerald of the Lister Hill Center's Audiovisual Programs Development Branch for "for exceptional contributions to the mission of the National Library of Medicine through creative application of his artistic talent."

## **X. NLM INTERNATIONAL PROGRAMS**

### **IMPAG Meeting**

Dr. Elliot R. Siegel, NLM Associate Director for Health Information Programs Development, reported on the March 1996 meeting of the International MEDLARS Policy Advisory Group at NLM. The Group, which represents members from the international MEDLARS centers, meets every two years to discuss policy and technical matters pertaining to MEDLARS access around the world. Seventeen nations were represented at the March meeting, a highlight of which was the formal signing of an agreement for a 20th center, at the Chinese University of Hong Kong. Dr. Siegel said that NLM staff made technical presentations on such current topics as system reinvention, new NCBI initiatives, Internet Grateful Med, and the Visible Human Project. Prominent among the policy issues addressed was the formation of the International Planning Panel under the aegis of the Board of Regents. NLM received advice from the IMPAG members on such subjects as regional journal bibliographies, new methods and systems for document delivery, the translation of the Unified Medical Language System and Medical Subject Headings into other languages, international telemedicine applications, and outreach. In this last category, it was noteworthy that regional collaboration for information access and training in the Middle East will be pursued under the IMPAG umbrella by participants from Israel, Egypt, and the Palestinian Authority on the West Bank. There were a number of decisions reached at the meeting, including to link NLM's WWW home page to those of the International MEDLARS Centers, and to study the Internet capabilities of the centers (which vary widely), identifying impediments to information flow.

### **International Planning Panel**

Following Dr. Siegel's presentation, Dr. Donald F. Fredrickson, former director of the National Institutes of Health and chair of the NLM's Long Range Planning Panel on International Programs, spoke about his new charge. He reported that some 25 persons have accepted invitations to participate on the Panel, including such notables as Dr. Joshua Lederberg. Also among those accepting are former Regents Dr. Kenneth Walker and Dr. Donald Detmer. Dr. Marion Ball will serve as the Board's liaison to the Panel. The accelerating pace of worldwide information technology presents a challenge in constructing an agenda for the panel, he said. Continued globalization of information transfer and sharing will inevitably change the NLM's present sphere of international activity; these changes will also alter the way NLM's domestic functions are carried out. The Panel will have to refine its charge to give priority to the most important activities relevant to NLM international responsibilities. Examples might be the role of IMPAG; how Internet Grateful Med can serve non-U.S. users; the decline of computer tapes as transmission of data by satellite and CD-ROM increases; and meeting the increasing demand for document delivery. Other possibilities, in such areas as worldwide epidemiology databases and telemedicine, will require the Library to make hard choices about where to put its efforts. In summary, Dr. Fredrickson said that interchanges during the recent IMPAG meeting gave him an insight into the

dimensions of the problem: it has to take into account NLM's present global leadership position in the management of medical information while recognizing that this position is a part of NLM's responsibility to serve its primary national mandate.

Following these presentations, Dr. Marion Ball said that it is a propitious time for such a panel to be formed and we are honored to have Dr. Fredrickson head it. Dr. Siegel has reinjected enthusiasm into the subject of the Library's international programs and the institution is poised to make substantial contributions to the communication of health information internationally. She said that the Library has considerable international experience, not only as a result of its existing partnerships, but because Dr. Lindberg and other NLM senior staff have been active in such international organizations as the International Medical Informatics Association. In response to a question from Dr. Michael DeBakey, Dr. Siegel said that about one-half of all journals in MEDLINE are from other countries and that perhaps one-quarter of all MEDLINE searching is done by users in other countries.

## **XI. CUSTOMER SURVEY REPORT**

Ms. Karen Wallingford of the Office of Health Information Programs Development reported that a survey was conducted last fall of a random sample of 2,500 individual online users of NLM's MEDLARS system. The final response rate was 83 percent--an excellent result. A full report will be available in several weeks. She said that one set of findings was a profile of users--who they are, where they do their searching, how often they use the databases, how satisfied they are with the results. Among the results: nearly half of the surveyed online users are health care providers--librarians and scientists are the next largest groups; overall, the office was listed as the primary search location, although the home also figured prominently; command language searching is used by most librarians whereas Grateful Med is preferred by health care providers; and, finally, the great majority of users (91 percent) are satisfied with the MEDLINE service. Following Ms. Wallingford's presentation, Dr. Fred Wood of OHIPD described what the survey revealed about how users were connected for their online searching. Most users are at the "early high end" of the computer spectrum. The distribution of computers is about 80 percent IBM-compatible and 20 percent Macintosh. About 75 to 85 percent of the user base have an equipment platform that could comfortably accommodate Internet access (and many have plans to upgrade their equipment). Dr. Wood said 75 percent of the respondents said that they already had access to the Internet; however, only about a quarter of those actually used the Internet to access NLM databases. Of course this survey predates the appearance of the Internet Grateful Med. Many of those without Internet access indicated their intent to upgrade within 12 months. Overall, only 11 percent of those surveyed will not have Internet access six months from now. One caveat is that those in rural areas (including hospital libraries) have significantly less Internet access than others. Also, many hospitals do not have such access. Dr. Wood said that the survey results provide a strong basis for NLM transitioning to Internet-based delivery options, including WWW sites. The results also suggest that the Grateful Med for Windows could serve as an interim solution for users without Internet access. Finally, the results suggest the need to continue outreach efforts to rural and hospital-based users.

Following the presentations, Dr. Robert Joynt said that it is exciting to contemplate that so many users (up to 85 percent) have the capability to access NLM via the Internet. This is a fertile field for NLM's outreach efforts. He commented that there are no doubt many (non-user) health professionals, with computers and access capability, who would be interested in using NLM's search services if they were reached with information about the advantages of database access. Dr. Steven Phillips suggested the possibility of putting the survey questions on the NLM Home Page to solicit more user input.

## **XII. INTERNET GRATEFUL MED IMPLEMENTATION PLAN**

Dr. Lawrence C. Kingsland, III, NLM Assistant Director for Applied Informatics, noted that the Board has had several presentations and demonstrations at earlier stages in the development and testing of Internet Grateful Med. The system was announced on April 16 and, last week, it was used by 1485 users to do 9622 searches. This amounts to almost 10 percent of searches done by all variants of Grateful Med (and 12.5 percent of all MEDLARS codes use last week). The IGM Request Manager averages about 30,000 connections a day from nearly 1000 host machines in 28 countries. Implementation planning includes working closely with various staff who provide support (NLM help desk, Regional Medical Libraries, NN/LM members). RML librarians are demonstrating IGM at local meetings to solicit new users and to encourage current Grateful Med users to switch to the Internet version. Most of the early IGM users are doing fine, Dr. Kingsland said, and he cited a number of comments he has received from among about 30 e-mail messages he receives daily from users. Although most comments are very favorable, several users who encountered problems were also quoted. Online user documentation has also been developed and is proving very valuable: an introduction and overview, help text, a popular "new user's survival guide," information about recommended Internet browsers, and searching and troubleshooting tips. A "training the trainers" document for use in the NN/LM network is being prepared. Articles about IGM have been published in various newsletters, and an NLM IGM Fact Sheet is available. Dr. Kingsland said that the IGM system is robust and not at all stressed at this point -- "the system is loafing." The next major step will be to add other NLM databases to its present MEDLINE-only capabilities--HealthSTAR and AIDSLINE will be available soon. Online user registration will be implemented in the near future as will enhancements for those who use fixed fee and flat rate access arrangements. In a sense, he said, we are a victim of our own success since it is difficult to find a lull in searching when improvements can be introduced and tested. There are 45-60 simultaneous users during the day and even 10-15 at 2:00 a.m. Dr. Kingsland briefly described several hardware and network connection improvements that have been or are being made. We are beginning to make the user-services transition from the IGM development team to the Medlars Management Section, and are in the early stages of planning for transition of the production system to the Office of Computer and Communications Systems. Because there was considerable general publicity accompanying the introduction of IGM, the Library should be planning special outreach programs to consumers and the general public. The global reach of the Internet requires NLM to set priorities: first, surely, is domestic users. But the International MEDLARS Centers are also affected, and their attitude to the new system varies. Training, costs, document delivery, and technical issues (such as translating the IGM screens) must all be taken into account. NLM has a list of almost 500 potential users in other countries interested in joining IGM as soon as it is made available to them.

Following Dr. Kingsland's presentation, Dr. Michael DeBakey requested that Board members be sent copies of the various documentation pieces that are being developed. There was a general discussion about the capacity of IGM and the computer system to absorb growing use without performance being degraded. The consensus is that it is not an imminent problem; a larger issue is the slowness of the Internet itself at times.

### **XIII. EXTRAMURAL PROGRAMS**

#### **Budget**

Dr. Roger Dahlen, Chief, Biomedical Information Support Branch, Extramural Programs, reported briefly on EP's budget. He noted the total funds expended this year and the remaining funds available. All remaining funds will be used to fund the pending grants. In response to a question by Dr. Edwin Cortez, Dr. Dahlen discussed a research program in library and information science. This is a library oriented program. NLM currently has one active project in this area which deals with natural language retrieval. NLM also has FIRST awards available, which are included under medical informatics research and biotechnology.

#### **Training Program RFA**

Dr. Dahlen discussed an RFA for an institutional training grant program. Approximately every five years, NLM puts out an RFA to request applications from institutions. This allows the current grantees to reapply if they desire and also allows other institutions to apply so that NLM can ensure that its grants are given to the best training sites available. NLM receives joint funding from the National Cancer Institute, which supports trainees interested in informatics related to oncology and cancer research. There is also funding from the National Institute of Dental Research, who contributes funds for potential trainees in dental informatics. The Division of Nursing will not participate in the institutional program at this time, but may participate in individual fellowships. The applications are due June 19 and will come before the Board in September with an intended award date in July 1997.

#### **Internet Connections RFA**

Dr. Dahlen briefly discussed the Connections Program. EP received 115 applications in response to an RFA put out last winter. The majority of applicants are hospitals or academic medical institutions, applying on behalf of affiliated hospitals or clinics, that do not have the ability to connect to the INTERNET. These applications were due last Thursday and will be reviewed by mail ballot in August. In response to a question by Dr. Steven Phillips, Dr. Dahlen said that approximately 16-20 awards will be made.

In response to a Long-Range Planning Panel report, EP awarded grants to institutions for the training of librarians in the field of medical librarianship. These awards were made last year. In response to a question by Dr. Sherrilyne Fuller, Dr. Dahlen said that approximately 50-60 institutions have received

connections grants so far. There is a questionnaire being prepared which will evaluate this program. The results will be shared with the Board when completed.

#### **Librarian Challenge Grants: Midway Progress Report**

Mrs. Frances Johnson, Program Officer, Biomedical Information Support Branch, Extramural Programs, discussed the Health Sciences Librarian Education and Training Challenge Grants program. In the RFA issued in February 1995, NLM identified four areas which need further study: 1) the evolving roles of health sciences librarians, 2) their professional education, 3) their continuing education/lifelong learning, and 4) recruitment including minorities. In late September 1995, seven one-year planning grants were awarded for a total of \$500,000. The Program Directors convened at NLM on April 11-12 to report mid-term progress, share experiences, survey instruments, needs assessments, and course design. Mrs. Johnson also said that all grantees have contributed toward a special symposium issue of the Bulletin of the Medical Library Association, and four of the grantees whose focus is on continuing education will be participating in a panel at the upcoming meeting of the Medical Library Association. The final reports will come in early 1997. EP staff will study the results and recommendations and report them to Dr. Lindberg and Senior Staff for the future course of action. Ms. Wendy Carter asked if any preliminary information gathered at the meeting showed how the efforts of the grantees is being received by the library community. Mrs. Johnson said that the efforts are collaborative and have much involvement with the library community plus medical informatics and have been received positively.

Dr. Carol Newton expressed the Board's support of the Librarian Challenge Grants program and noted its importance to the NLM's mission.

#### **XIV. REPORT ON NIH ADVISORY COUNCIL MEETING**

Dr. Newton gave a brief overview of the March 14, 1996, NIH Advisory Council meeting at which she represented the Board of Regents. A number of important trans-NIH issues were discussed: the roles of advisory councils at NIH, how best to foster NIH-wide sharing and integration, recognition by the public of the NIH as the primary Federal medical research agency, uniformity of standards for peer review, reconciling mission-oriented and investigator-initiated research, reinvention activities, and medical infrastructure needs. Four committees were formed by the Council: second-tier grant review, strategic planning, advocacy, and the role of the extramural community in reviewing NIH intramural programs (Dr. Newton is chairing this committee). A fifth group was formed to review the role of the directors and staff of the various Institutes in interacting with their advisory councils. One surprising discovery by Dr. Newton was that in some instances the Institute Director chairs the advisory council. She asked the Board members, as individuals, to give her their ideas about several issues, including the roles of the Institute Councils in second-tier review. Mr. Kent Smith noted that the NLM Board of Regents functions somewhat differently from the other Advisory Councils on campus--they often function primarily as grant review bodies. Only more recently have they moved in the direction of functioning as policy-reviewing and planning bodies. Dr. Lipman added that some of the Institutes are elevating the role of their Advisory Council to function more like NLM's Regents.

## **XV. PUBMED**

Dr. David Lipman, Director of NLM's National Center for Biotechnology Information, demonstrated a working system developed within the NCBI that had a catalytic effect on the ideas behind the PubMed concept. From NCBI's Home Page, Dr. Lipman used Entrez to search a MEDLINE subset of 1.5 million records and retrieve three references on "cockroach allergies." There is one link from the retrieved bibliographic records to a database of related protein sequences and another link to "JBC Online" (the *Journal of Biological Chemistry* is the publisher of one of the articles referenced). The latter link connects directly to the JBC server where the user can retrieve the full text (and associated graphics) of the article. The JBC server reciprocates by pointing back to NCBI's Entrez. The system also allows "neighbor" searching for articles similar to those retrieved. Relating this system to the proposed PubMed, Dr. Lipman said that a year ago the JBC decided to put an online version of that journal on the Web, free, as a one-year experiment. (Modest charges are being instituted in June 1996.) NCBI proposed creating links between the online JBC and the Center's GenBank/MEDLINE system that would allow powerful searching and matching capabilities. The experimental system developed over the past year shows the feasibility of two-way linking: from a publisher's online full text to related MEDLINE records, or even to the full text of another publisher's articles; and from a MEDLINE record to the publisher's full text. Other publishers, such as Oxford University Press and Academic Press, have also expressed an interest in working with NLM to develop such a system. PubMed, as it is called, would constitute a larger system based on principles of NLM/medical publisher collaboration established by the experimental system. All publishers contacted so far are positive about the planned PubMed. The system would allow them, through their own Web sites, to maintain their independence and not be part of someone else's proprietary service. Being linked through MEDLINE citations would make the publishers part of a totally integrated publication retrieval system, yet each would maintain its own direct contact with subscribers. As to the timetable for PubMed, Dr. Lipman said that a number of journals in molecular biology are ready now; we hope to have more clinical journals linked by June.

Following the presentation, Dr. Sherilynne Fuller said that it has been the dream of electronic bibliographic systems to provide not just a reference, perhaps with an abstract, but the entire article. The proposed PubMed would do just that. She said that NLM, as a neutral party, is well situated to influence the publishers so that an electronic document system is intelligently implemented and the user's interests protected. Dr. Lipman noted that PubMed, by serving a gateway function, would obviate the copyright problem--the publishers would control the conditions under which the article is made available.

## **XVI. FRANK B. ROGERS' AWARD**

Dr. Newton presented the 1996 Frank B. Rogers' Award to Mr. Joseph Hutchins of the Office of Computer and Communications Systems. Mr. Hutchins was cited for his work in developing the computer-assisted indexing system and DOCLINE, the LOCATOR system, and his current work on the System Reinvention project.

## **XVII. RETIRING REGENTS**

Dr. Lindberg thanked Dr. Robert Joynt and Dr. Carol Newton, whose terms as Regents are expiring, for their service to the NLM. He presented to each of them a volume of *Selected Papers of J. S. Billings*, and to Dr. Newton also a gavel to commemorate her service as the Board's Chair.

## **XVIII. OUTREACH: WHEATON LIBRARY PROJECT**

Gale Dutcher of NLM's Division of Specialized Information Services reported to the Board about an outreach project between the NLM and the Wheaton Regional Library, a part of the Montgomery County, Maryland, public library system. The NLM is located in Montgomery County. The Wheaton Regional Library has a specialized Health Information Center as part of its services. Four librarians from that Center visited NLM in February 1994. As a result of their discussions with Dr. Lindberg a special project was initiated to give the Wheaton Library's patrons free access (via Grateful Med) to NLM's AIDS and toxicology/environmental health databases. Access is from four NLM-funded work stations, two with access to the Internet (WWW) and the others accessing NLM's databases. Under the agreement, the Wheaton Library would aggressively reach out to local constituency groups and members of the public who could use this information.

NLM's interest in the project stems from a desire to find out just how useful these databases are to the nonprofessional public--whether they are easy to use, whether they contain information sought by the public, etc. Montgomery County has a diverse, highly educated citizenry, with many activist groups, so NLM saw it as a good test-bed site. The NLM provided funding (\$125,000) for the project period (July 1995 to January 1997). A public announcement and ribbon-cutting ceremony last October initiated the project. In addition to free access to the NLM databases, the project provided the public with access to other medical information sources via the Internet, an expanded print collection in AIDS and environmental health, training in the use of Internet and the databases, document delivery via NLM's DOCLINE, and a home page for the Wheaton Library Health Information Center. An Advisory Committee, with a variety of local representatives, has been set up to help with outreach and to review training and other materials.

Following Ms. Dutcher's presentation, Mr. Dan Beavin, Director of the Wheaton Library, talked about the services being provided by Health Information Center and what has been accomplished so far under the cooperative project with NLM. In general, he said, public libraries don't often offer such specialty services; it is especially exciting to see the response to the Wheaton Library's pioneering of enhanced health information services for consumers. Usage of the Center has increased dramatically since the beginning of the project. The Health Information Center was created when local surveys showed that consumer health is the number one information need of the Montgomery County public. Mr. Beavin related how providing information services for the public is different from serving health professionals, for example, the series of questions the librarian asks are crucial to eliciting what is really being sought.

Special training has been necessary for the public librarians so they can do this well. One thing they learned is that the learning curve for citizens who have a personal stake in a health topic is extremely short--they pick up and use the available systems quickly and they rapidly graduate from reading pamphlets to technical materials and textbooks. He said that having access to DOCLINE has been enormously helpful in requesting copies of documents: instead of waiting weeks (sometimes months!) for a piece requested on interlibrary loan, materials are now received in a couple of days. Mr. Beavin gave several examples of cases where consumers visited the Center, identified through MEDLINE the information needed, and had the articles in hand several days later because of DOCLINE. "This is just incredible--it's a wonderful service," he said. As to publicity, he said that word of mouth seems to be spreading the Center's successes through the community and the stream of patrons constantly increases. His staff is currently visiting each of the 20 libraries in Montgomery County to brief their librarians about the special services provided by the Health Information Center. Overall, he said that the consumer response to the new service has been extremely positive.

Dr. Tenley Albright said that this project is a good example of the benefits of outreach. Because patients more and more are being asked by their doctors to participate in the decisions that affect them, it is crucial that reliable sources of information be available to the public. This project is a perfect example of a step in that direction. Will there be a report at the end of the project that might serve as a guide to others? Mr. Beavin said that NLM would receive a report at the end of the project. Also, he said that they have been approached by many librarians around the country eager to learn more about the project. He sounded a note of caution, however, when he said that they had been approached by managed care providers who wanted to fund the library to provide information (that would be selected by them). Dr. Phillips congratulated Mr. Beavin on the success of the project and he applauded the prudent way in which they handled the "offer" from the managed care group.

## **XIX. HEALTH APPLICATIONS OF THE NII**

Ms. Betsy L. Humphreys, NLM Assistant Director for Health Services Research, reported that NLM received increased funds in FY 1996 earmarked for High Performance Computing and Communications; unfortunately we received the money one-third into the fiscal year. The Regents at their last meeting concurred with the general strategy put forward by Dr. Lindberg to supplement several existing grant and contract supported research projects and to issue a solicitation for new contracts to be awarded late in FY 1996 and early 1997. Ms. Humphreys said that NLM's HPCC awards go back to FY 1993 and 1994, when a dozen contracts were funded under a "Broad Agency Announcement" (BAA) mechanism that allowed bidders to propose projects in several broad HPCC categories. The total value of these three-year contracts was about \$26 million. The 1996-97 awards--both extensions and new projects--will build on the results of either or both of two National Academy of Sciences studies now being supported by NLM and others (reported to the Board in the past). NLM has just prepared for publication a bibliography on confidentiality of electronic health care information that, along with an earlier bibliography on telemedicine, is relevant to the research to be undertaken. The extensions to four existing contracts, which will be in the range of \$400,000 to \$800,000, will focus on collecting and analyzing additional data to strengthen their evaluation component. The new procurement, called Health

Applications of the National Information Infrastructure, will be about the same size as the previous BAA procurement (but will not use the BAA mechanism). Its statement of work will require a focus on two or more of the following elements: telemedicine, transfer and use of patient health data, decision support information services, management of multitype clinical research projects, and transfer of information between the health care and public health systems. A strong evaluation component will be required, as will an emphasis on confidentiality of patient health data. The RFP was released on May 3; proposals are due June 14; the first awards will be made by September 30 (additional awards will be made early in FY 1997). We believe that the extensions to existing contracts, along with the new projects, will allow NLM to make major contributions to our understanding of the impact of advanced information technologies on health.

Following Ms. Humphreys' presentation, Dr. Steven Phillips commented that it was the correct decision to allow the two incipient NAS studies--on the evaluation of telemedicine and confidentiality of electronic health data--to play a role in the extended and new HPCC projects. He asked whether any group is studying the medicolegal aspects of telemedicine. Ms. Humphreys said that it is no accident that much of the early work on telemedicine was done under the auspices of the VA and DOD where there is no licensure or other interstate issues problem. She added that the National Telecommunications and Information Administration (Department of Commerce) and the Agency for Health Care Policy and Research have jointly funded the Federation of State Medical Boards to study interstate licensure issues.

#### **X. LETTER TO THE HHS SECRETARY**

The Board of Regents voted approval of a letter to the HHS Secretary, to be signed by the Board Chair, on the subject of consolidating computer resources. The letter is under Attachment D.

#### **XXI. ELECTION OF BOARD CHAIR**

The Nominating Committee formed at the last Board meeting placed in nomination the name of Dr. Steven J. Phillips to be Chair of the Board of Regents. He was elected unanimously.

#### **XXII. VIDEO OF INTERNET GRATEFUL MED PRESS CONFERENCE**

Mr. Robert Mehnert, NLM Public Information Officer, showed to the Board a 20-minute edited video of the April 16 press conference at which the Internet Grateful Med was announced and demonstrated. He also provided to the Board copies of the new 11-minute NLM video, "The National Library of Medicine: Your Key to Medical Information."

**XXIII. ADJOURNMENT**

The meeting was adjourned at 12:40 p.m., Wednesday, May 22.

\*\*\*\*\*

**Subcommittee Meeting on Monday, May 20:**

**Extramural Programs Subcommittee--2:00-3:00 p.m.  
(Attachment B)**

\*\*\*\*\*

**Subcommittee Meeting on Tuesday, May 21:**

**Subcommittee on Outreach and Public Information--8:00-9:00 a.m.  
(Attachment C)**

\*\*\*\*\*

**ACTIONS TAKEN BY THE BOARD OF REGENTS**

1. The Board concurred with the recommendations of the Extramural Programs Subcommittee.
2. Dr. Carol Newton presented the 1996 Frank B. Rogers' Award to Mr. Joseph Hutchins of the Office of Computer and Communication Systems for his work in developing the computer-assisted indexing system and DOCLINE, the LOCATOR system, and his current work on the System Reinvention project.
3. The Board voted approval of a letter to the HHS Secretary, to be signed by the Board Chair, on the subject of consolidating computer resources.

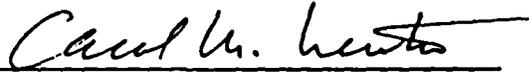
The Nominating Committee named Dr. Steven J. Phillips to be the new Chair of the Board of Regents.

\*\*\*\*\*

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



Donald A.B. Lindberg, M.D. (Date)



Carol M. Newton, M.D., Ph.D. (Date)