

**Public Library Consumer Health Pilot Project
Evaluation Report**

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Table of Contents

INTRODUCTION	1
EVALUATION METHODOLOGY	5
IMPACTS	10
IMPACT OF THE PILOT PROJECT ON PUBLIC LIBRARY PARTICIPANTS	10
<i>Interlibrary Loan/Document Delivery</i>	11
<i>Project Promotion & Outreach</i>	12
<i>Pilot Project Funds</i>	15
<i>Training</i>	16
<i>NLM Resource</i>	19
<i>Broad Project Impacts</i>	20
IMPACT OF THE PILOT PROJECT ON SUPPORTING LIBRARIES	23
<i>Interlibrary Loan/Document Delivery</i>	23
<i>Project Promotion & Outreach</i>	24
<i>Training</i>	26
<i>Pilot Project Funds</i>	27
<i>Reference Assistance</i>	28
<i>Communication</i>	28
<i>Impacts of Project</i>	29
IMPACT OF THE PILOT PROJECT ON PUBLIC LIBRARY PATRONS.....	31
IMPACT OF THE PILOT PROJECT ON MEDLINEPLus USAGE.....	35
DISCUSSION & RECOMMENDATIONS	40
TRAINING.....	40
PROMOTION.....	43
OUTREACH.....	45
INTERLIBRARY LOAN/DOCUMENT DELIVERY	46
PILOT PROJECT FUNDS.....	48
CO-OPERATIVE RELATIONSHIPS BETWEEN PUBLIC AND MEDICAL LIBRARIES.....	49
EVALUATION.....	50
COMMUNICATION.....	51
SUMMARY.....	52
APPENDIX A - PILOT PROJECT PARTICIPANTS: QUESTIONNAIRE.....	53
APPENDIX B - PILOT PROJECT SUPPORTING LIBRARIES: QUESTIONNAIRE.....	56
APPENDIX C - NEW YORK PUBLIC LIBRARY PATRON FOCUS GROUP.....	58
APPENDIX D - DORCHESTER COUNTY PATRON FOCUS GROUP.....	60
APPENDIX E - SAN ANTONIO PUBLIC LIBRARY PATRON FOCUS GROUP.....	62
APPENDIX F - NEW YORK PUBLIC LIBRARY STAFF DISCUSSION GROUP.....	64
APPENDIX G - FAIRFAX COUNTY PUBLIC LIBRARY STAFF DISCUSSION GROUP.....	67
APPENDIX H - BALTIMORE COUNTY PUBLIC LIBRARY STAFF DISCUSSION GROUP.....	69
APPENDIX I - LIST OF PARTICIPATING LIBRARIES.....	71

Introduction

The National Library of Medicine's (NLM) mission is to organize and disseminate the biomedical literature of the world in order to advance the medical and related sciences and to improve public health. For more than 25 years, health professionals, librarians, and information professionals have used NLM's MEDL database to access biomedical literature. This medical information became available to a much wider audience with the announcement in June 1997 that MEDLINE would be available for free over the World Wide Web (WWW). Since that time, a greatly expanded audience has taken advantage of free MEDLINE. The number of MEDLINE searches has increased from 7 million a year to more than 120 million. Estimates indicate that consumers are conducting many of these searches. This reflects society's growing desire for health information. This public interest in health information motivated, in part, NLM's creation of a pilot project in partnership with public libraries and supporting medical libraries to increase public awareness of and access to health information.

Public libraries have long been central locations within communities where the public seeks information. The advent of the Internet has not changed this vital library role. People are still going to the public library to find information, but now in addition to the traditional information sources, people are also accessing the Internet from the library. Many people who have no Internet access from home rely upon the public library to provide this important service. A recent Commerce Department Study states that 8.2% of the Americans who access the Internet outside the home rely upon the public library for Internet access. Society's growing desire for health information along with the growth of the Internet as a health information tool and the public library's importance as an Internet access point has only increased the importance of public libraries as a source of health information.

Goals

The goals of the Public Library Pilot Project were to:

- ◆ Establish and strengthen linkages between public libraries and the National Network of Libraries of Medicine (NN/LM)
- ◆ Learn how the NLM can help public libraries meet the health information needs of the public
- ◆ Assess the impact of publicizing health information services on pilot libraries
- ◆ Gauge the resources necessary to launch a national effort

Falling Through the Net: Defining the Digital Divide." National Telecommunications and Information Administration. July 8, 1999
<<http://www.ntia.doc.gov/ntiahome/digitaldivide>>

Project Plan

On April 28, 1998, NLM officially announced its plan for a partnership between NLM, public libraries, and supporting medical libraries to promote the benefits of using MEDLINE and other evaluated web resources for answering health questions. Three Regions of the National Network of Libraries of Medicine (NN/LM) were selected for the pilot project. The Regional Medical Libraries (RML) identified 41 public libraries and library systems to participate in this pilot program. These 41 libraries representing more than two hundred locations are drawn from nine different states (Alabama, Georgia, Maryland, New York, Pennsylvania, South Carolina, Tennessee, Texas, and Virginia) and the District of Columbia. The RMLs were asked to identify libraries that already provided public access to the Internet and that represent a balance of different geographic locations, community sizes, and diverse populations. Each participating public library was paired with an NN/LM library to provide support for this project.

Support fell under the following categories: training, document delivery, promotional assistance, and other assistance as needed. NLM provided \$5000.00 for each participating library. Funds could be used for any project-related expense. NLM also provided access to communication mechanisms, a public relations manual, promotional materials, and an evaluation plan to assess the effectiveness of the pilot. NLM oversaw the coordination of the project. NLM's responsibilities included collecting the various library reports, facilitating communication by scheduling and participating in teleconferences, conducting site visits, and writing the final evaluation report. NLM also created MEDLINEplus, a consumer health web site, for use by the general public as well as the participating libraries.

To promote communication during the course of the project, many communication mechanisms were available. NLM set up a pilot listserv to allow participants to share questions, ideas, and feedback. The listserv was especially useful in allowing NLM and the supporting libraries to pass information along to the participating libraries. A private web site was constructed for the participating libraries. This site was password protected and provided access to lists of participating libraries, reports, and useful resources. Each library was asked to submit a monthly written progress report. During monthly teleconferences with the participating libraries, experiences with the use of the NLM databases (PubMed, 1GM, and MEDLINEplus), publicity/promotional materials and activities, document delivery issues, evaluation activities, and problems and success stories were discussed.

The Regional Medical Libraries (RMLs), working with the supporting libraries, were asked to provide training, document delivery support (as requested), assistance in the development of the public library's project plan (as requested), and telephone, email or onsite assistance in support of the project. These supporting libraries were also expected to communicate regularly with the participating libraries. Each supporting library received \$1500.00 per public library with whom they were working.

The public libraries were asked to complete a library profile, a baseline library questionnaire, and a public relations questionnaire. They were also asked to develop a project plan including project goals and promotional activities for the project. To monitor usage of NLM databases, each library was asked to provide IP addresses for workstations to be used during the project. They were also asked to participate in the project evaluation, provide regular feedback on NLM services, participate in the project listserv, provide feedback and progress reports, and provide a final project report. As the project progressed, a final phone interview was substituted for the final project report.

The Participating Public Libraries

The pilot was scheduled to run between July 1998 and June 1999 and began with a kick off event held on July 27-28, 1998 at NLM. This meeting provided an opportunity for each participating library to present a brief description of their library including the populations they serve and the health information services they currently supply. The population characteristics served by these libraries reflect the diverse population characteristics of the country. The libraries' geographic settings ranged from small, isolated, rural communities to large, urban metropolitan areas. Of the 41 participating locations, two were library systems that did not directly serve library patrons, but instead worked with the public libraries themselves. The 39 remaining libraries and library systems serve a wide population range. There were 15 libraries that serve populations of less than 50,000 and there were 24 that serve populations greater than 50,000. Of the 15 libraries serving the smaller populations, 4 serve populations numbering less than 10,000. Of the 24 libraries serving larger populations, 5 serve populations numbering greater than 1 million. These communities included highly educated computer literate populations as well as low literate, non-English speaking or under-insured populations. Several libraries mentioned serving a large number of senior or retired people while other libraries mentioned serving young families and children.

The libraries' pre-existing health information services contained an equally diverse representation. All of the libraries provided some level of health information resources. These resources ranged from a few medical reference books to large collections of books, journals, newsletters, and pamphlets. Many libraries provided online and CD-ROM access. Of the online and CD access, Health Reference Center, EBSCO, and Info Trac were commonly mentioned as being popular with patrons. Patrons place high value on full-text information especially information at a low reading level.

Most, if not all, of the library systems provide some level of public Internet access. Participants reported providing a varying range of online services. Some have only one Internet workstation while other libraries maintained computer-training labs. A few of the libraries were already conducting Internet training workshops and some had already created health Web pages.

As the project emerged, the participating public libraries engaged in a range of activities related to the pilot project. Many of the project activities fell into three broad areas:

training, promotion/outreach, and document delivery. At the very least, each participating library was involved in some health information training. Some libraries trained their entire staff while other libraries only trained the project coordinator. Some libraries also included some level of patron training. There was an equally broad range of promotional activities ranging from only displaying the NLM supplied promotional materials in the library to appearances on local television or radio programs. In terms of document delivery, some libraries created new document delivery mechanisms for health related articles while other libraries relied on existing document delivery procedures. Overall, the public libraries enthusiastically participated in the pilot project and often found creative methods of implementing the project in their library.

Report Organization

This report includes an examination of the impacts of the project on the participating public libraries, the supporting medical libraries, the public library users, and the use of NLM databases, especially MEDLINEplus. The participating and supporting libraries are examined in light of training, promotion/outreach, document delivery, and other project activities. There is limited data from the public library users, but they were asked about sources of health information, general types of information sought, and MEDLINEplus feedback.

The evaluation report continues with a discussion of the overall findings of the project, especially in the areas of training, promotion/outreach, document delivery, and the cooperative relationship between public and medical libraries. Some methodological evaluation issues are also discussed. The report also includes a list of recommendations for NLM's continued involvement with public libraries in the area of consumer health.

Evaluation Methodology

The pilot project evaluation team consisted of Fred Wood, Becky Lyon, Mary Beth Schell, and Paula Kitendaugh. Team members worked closely on all aspects of the evaluation, including participation in the conference calls, library visits, and discussion groups. The group also received valuable input from the Pilot Project Steering Committee and others at the National Library of Medicine.

Patron Focus Groups

Patron focus groups were conducted in three libraries in New York, Maryland and Texas. The purpose of the focus groups was to get feedback directly from the target audience, the public library patrons. Members of the evaluation team conducted the sessions with the help of local resource people such as the librarian and staff members from the supporting libraries.

Individual libraries were contacted early in the project regarding the feasibility of setting up a patron group. Libraries were required to recruit participants and provide a meeting space. At each session, light refreshments were provided for participants.

Participants included: seniors, middle-aged persons, community health professionals, and support group members. All of the patron focus groups were conducted during regular business hours, within the workweek. The total number of participants at each session ranged from eight to ten patrons, plus attending staff members.

At each of the focus groups, copies of the MEDLINEplus home page and “health topics” pages were distributed to participants. Questions focused on the following general areas:

- ◆ Their reasons for wanting consumer health information,
- ◆ What they did with the information and who they shared it with,
- ◆ What expectations they had coming to the library for health information,
- ◆ Which information tools were most useful and easy to use, and
- ◆ What additional information they were hoping to find.

In general, the focus groups were conducted in a casual manner and participants were able to elaborate on topics without interruption. Each session started with a general question and all participants were asked to give a response. From that point forward, each group varied according to the responses of participants.

2 Steering Committee Members were Kathy Cravedi, Eve Marie Lacroix, Fred Wood, and Becky Lyon.

96th St. Branch of the New York Public Library, Dorchester County Public Library- Maryland, and San Antonio Public Library-Texas

Focus groups sessions were scheduled for 1.5 hours each. In most cases this was sufficient time to cover all of the basic areas of inquiry. Following the sessions, evaluation team members spoke informally with individual participants to clarify comments and answer questions.

Library Staff Discussion Groups

There were three library staff discussion groups held in New York City, Baltimore County, and Fairfax, Virginia. Each session included librarians from multiple branches within the area. As opposed to the patron focus groups, these sessions were more informal discussions of the project and health information provision in general.

Participation ranged from a handful of reference staff members in one location to representatives from nine different branches in another. Again, the supporting library for each region usually sent a delegate to participate and listen to feedback from the staff members.

For the first discussion group, the evaluation team tried to find out what health reference resources the staff were using and why, the volume of health reference requests, and a thumb-nail sketch of the health information seeker in the public library. During the remaining focus groups, we redirected the discussions to somewhat more general impressions. Areas of discussion included:

- ◆ The perceived nature of community health information needs,
- ◆ Library staff concerns related to health information provision,
- ◆ Impressions and suggestions regarding MEDLINE and MEDLINEplus, and
- ◆ Comments and observations related specifically to the pilot project.

The staff sessions usually lasted approximately 1.5 hours.

Library Visits

One or more members of the evaluation team visited participating libraries in New York City (Street branch and Mid-Manhattan), Texas (Cotulla, Laredo, Boerne, New Braunfels, and San Antonio), Virginia (Sherwood), Maryland (Dorchester and Arbutus), Alabama (Birmingham), and South Carolina (Charleston). The visits were a valuable way of collecting data that was not easily conveyed over the phone or in a written report. Library visits were conducted, in part, to appreciate the physical characteristics of the public libraries, including space, layout, condition, and location.

Aside from the permanent physical aspects of the library, the team was able to observe the levels of activity and patron volumes at the various libraries. During library visits the evaluation team was able to see some of the project related displays which had been mounted. The size, location, and displays of the health-related book, journal, and video collections were noted. The visits were scheduled primarily during regular business

hours, so there was not an opportunity to observe some of the busier weekend and evening hours.

Valuable feedback from library staff members was also gathered during these site visits. In many cases, the librarians were able to show us how pilot project funds had been spent and where promotional materials were being displayed.

Regional Conference Calls

The project director held regularly scheduled conference calls with the public and supporting libraries by region, with NLM staff members participating. These calls were a forum for sharing activities, concerns, success stories, and announcements among participants. It was also an opportunity for interaction between the MEDLINEplus team and the public librarians.

Participants were asked to describe any project-related activity occurring in their library or community. Information shared during the calls was not specifically for reporting purposes, but was included as background information for the evaluation.

Monthly Written Reports

All participating libraries were asked to submit monthly written reports. Librarians were asked to include information pertaining to the areas listed below.

- ◆ Training and demonstration sessions on finding health information on the Internet, MEDLINE, or MEDLINEplus.
- ◆ The staffs or patrons' experience with use of the NLM databases.
- ◆ Publicity/promotional activities related to the project, with which the library has been involved.
- ◆ Suggestions for improving promotional materials provided by NLM or additional materials that would be helpful.
- ◆ Document delivery issues.
- ◆ Did the library undertake any evaluation activities related to the pilot, especially regarding the use of PubMed/IGM or MEDLINEplus?
- ◆ Problems encountered by staff or users related to the project.
- ◆ Any other observations that should be shared, any lessons learned or any feedback or suggestions.
- ◆ Any "Success Stories" pertaining to the pilot that could be shared.

Reports could be submitted via an online reporting form, accessible on the pilot project website. Reports were routed first to the appropriate supporting library and then to NLM. Submitted reports were made available to all participants of the project, via the restricted project website.

The monthly reports, like the teleconference calls, were a multi-u tool. They served not only as a reporting method, but also to share ideas, activities, and concerns among the participating libraries. Information from the reports was used to compile background data for the evaluation.

MEDLINE and MEDLINEplus Usage Monitoring

To estimate the participating libraries' usage of NLM's online products, Internet Protocol addresses were collected from 35 public libraries. These IP addresses represented a sample of the total Internet accessible workstations in the pilot libraries. PubMed, 1GM, and MEDLINEplus were all monitored separately, with slightly different techniques due to variations in each system. Precise monitoring time periods also varied slightly between the three.

For complete details of the methodology and limitations pertaining to the project's MEDLINE and MEDLINEplus usage monitoring, please see Appendix —.

Final Consultation

Throughout the pilot project data was continuously gathered through the instruments mentioned above. To supplement the activity data already collected from participants, it was decided that individual follow-up telephone discussions would be the most beneficial. Each library received a three-page discussion guide (Appendix _) prior to scheduling the call so they would have adequate time to confer with members of their staff. We requested that participants set aside 45 to 60 minutes for the consultation. The discussion guide was developed using the following:

- ◆ NLM's goals for the pilot project,
- ◆ The goals of the individual participating libraries, and
- ◆ The monthly reporting form.

The discussion guide and a cover letter explaining the purpose of the final consultation were sent via e-mail and/or fax to 39 participating libraries during the last week of May. We requested the libraries respond with a convenient date and time in the first two weeks of June to schedule the discussion.

Final consultations between two members of the evaluation team and 36 of the participating libraries occurred between June 1-16. Two additional libraries responded in writing and two libraries never responded at all.

We started the consultation by asking the librarian to briefly describe the community, the library's patrons, and the library itself. We were mainly interested in socio-economic factors, literacy levels, age demographics, staff sizes, and other features which might impact library use and specifically health information needs in the community. Next we asked participants to comment on the remaining sections of the discussion guide, including any and all activity related to the project. We also used this opportunity to

clear up contradictions and inconsistencies we found in the previously reported data. Wrapping-up the discussion, we asked for any additional comments not previously addressed or other general comments regarding their participation in the project.

Due to the comprehensive nature of the telephone consultation, members of the steering committee decided it was not necessary to have libraries send in a final written report.

IMPACTS

Impact of the Pilot Project on Public Library Participants

Public Library Participation

The relative size of the library system and the community it serves each played a significant role in the overall implementation and impact of the pilot project.

In larger libraries, the impact of the pilot project was positive, but did not significantly alter the way staff members handle medical reference questions. These libraries already felt sufficiently competent assisting patrons with health information. They also already have the resources for implementing their own programs. These resources include larger staffs, greater in-house resource tools, ILL departments, printing and promotion budgets. However, at least one large, multi-library system did say that taking part in the pilot project had made them more competitive within the community of health information providers. In the larger libraries, library bureaucracy and staff turnover sometimes hindered implementation of the project.

In smaller libraries the impact of the project was much greater. Participating librarians were very appreciative of the opportunity to take part in a “national” program. They also expressed how rewarding it was to be able to offer a new or improved service to their patrons. Prior to the pilot project, staff members were unfamiliar with “what was out there”, regarding medical information on the Internet and in local hospital or university health science’s libraries. Nearly all of the smaller libraries reported higher confidence in assisting patrons with health related inquiries. Deterrents to implementation, in the smaller libraries, were primarily due to very small staffs.

Volume of Health Related Reference

To avoid under or overestimating the demand for health information in public libraries, we asked the participating libraries to estimate their health information requests as a percentage of total reference inquiries.

	<u>Reference Requests in Participating Libraries</u>			
Health-related Requests	0-5%	6%-10%	11%-20%	21% plus
Participating Libraries	7	15	9	7

Three of the participating libraries that reported the highest percentile of health-related requests were reporting statistics just for their department. These libraries all had Science and Technology departments which keep separate statistics from the rest of the library,

Therefore, the actual percentage of health reference compared to total reference would be lower. In these specialized departments health-related requests accounted for up to 60% of reference encounters.

It is worth noting that although the number of reference encounters involving health information was seemingly low, the amount of time spent per health reference encounter is very high. In general health-related requests are some of the most time-intensive requests for reference librarians. The answer is rarely a quick fact or figure. It usually requires the librarian to point out several resources, including Internet and CD-ROM resources, a medical dictionary, and a general source like the Merck Manual or Physician's Desk Reference (PDR). Many of these tools are not easy for patrons to use, especially the resources intended for medical professionals, so the librarian must explain how to use each resource. Asked to estimate the percentage of time spent on health-related reference, participating librarians said it was roughly double the percentage of actual requests.

In a few locations, librarians reported a recent decrease in requests for health-related assistance. As an example, a librarian mentioned that the P.D.R. used to be requested, and stolen, so frequently that the library required a driver's license just to check it out for use in the reference area. Today, the P.D.R. and Merck Manual are requested only a few times per month. Staff members in the libraries believe it has to do with the growth in online health information. Large numbers of their patrons probably go directly to the computer workstations and never need to ask for assistance.

Interlibrary Loan/Document Delivery

ILL Impact

Tracking document delivery was an elusive task. Some of the larger libraries had difficulties in determining document delivery changes because the Interlibrary Loan (ILL) department was located in a separate area of the library. Only a few libraries reported any appreciable increase in document requests. Often the increase went from no requests for medical journal articles to a total of 8-10 for the entire pilot project. One or two libraries reported situations where one or two individuals requested large numbers of articles (30 to 90 articles). Only a couple of large urban libraries had substantial numbers of requests. In both of these cases, the library had a well-established "Health Information Center" and already attracted large numbers of health information seekers.

There were a few common reasons cited for the lack of document delivery requests. First, patrons do not want to wait for the information. They want something in-hand when they leave the library. Second, many libraries have access to Health Reference Center or Proquest, often through their county, state, or consortium membership. They usually try to find an article on one of these resources before requesting ILL services. Third, a number of libraries were located within a reasonable distance to a university health science library. In these instances, patrons often go directly to the medical library to get the article, usually at a lesser fee.

ILL Arrangements

The majority of participants already had some type of ILL arrangement in place. Even small libraries were usually connected to a county or state interlibrary loan system, which had access to a health sciences collection or a major document delivery service.

Setting up Loansome Doc accounts was frustrating for some participants. Credit card incompatibility and uninformed staff at the supporting libraries were both causes of delay and confusion. Many libraries never set up accounts because they could generally get the materials through a pre-existing ILL arrangement.

ILL Charges

Fees varied. Some libraries never pass along charges to patrons. Others have minimal (\$.15/page) printing charges. When charges were applied, ILL fees were usually between \$5 and \$10, with a few charging almost twice that for faxed articles. A few of the participating libraries had set up special accounts to cover the cost of ILLs associated with the project.

For those who pass along charges to their patrons, there was a general feeling that people do not expect to, nor want to, pay for articles from the library. Conversely, a few participants said that although patrons might balk at paying for other types of information, medical information was important and people are usually willing to pay.

Impact

With the generally low number of interlibrary loan requests, only a couple of sites expressed concern about the project's impact. The project did not create a significant burden on any of the participating libraries. Those that had used pilot project funds to cover the costs of document delivery were worried about their ability to continue offering this service after the funds ran out. Once a public library offers a service, especially a free service, it is problematic to take it away. However, it was a very small minority that expressed these concerns.

Project Promotion & Outreach

Promotional Materials

The response to NLM's promotional materials was overwhelmingly positive. Many libraries commented that having something to give patrons to take with them was crucial. They also said that the high-quality brochures, bookmarks, and pens are things that public libraries do not have the budget or facilities to produce for themselves. One librarian commented that, "The pens are very popular give-aways. Paper (bookmarks and brochures) gets thrown away." While many others reported, "The brochures and bookmarks are great. They can easily be stuck in a book and taken home."

Promotional Materials Distributed to Participants

Brochures	13,300
Bookmarks	9,280
Posters	762
Pens	715
Mousepads	300
Brochures (Spanish)	4,905
<u>Bookmarks (Spanish)</u>	<u>3,700</u>

To receive the items listed above, participating public and supporting libraries had to request them from NLM and specify the quantities needed. Spanish language materials proved to be immensely popular in every region.

Promotional Activities

Virtually all participating libraries engaged in some sort of promotional activities or have plans to do promotional activities.

Participating Libraries	Promotional Activity
37	Distributed bookmarks, brochures, and/or pens to patrons
29	Published article or announcement in local newspaper
27	Mounted a display in the library
17	Presented information to community groups
14	Sent packets of information to physicians/clinics
11	Article published in library or health-related newsletter
10	Project kick-off, open-house or health fair participation
9	Radio talk show or PSA broadcast
8	Television news or cable show broadcast
6	Produced fliers, brochures or other promotional materials
2	Hired PR consultant to implement campaign

There were obstacles to promotion in some of the participating libraries, primarily library bureaucracy and staff size. In general, libraries with very small staffs had greater difficulty promoting the project outside of displays and small demonstrations, while many of the larger regional and county library systems had public relations departments to coordinate politician visits, news coverage, and community event participation.

There were also differences according to individual community factors. In large urban areas, competition for newspaper, radio, and television coverage is high. In smaller communities, the public library may have an established column in the local paper and news coverage in general may be easier to attract.

Impact

All participants expressed difficulty in assessing the impact of various promotional activities. Libraries that received television news coverage or large-audience radio exposure reported an attributable positive impact. Patrons actually came into the library and said they had seen or heard the broadcast. Other activities did not generate that sort of response.

In most instances, libraries could only report that brochures, bookmarks, and pens were snapped up. Whether they generated any usage of MEDLINEplus, health reference requests, or other information seeking activities is impossible to know. It was also difficult to gauge any appreciable reaction to posters and in-house displays.

Word-of-mouth and individual librarian attention generated interest and information seeking activity. Librarians reported a few patrons who were referred by their doctors or who had heard about the project through friends or family members. Many of the success stories resulted in the patron passing along the MEDLINEplus URL to a relative or support group members. When librarians offered one-on-one assistance to a user, they often reported seeing that patron return to use the library health resources on subsequent visits.

Outreach

Of the 41 participating libraries, 27 carried out some type of outreach activity. Approximately 14 libraries did true outreach to a targeted community of users. An additional 13 libraries contacted physicians and health-related organization to offer outreach services and provide promotional materials. Many activities fell somewhere between promotion and outreach.

Outreach Activities

Demonstrations, presentations and classes for specific groups of health information users and potential users. i.e. support groups, clinics staff, school nurses nursing student classes, local hospital consortiums, senior centers, employee groups, and church health centers

Outreach/Promotion Activities

- *Providing a display and brochures at health fairs, senior citizen expos, and in the bookmobile.*
- *Delivering information packets to hospitals, clinics, and health-related organizations.*
- *Presentations on the pilot project at library administration, city council, and other community leaders' meetings.*
- *Co-sponsoring blood pressure screening and other health programming at the library.*

Although outreach activities potentially affected fewer numbers of patrons, the perceived response was greater than most general promotional activities. Librarians reported seeing nursing students, support group members, and even physicians coming into the library following their presentations.

The most successful outreach programs were those devoted to a specific disease or condition. Participating libraries, which offered both general health information and single-condition workshops, reported a higher level of participation and interest expressed in the workshop by attendees.

Even in outreach situations with a more diverse group of participants, librarians suggested tailoring the program or presentation to the audience rather than giving a general overview of "health information on the Internet." Senior citizens were, not surprisingly, interested in diseases such as: arthritis, heart disease, and cancer. Middle and high school groups were more likely to respond to information on diet, exercise, and weight training. Families caring for elderly parents were most interested in sources of local information and support for caregivers. When speaking to health care professionals, it helped to spark interest by demonstrating a health topic they commonly see in their practice.

Pilot Project Funds

Fund Usage

Spending priorities were overwhelmingly for computer and telecommunications equipment, especially in the smaller libraries. Collection development was a strong second. The larger library systems usually tried to use their funds in ways that would

help all of their branches. Developing promotional materials, organizing a speaker's series, and setting up document delivery accounts allowed county and large urban library systems to benefit all of their branches in the pilot. Many libraries used their "remaining" funds for collection development and promotional activities, after purchasing a workstation.

Participating Libraries	Project Funds Used For
26	Computer equipment (workstation, printer, Internet connection, wiring, telecommunication equipment)
19	Collection development (medical reference, circulating items, consumer health videos)
11	Promotional activities (consultant's fees, printing, postage)
5	Training related expenses (travel, photocopying)
3	Interlibrary Loan /Document delivery
2	Salary (extended hours, staff supplement)

A number of the larger libraries spent their funds in somewhat novel ways. One large urban system purchased Copyright Clearance Center coverage and a statistical software package. Another developed three traveling tabletop displays to rotate throughout their network of branches. Two library systems combined their funds to hire an outside firm for their promotion campaign. Finally, one library system subscribed to six of the consumer health newsletters indexed on MEDLINE.

A small number of participating libraries ran into bureaucratic problems when it came to spending their funds. In a few instances, library boards and administrators limited the types of activities the project coordinators could undertake.

Training

Staff Training

The training staff members received from their supporting libraries generally got very high marks from participants. The total number of library staff members, including volunteers, trained throughout the project was over 1,150.

In most cases one or more librarians from the participating libraries attended a regional training session. These sessions were usually at least a half-day at the supporting library for that region. For some participants, this was their first opportunity to tour a health sciences library and make professional contacts in the health information field. Participants received training packets and other information to take back to their libraries. Those attending the regional session were encouraged to hold training classes for their reference staff, volunteers, and Internet trainers. This system of train-the-trainer worked very well and few suggestions for improvement were reported.

MEDLINEp/us versus MEDLINE

The only significant problem with staff training had to do with the timing of the project and the introduction of MEDLINEp/us. The project started before MEDLINEp/us was publicly available. Therefore, the original training took place before MEDLINEp/us was available to demonstrate, and training concentrated on MEDLINE via PubMed and Internet Grateful Med.

While the librarians appreciated the training on MEDLINE, they questioned its appropriateness for the average library patron. In situations where the library already had access to Health Reference Center, with its full-text and less technical information, there was little incentive for public librarians to use MEDLINE. A few motivated librarians, who had previously used MEDLINE on Dialog or other fee-based systems, started using MEDLINE with patrons, but overall reported usage was low.

When MEDLINEp/us was introduced it was incorporated into later training sessions. Asked about MEDLINEp/us training, respondents said that it was very easy to use and additional training was not necessary. However, many libraries, which only had a single training session, were never introduced to the system. For those libraries training was essential to get people to see and try the system, not to necessarily teach them how to use it. In at least one reporting library, staff members weren't even aware MEDLINEp/us was available.

Patron Training

The level of patron training depended, not surprisingly, on the equipment, space, and staff resources of the library. Larger libraries and those with workstations set up for a training environment offered hands-on and demonstration style classes. Smaller libraries and those with less adequate facilities usually offered only one-on-one training for patrons. Very few participating libraries kept records of how many patrons they had actually trained on MEDLINE, MEDLINEp/us, or other on-line health resources.

<u>Participating Libraries</u>	<u>Type of Training Offered</u>
32*	One-on-one training by a library member staff
6	One-time only workshops
4	Regularly scheduled classes (weekly or monthly)

* When self-reporting, some libraries did not include this type of reference activity as training, so it may be that all 41 participating libraries offered this service.

One-on-one sessions usually originated with a patron looking for disease specific information, not training. A few libraries guessed they had trained a handful of patrons. Others estimated 20 to 40 individual training sessions had occurred. Staff time and the

number of Internet accessible workstations were the most frequent barriers to offering one-on-one training.

Workshop-style classes for the general public were offered at six of the libraries. Reported attendance at these sessions ranged from 5 to 20 participants. Usually these sessions covered a number of general electronic health information resources, including MEDLINE and MEDLINEplus. Hands-on classes, as opposed to demonstration sessions, were perceived to be much more effective and popular among patrons.

As the pilot progressed, librarians noticed that classes offered on specific health topics were better attended than the more generic health information sessions. Insufficient staff time and computer equipment were again limiting factors for many of the libraries that might otherwise have held training classes.

Regularly scheduled classes were held at four participating libraries. "Health Information on the Internet" classes were already being taught, prior to the pilot project, at three of the four locations on a weekly or monthly basis. Attendance at these sessions varied over time and location, but usually attracted between 3 and 10 participants.

Computer Literacy

For many of the participating libraries, a large number of their patrons need to learn basic computer and Internet skills before they can begin concentrating on on-line health information. Where resources such as staff time and computer equipment are scarce, the libraries are concentrating their efforts on just getting people started on the Internet. Computer and Internet basics classes are popular, especially with seniors. Unfortunately, many librarians shared anecdotes about patrons who are still "afraid" of the computer, or the patron who attends the basics class over and over.

For those web savvy patrons who go directly to the Internet workstations without librarian interaction or training, many libraries have created their own health webpage of links and most have placed MEDLINE and/or MEDLINEplus prominently on that page. Internet classes taught at the library usually focus on the resources on the library's webpages. In the Internet basics class, the instructors often said they used MEDLINEplus as an example of the variety of types of information one can find on the Internet.

NLM Assistance

Overall marks for project-related training were high from all reporting libraries. When asked what the NLM could do to assist in training, most participants asked for more of what was already being done. Refresher courses for staff and additional brochures and bookmarks for patrons topped the wish lists of most respondents.

Participants liked the packets handed out at NLM and supporting library training sessions. Staff members emphasized the need to keep them informed of changes in website content. They suggested a newsletter, published by NLM, which would highlight changes to MEDLINEplus and educate the public librarians on relevant health collection management issues.

For assistance with patron training, the suggestions were focused on instructional material production. Numerous libraries requested tn-fold brochures that walked users through a MEDLINE or MEDLINEpZus session. Others requested laminated, two-sided instruction sheets or large posters, which could be set up or attached to workstations, again showing how to get started on the different NLM websites. A few libraries asked for prefabricated information kits that could be handed out to class participants. Lastly, librarians requested that training tools (workshop plans, search strategy demonstrations, handouts, etc.) be posted on the project webpage, so that trainers didn't have to "reinvent the wheel".

Suggestions for patron instruction assistance stemmed more from a lack of time, than a lack of expertise. Preparing for patron classes required the libraries to photocopy a number of items from the training packet, in addition to planning the actual workshop. The need for brochure sized user guides is compounded by the time limits placed on Internet terminal users. Inexperienced users want to plan out their search strategy before sitting down to the computer, otherwise they will spend most of their allotted computer time just learning to navigate MEDLINEp1us and MEDLINE.⁴

NLM Resources

MEDLINEp1us

Librarians all gave very high marks to MEDLINEp/us. Many expressed how useful it has become now that so many additions have been made to the Health Topics page. At the beginning of the pilot, the small list of topics was discouraging. Patrons and librarians would quickly abandon the site when they did not see their desired health topic. As the topic list has grown, more librarians say they are directing patrons to MEDLINEp1us as the first place to look for information.

A number of participants felt that the name MEDLINEp1us was a barrier to education and use. Patrons and even staff members were easily confused and would click on MEDLINE, when they really were looking for MEDLINEp1us. The general feeling was that MEDLINEp1us might make sense to those already familiar with NLM's products, but that for new users, the name had no useful meaning.

Authoritative Information

In libraries where the staff was already aware of health information on the Internet, they were hesitant to refer patrons to those resources because of the lack of quality control. The burden of evaluating and organizing Internet information is beyond the capabilities of most public libraries. Therefore, many participants were thankful that librarians with medical expertise from NLM were organizing and evaluating sites. They felt much more confident suggesting MEDLINEp1us because of the authority NLM lends to the information found there.

⁴Many public libraries have to limit computer time due to a shortage of public Internet computers.

Support and Feedback

Participants liked getting the listserv updates on additions and new features of MEDLINEplus. Not only was it a timely way to communicate changes regarding content, but it served as a reminder to use the site as well. Many librarians expressed appreciation at how responsive the MEDLINEplus team was to comments and suggestions.

MEDLINE

Public library response to MEDLINE was mixed. Numerous librarians questioned whether MEDLINE should be included as a consumer/patient information resource. Staff felt that the information was too technical and therefore inappropriate for their patrons. Also, patrons expressed frustration at the lack of full-text.

However, many libraries also submitted success stories where a patron with a rare disease or condition came into the library looking for information. Often these conditions weren't even in the library's medical dictionary. Using MEDLINE, usually via PubMed, they could find a little information (type of disease, body system, etc.) so the patron did not go away empty handed. Often the abstract was enough to reassure patrons or even educate them a bit on the condition or treatment. There were also a few examples of the highly motivated patron who truly wants the more technical information found on MEDLINE and is willing to obtain the full-text through other means.

Broad Project Impacts

Staff Awareness of Health Information Resources

The vast majority of the participating libraries, large and small, reported that one of the greatest benefits of the project was that it raised staff awareness of the existing publicly accessible information, especially health websites on the Internet. The diverse and ever increasing demands on public librarians' time had made it difficult for most participants to concentrate on exploring health information websites. Many staff members expressed grateful surprise at the wide variety of health information available from government, hospital, and medical school websites. They were also impressed with their local sources of information, such as, medical school libraries and hospital libraries, which the staff had known of previously, but weren't aware of the services and resources available from those institutions.

Staff Confidence

Lack of confidence in providing health information to patrons was an area of concern for many public librarians prior to the project. Similar to legal information, librarians were hesitant to provide reference assistance due to the potential gravity surrounding health information and the perceived consequences of a providing inaccurate or inappropriate information. The apprehension of staff members led them to shy away from web-based health information and primarily refer people to the reference collection and reliable online products such as Health Reference Center. When faced with a medical reference question, some members of staff referred patrons back to their physician or to a local hospital library. In many instances, librarians just did not feel confident enough of their

knowledge of health references resources to properly provide assistance. They viewed health information as a unique specialty, requiring a set of skills beyond traditional reference.

In almost all of the smaller libraries confidence was greatly enhanced through participation in the project. Training on NLM's MEDLINE and MEDLINEplus was instrumental in raising the awareness and confidence of participating library staff members. The guarantee that sites on MEDLINEplus had been evaluated and approved by librarians specializing in medical information greatly enhanced their self-assurance in recommending MEDLINEplus to patrons. Many librarians also mentioned their updated and improved collection as a source of increased confidence. Before the project collections had been less than comprehensive and many were getting woefully out of date. With the funds to update and the recommendations for adequate depth and breadth, collections were improved and librarians were able to refer patrons to them without caution.

Larger library systems, especially those with a science department and a dedicated sci tech reference staff, reported only a modest increase in confidence. These libraries were well equipped and their staffs were well prepared to handle medical reference requests. In the majority of larger libraries, the departmental reference staffs were accustomed to 30% to 60% of their requests being health related. Therefore, they already had a great deal of previous experience and adequate expertise in medical reference prior to the project.

Communication

Although improving communication between public libraries was not a stated goal of the project, participants rated it highly as a benefit of the pilot. The project listserv, website, and regional conference calls allowed public librarians to ask questions and share ideas amongst one another. These same mechanisms were useful in communicating with NLM and their supporting library. Librarians appreciated the ease and speed with which the web site, listserv, and teleconferences made their interaction. They also liked having materials created for the project, such as the report form and training guides, available via the website.

Public Library - Community Relationships

Another universally positive result of the project was the forging of relationships between the public libraries and the local information and health care communities.

Only a few public libraries had established a close relationship with a hospital or university health sciences library prior to the project. Those that had such relationships were usually the result of serendipity, rather than conscientious effort. Library staff members moving from employment in one library to the other and similar "personal" relationships between libraries resulted in an informal professional reciprocity. Training sessions and initial contacts with the supporting libraries fostered the development of professional ties between the libraries. Many public librarians also contacted local hospital libraries as part of their outreach effort. Numerous participants reported that the

hospital librarians were very supportive of the public library's consumer health efforts as it offered them another resource to which they could refer patients.

Participants also went beyond networking with other libraries. Through outreach and promotional efforts in the community, some of the libraries were able to find health information partners in local clinics, physicians offices, health departments, senior centers, and hospitals. One library teamed with a local pharmacy to sponsor topical health lectures. Held at the library, the sessions featured a talk by a health professional followed by the local pharmacist's presentation on relevant drug therapies. These sessions were very successful and the library and pharmacy have agreed to co-sponsor more in the future. Another library commented on the improved relationship between the library and the local media.

Contributions to Health Information

When asked to comment on the project's contributions to meeting their community's health information needs, most libraries recited the expanded resources, confidence, and improved skills of staff already mentioned above. However, there were some unique observations not formerly addressed. Additional accolades from participating librarians include:

- Never letting a patron leave empty handed,
- Empowering patrons to privately research their own health issues,
- Providing valuable information to their under-served Spanish speaking population, and
- Providing patrons with enough information to ask informed questions of their physicians.

Impact of the Pilot Project on Supporting Libraries

One of the goals of the pilot project was to establish or strengthen linkages between public and medical libraries to increase consumer access to health information in public libraries. In order to meet this goal, one component of the project plan was to build partnerships between public libraries and medical libraries. These partnerships would be built by pairing each participating library with a designated supporting medical library. Each supporting library would provide training, document delivery, promotion and outreach support, reference assistance, and connections to the resources of the NN/LM.

Interlibrary Loan/Document Delivery

ILL Requests

The early concern, expressed by many supporting libraries, that they would be swamped with document delivery requests proved to be unfounded. Five libraries did not supply any articles, 2 libraries supplied fewer than ten articles, 2 supplied around 50 articles and only 2 libraries was called upon to supply over 100 articles. Document delivery requests did not impact the workload of any of the supporting libraries. Even the New York Academy of Medicine, which supplied 142 articles, felt that the numbers were still so low as to create only a drop in the bucket of their total document delivery requests.

ILL Arrangements

A variety of arrangements were made for supplying documents or providing interlibrary loan service during the course of the project. Four of the supporting libraries did not provide special document delivery service. Two libraries continued to follow their existing ILL procedures, enhanced by the provision of free articles for the duration of the project. Three libraries served as Loansome Doc libraries. Only one library, the New York Academy of Medicine created a completely new and unique requesting arrangement for the project. They allowed participating libraries to fax or phone requests directly to NYAM. Requests would either be filled in house at NYAM or go through interlibrary loan channels at NYAM if the articles could not be supplied locally. Libraries would be invoiced monthly for this service.

ILL Charges

Interlibrary loan/document delivery charges were also handled in a variety of ways. Two institutions used their project fund money to support free document delivery for the duration of the project. Four libraries said that there was no charge because they did not supply any documents. Of those four, one indicated that their charges would have been \$10.00 if they had supplied documents. Of the libraries who discussed charges the price ranged from \$5.00 to \$10.00 per request. The UTHSCSA also charged an additional \$16.00 if they were asked to fax an article. NYAM was supplying documents for \$5.00 per request, but this was a reduced rate for the project. Many of the libraries felt that they had to impose the charges because they charged their own patrons, and they didn't feel

that it was fair to their own patrons to provide free service to the public libraries when they do not provide free service to their own patrons.

Impact

Several of the supporting librarians believed that time and cost contributed to the low use of document delivery services. Many of the supporting librarians also discussed the different philosophy toward ILL in the public library setting. They shared stories of how difficult it was to set up ILL arrangements with the public libraries. Many public libraries traditionally do not deal with supplying articles. Some of the supporting librarians wondered if the ILL requests were so low because of the lack of support for document delivery of articles within the public library setting.

In many of the public libraries, it was a struggle to set up special document delivery arrangements. Some of these difficulties stemmed from bureaucratic structures within the public libraries. Some of the public libraries felt that they already had ILL services, and did not see the need for any kind of new service. Many of the supporting libraries discussed how the only increased workload factor with ILL was in setting up the arrangement with the participating libraries.

Overall document delivery/ILL requests did not strain the workloads of the interlibrary loan offices within the supporting libraries. The libraries that created special arrangements, by and large, seemed to feel that the arrangements were working well. Despite the low numbers of actual requests, almost all of the supporting libraries thought that this was an important service and were interested in figuring out why it was not used more heavily by the participating libraries.

Project Promotion & Outreach

Promotional/Outreach Support

The areas of support for promotion and outreach fell into four broad categories: attending promotional events, exhibiting at community events, attending meetings, and creating promotional materials. Librarians from 4 supporting libraries were involved with kick-off events or open houses at 5 participating libraries. Some of these open houses included demonstrations of NLM products especially MEDLINEplus. Three supporting libraries exhibited at community events. These were done in conjunction with the participating public library. The level of support for exhibiting at community events ranged from creating a PowerPoint presentation to use at exhibits to hosting a booth at various exhibits.

Support was also given by attending meetings and giving presentations to various library and community groups about the project. Two supporting libraries created special promotional materials for the project.

Separate Promotional/Outreach Events

The supporting libraries promoted the project at their local institutions. Five of the participating libraries included MEDLINEplus in their routine schedule of exhibits and normally scheduled classes. All of the participating libraries made the promotional

materials available at their institution. At least one of the participating libraries created a special display highlighting the project and MEDLINEplus and another created a web site to promote the project. Two libraries participated in special events that were being held at their library.

Impact

Each of the supporting libraries was asked to assess the impacts of the various promotional/outreach events. They all had difficulty in doing this, primarily because they were removed from the day-to-day activity of the public libraries. Some of the activities that they highlighted as having a positive impact on reaching consumers were articles in local papers, meetings with local support and community health groups, demonstrations at health fairs, pens and bookmarks, and the big kick-off events.

The supporting libraries were asked to reflect back upon the project and try to think of any additional promotional and/or outreach activities that might have had a positive impact on the project. Three of the supporting libraries mentioned that the public library systems had their own departments and that all promotion was done through those departments. They all wished that they could have figured out how to better work with those PR departments to effectively promote the project.

The supporting libraries were also asked for an assessment of the NLM promotional materials. The supporting libraries were quite enthusiastic and appreciative of all of the promotional materials supplied by NLM. They were especially enthusiastic about the pens, mousepads, and bookmarks. There were a few minor critiques of these materials, most of which were addressed during the course of the project. Some of these critiques include wanting to see more ethnic diversity in prominent places on the promotional materials, making the bookmarks and brochures less busy, and highlighting the URL more prominently.

Most of the comments about NLM's role were suggestions for additional promotional materials. One supporting library suggested obtaining feedback from the interested parties before finalizing promotional materials. Some specific suggestions include creating a high visibility PSA highlighting the public library as the place to go for health information, creating post-it notes (in addition to the pens and bookmarks), and developing a MEDLINEplus logo suitable for use in exhibits. Others emphasized the need for more Spanish language material. There were also some suggestions for materials to give to public libraries as part of the promotional packets including the Health Hotlines booklets and the NIH Spanish language brochure.

Overall the supporting libraries felt that the public libraries did a good job handling the promotion and outreach for the project. In general, it was felt that this was not an area where the supporting libraries were able to provide much assistance. The support that was given tended to be of the nature of "guest" speaker or exhibitor.

Training

Training Overview

The supporting libraries conducted between 2 and 15 training sessions for library staff. Each session lasted anywhere from 1 hour to a whole day. Training time includes the training event, planning, and for many librarians, travel. The supporting librarians spent anywhere from 15 to 111 hours on training activities. The average time spent on training was 50 hours during the project. Five of the librarians characterized the training as causing a noticeable additional workload. Most of them said that it was manageable and short-lived. Four of the librarians characterized the workload from the training as either being not noticeable or not excessive.

Training Sessions by Supporting Library			
	Number of Sessions	Length of Sessions	Time on Training
George Washington	13-14	2 hours ea.	84 hours
Houston Academy of Medicine	6	2 hours ea.	27 hours
UT-Memphis	8	3 hours ea.	5 0-60 hours
MUSC	2	4 hours ea.	60-80 hours
NN/LM-SEAIRML	2	1@ 8 hours 1@ 4 hours	32 hours
NYAM	15	10@ 2 hours 3 @ 3 hours 2 @ 1 hour	111
Univ. Rochester	2	1 @ 3 hours 1@ 1.5 hours	15-20
SUNY-Brook	N/A	N/A	N/A
UA-Birmingham	4	4 hours ea.	64-72
UTHSCSA	4	2@4hours 2 @ 8 hours	30

Most of the training sessions were modelled after NLM training sessions. The training sessions focused on PubMed and 1GM. The libraries were almost equally split between offering hands-on training and doing a demonstration or lecture. MEDLINEplus was often not included in the training because much of the training was done before MEDLINEplus was available. Some of the librarians added MEDLINEplus to the training after it had become available, but this was usually in the form of a quick demonstration. Some of the participating libraries also included Loansome Doc (or at least general discussions of document delivery), evaluating web resources, and discussions about literacy levels in their training classes. None of the supporting librarians characterized their training as general medical reference, although several thought that this might be an important type of training to offer.

Patron Training

Two of the supporting libraries worked to some extent with patron training. NYAM assisted planning health on the Internet classes for the 96th St. branch of the New York Public Library and the Brooklyn Public Library. A librarian from the Region One RML also co-taught a hands-on health on the Internet Class with a librarian of the New York Public Library and attended two classes for the public, which were held at the Brooklyn Public Library. Librarians from University of Texas Health Sciences Library at San Antonio (UTHSCSA) taught a MEDLINEp/us class for the public at the San Antonio public library. These classes were well received and the supporting libraries felt that they were worthwhile experiences and productive uses of their time.

NLM Training Assistance

The supporting librarians had many good suggestions for additional support that NLM or the RMLs could play in training. The three most frequently cited suggestions include developing MEDLINEp/us training materials, developing PubMed and 1GM training materials geared toward consumers, and creating an outline for a general medical reference class. A variation of the PubMed, 1GM and MEDLINEp/us training includes creating web based training modules for those areas. The concern for general medical reference was pervasive among the supporting librarians, and they discussed the issue in relation to many topics during the course of the phone interview.

The supporting librarians all felt that training was a very important component of the project and was looked upon as one of its biggest successes.

Pilot Project Funds

Each supporting library (except the Region 2 RML) was given \$1500.00 for each participating library that they assisted. The breakdown of how the supporting libraries used their funds is represented in the table below. Some libraries were able to spend their money on more than one item. Overall the supporting libraries all felt that they wanted to spend their money in a way that would provide the greatest impact in terms of consumer health and which would benefit the participating libraries the most.

<u>Supporting Libraries Fund Use</u>	
<u>Funds Spent On</u>	<u>Number of Libraries</u>
Promotional Materials	3
ILL Support	3
Hardware (laptops and A-V equipment)	2
Consumer Health Collection	2
Salary Support	2
Refreshments	2
Training Materials	1
Travel for Training	1

Reference Assistance

The participating libraries rarely utilized their supporting libraries for medical or health related reference assistance. The time spent on this type of assistance was negligible in every case. A couple of librarians did make the observation that the requests they received usually tended to be in depth and could take more time than a typical reference request. Even bearing that in mind, the time spent on reference assistance was still not significant.

Several of the supporting libraries had suggestions for improving the use of this type of reference assistance. Six of the supporting librarians raised the point that for this service to be successful it must be built on a solid inter-institutional relationship. Two supporting libraries raise training as a method of encouraging reference referral. Other suggestions for increasing the use of specialized reference assistance include working with state libraries to create a formal process for this type of request.

There were a couple of theories as to why this type of assistance was so infrequently called upon. One theory is that many of the public librarians would rather refer patrons directly to the supporting library rather than work as an intermediary. This was especially in true in the communities where the supporting library was open to the public. The other theory is that the public libraries don't need this type of reference assistance. The supporting libraries hypothesize that there simply are not that many questions on which they need assistance.

Communication

The supporting libraries played a critical role in providing communication between the public libraries and NLM. Most of the supporting libraries did not feel that communication mechanisms took up too much of their time. Well over half of the supporting libraries felt that communication for the project took less than 50 hours total, only 3 supporting libraries felt that communication mechanisms took over 100 hours.

NLM created several communication mechanisms for the project. These mechanisms include teleconferences, a project web site, a project listserv, and regular reports. Several of the supporting libraries established additional communication mechanisms, including email lists, meetings, site visits, and mailing lists. The supporting libraries characterized the teleconferences and the listserv as the most useful communication mechanisms. The listserv was characterized as useful only as a one way communication mechanism. It never achieved success as an interactive method of communication. Three of the supporting libraries liked the web site and two rated the reports on the web as useful. Email and site visits, two mechanisms that were established by the supporting libraries also got a mention as being useful communication methods.

The supporting libraries were split about whether they communicated regularly with the participating libraries. Five of the supporting libraries said that they did not communicate regularly. They all characterized their communication with the participating libraries as

being on an as needed basis. Four of the supporting libraries characterized their communication as regular, and one of the supporting libraries characterized their communication as being regular early in the project and being on an as needed basis more recently.

The supporting libraries had several suggestions for improving communication. These suggestions fall into two categories: suggestions for improving communication within the bounds of a specific project and suggestions for improving communication between NLM, NN/LM, and public libraries in general. The specific suggestions for improving communication within the scope of this project (or one like it) include creating a database of library activities that would be easier to search and read than the reports. Other suggestions include more site visits from supporting libraries or NLM and more focus groups. Many of the supporting libraries advocated keeping the web site and listserv going. Several of the supporting libraries mentioned working through the national associations to which the public librarians belong. Along a similar vein, many supporting libraries mention working through local and state library consortiums. And working within already existing consumer health information networks. The overarching theme of all these suggestions is going to where the public librarians are and utilizing the publications that they read.

Impacts of Project

Cooperative Relationship with Public Libraries

One aspect of the pilot project was to examine the relationship between medical libraries and public libraries. The broadest measure of this relationship is based on the simple question of whether a relationship exists at all. The supporting librarians were asked whether a cooperative relationship existed prior to this project and whether they planned to continue that relationship after the project ended.

Five libraries had cooperative relationships prior to this project. Each of those five stated that they felt that the project had strengthened and built upon those relationships. Two libraries did not have a cooperative relationship, and three libraries had very limited relationships. Every supporting library stated that they were planning to continue some sort of relationship after the conclusion of the project. More significant than the fact that the libraries were planning to continue the relationship is the fact that each and every supporting library characterized the relationship as being positive and were enthusiastic about continuing to work with public libraries.

Challenges of the Project

The challenges of the project fall into two overlapping categories: logistical concerns and bureaucratic difficulties. The logistical concerns center around communication and scheduling problems. The communication problems deal primarily with the difficulties in reaching public librarians within the constraints of their busy daily activities. The scheduling difficulties concern scheduling training and conference calls.

One of the bureaucratic difficulties is just in learning what are the different public library administrative structures and learning how to work within those structures. Another bureaucratic difficulty was in the staffing shortages and high staff turnaround in many of the larger public library systems. In addition to staffing shortages, many public librarians face huge time pressures and heavy workloads.

Benefits of the Project

In general, the supporting libraries characterized the benefits of the project as outweighing any challenges. They were all very glad to have been participants. The benefits of the project fall into 3 broad areas: building or strengthening a relationship with public librarians, putting the spotlight on consumer health, and creating MEDLINEplus. One aspect of building a relationship includes things like learning what public libraries are doing in the area of consumer health and learning how public libraries operate in general. Putting the spotlight on consumer health was perceived as a benefit because it also raised consumer health as an important concern in the eyes of some public library administrators. Putting the spotlight on consumer health from the national level also created a good entry point for some public libraries to really start focusing on consumer health. The creation of MEDLINEplus was listed as a benefit of the project.

Role of the Public Library in Meeting Consumer Health Needs

There were very few concerns expressed about the role of public libraries in meeting consumer health needs. Overall the supporting librarians were enthusiastic about the job that public librarians were doing in supplying health information. The only concerns expressed were about medical libraries learning to work within public library systems. The supporting libraries felt that public libraries have big responsibilities and limited resources. The public librarians are generalists and are not accustomed to focusing heavily on one topic such as health. Several of the supporting libraries acknowledged that working with public libraries was an entirely new venture and that they would need to learn about the public library environment.

A second broad observation about public libraries and consumer health information deals with the importance of training. Many of the supporting libraries felt that because public libraries play such an important role in providing health information that training becomes increasingly important. Historically some public libraries have been reluctant to deal with health reference, and training was seen as one way of overcoming this reluctance.

When discussing the role of public libraries in meeting consumer health needs, the overwhelming majority of supporting librarians discussed the important role that public libraries play in meeting consumer health needs. This role was characterized as vital. The public libraries are seen as being important places for supplying health information. In some small communities, the library might be the only place to go for health information. To better meet the need for health information, one supporting library suggested that the public libraries might need to forge partnerships with other community agencies or organizations for supplying health information.

Impact of the Pilot Project on Public Library Patrons

One of the goals of the pilot project was to learn how the National Library of Medicine could help public libraries meet the health information needs of the public. In order to meet this goal, it is necessary to understand the public's health information needs and the public libraries' role in meeting those needs. From the beginning of the project, there were plans to gather data from library users about their health information needs.

One method of learning about the public's health information needs was to conduct several focus groups with library users. The first focus group was held at the 96th St. Branch of the New York Public library for 10 library patrons on February 26. On March 18, the second focus group was conducted at the Dorchester County Public Library in Cambridge MD for 8 library patrons. The final patron focus group occurred at the San Antonio Public Library on April 9 for 7 patrons.

Despite the small numbers of groups and participants, the groups' compositions reflected the diversity of library users. The focus group participants ran the gamut of Internet and library experience. There were users who had barely touched computers and there were users who were quite computer literate. Due to the voluntary manner in which group participation was solicited, most focus group participants were at least fairly frequent library users. Some of the patrons, especially in Dorchester County were community health partners and were attending the focus group as part of their work as health professionals in the community. All in all, these focus groups did a credible job in representing the wide range of user skills and experiences that might be found in a typical public library.

Each focus group was organized around three broad topics: sources of health information, general types of information sought, and MEDLINEplus feedback. The actual questions would vary from group to group depending on each group's interest and experience. Some other topics that were covered include how patrons use health information, Internet search strategies, where they access the Internet, and promotional/advertising ideas.

Health Information

Each of the focus groups began with a general question about where the patrons go to find health information. The majority responded with either books or computers. The participants were accessing health books from personal libraries, bookstores, public libraries, and medical libraries. Within the library, patrons referred to both reference and circulating books. The term "computers" was ambiguous and could refer to either stand alone databases within the library or the Internet. Of those who used computers in the library, the most frequently cited example was the Health Reference Center. Of those who access the Internet, some sites specifically mentioned by name include Dr. Koop, NOAH, and Mayo Health Oasis. Other places where people go for health information include friends and their doctor.

The question about general types of health information sought was asked with the intent of discovering broad categories of health information. The replies ran from general categories to specific health topics. The general types of categories that were mentioned include physician and hospital information, diseases/conditions, drug information, information written for children, wellness information, alternative medicine, and women's health.

When discussing how they were using health information, most of the participants stated that they took the information to their doctor or other health professional. Some discussed searching for health information for family members or friends. One person mentioned searching for information they were too embarrassed to talk about with their doctor.

Internet Searching

General discussions about searching the Internet and using computers were held in some form with all the focus groups. When asked where they did their Internet searching most participants replied either at home, work, or the public library. The factor weighing most heavily in determining where to use the computer was convenience. Despite the fact that the computers in the library might have faster connections, most people still preferred searching at home if possible. Most people utilized an Internet searching strategy that relies heavily upon the big search engines. They typically begin by entering search terms into a search engine and seeing what emerges. One participant expressed concern about evaluating Internet health sources, and it was suggested that some print guidelines for evaluating web sites would be helpful.

Many patrons mentioned the limited amount of time available to use library workstations. Most libraries have per session time limits when there are other patrons waiting to use the terminals. Focus group participants expressed a desire for MEDLINEplus "how-to" brochures, so they could plan their search strategy before sitting down at the computer. Thus they could maximize the amount of time spent searching and downloading pertinent information.

MEDLINEplus

Much of the focus group time was spent in discussing MEDLINEplus. Most of the participants who were familiar with MEDLINEplus had discovered the site through their public library either directly from an interaction with a reference librarian or through a class taken at the library. Many of them mentioned learning about general health information on the Internet from a librarian or class in the library. They also mentioned discovering health information by surfing the web on their own.

A general discussion of MEDLINEplus began with a question about what sections of MEDLINEplus had been used. The "health topics" page was the most commonly cited section. Other areas of MEDLINEplus that were mentioned include dictionaries, organizations, and search databases. In general the participants were favorably impressed with the parts of MEDLINEplus that they had used. On the negative side, however, one

participant discussed her MEDLINEplus use strategy stating that she did not have much luck. She could not find what she was seeking in dictionaries or health topics. She said that she finally found what she was seeking, but she does not know how she did it. She feels that her ultimate success was solely by accident.

The general comments about MEDLINEplus often seemed to mirror each other on the positive and negative side. There were participants who stated that MEDLINEplus was easy to navigate, but there were also participants who discussed difficulties with navigating the site. For each participant who discussed liking the statement about leaving the MEDLINEplus site, there were participants who stated that they found that statement to be distracting and time consuming. There were participants who found the dictionaries useful and there was the participant who did not have any luck using the dictionaries.

There were many constructive suggestions for improving MEDLINEplus. The most universal suggestion was to improve the search function. One participant felt that the search box should be moved to a more prominent location. Scope notes were recommended to discuss what is covered within each broad topic. It was also suggested to include a scope note for topics not included. This scope note should point to other areas where information about that topic might be found. Some other suggestions include adding a frequently asked questions section, adding see references, adding a note about how many pages a document would have before loading and/or printing, indicating in the overview section which one provides the most comprehensive overview, and creating a print user guide. Many of the suggestions centered on adding topics. Some of the suggested topics included better access to drug information, online support group information, information for caregivers, and sociological issues.

The participants were asked about organizing the health topics page. There was general agreement that this was necessary especially as the number of topics increases. The top ideas for organizing the health topics page fall into the following categories: organize by letter of the alphabet, organize by body system, and organize by gender or age groups. Other suggestions include providing a image map of the human body. Including both lay and technical medical terms as access points was also suggested. One participant suggested looking at health reference books to see how they organize information. Many participants suggested providing multiple organization schemes and access points.

Document Delivery

Although the issue of document delivery itself was not of concern to the participants, the question of access to full text documents was a major concern. There was general agreement that more access to full text documents was necessary both through MEDLINEplus and in general. Time was the biggest concern with document delivery and the biggest reason why access to full text documents is so critical.

Outreach/Promotion

The focus group at the Dorchester Public library was comprised primarily of health professionals. This group was asked for ideas about promoting and/or advertising MEDLINEplus. Some of their suggestions included advertising at clinics, putting the brochures directly into the hands of health professionals to pass on to consumers, planning for local press coverage, sending packets of information to local schools, and better utilizing television. These health professionals were quite enthusiastic about MEDLINEplus and the importance of getting health information into the hands of the consumers.

Summary

For the library user, MEDLINEplus is the most visible manifestation of the pilot project. The library users represented in these focus groups were overall quite pleased with what they had seen of MEDLINEplus. They had several suggestions for improving MEDLINEplus that ranged from the search function to scope notes. Many suggestions for organizing the Health Topics section also emerged from these groups.

The most important factor for these consumers was whether they could find information on their topic of concern at the time that they need it. They wanted to have full-text, understandable, reliable information on their particular area of concern. In many instances, the consumers were still utilizing books, and were often going to the library to consult a reference book or checkout a circulating book because that was the best way to obtain full-text understandable information. They still rely upon print and would also like to see some print user guides especially on using MEDLINEplus and on evaluating health information on the Internet. Overall the focus group participants were pleased with MEDLINEplus and their local libraries' performance in providing health information.

Impact of the Pilot Project on MEDLINEplus Usage

During the pilot project, NLM monitored the usage levels of MEDLINEplus, PubMed, and LGM from selected participating libraries and library systems. Of the 39 participating libraries, 35 library systems representing approximately 161 discrete library locations were included in the monitoring data.

Usage data versus librarian reported usage

Early numbers, in late October and early November, showed a similar pattern in the public libraries, to overall MEDLINEplus usage. There was a small increase in usage among participating libraries starting in January and peaking in late March, early April. In June, the most recent monitoring period, activity had dropped off, returning to the level of usage recorded in November 1998. Figure 1 illustrates the number of successful hits to HTML pages from the representative network addresses being monitored.

Training issues and the incremental improvements to MEDLINEplus may have affected the early usage data for MEDLINEplus. Some of the participating libraries conducted their initial project-related trainings before MEDLINEplus was available, thereby affecting those participants subsequent use of the resource. Also many participating librarians commented on the relatively low utility of having only a handful of health topics on MEDLINEplus when it was first available. At that time they still relied heavily on familiar sources such as Health Reference Center.

A majority of participating librarians claimed that their use of MEDLINEplus had only recently (late Spring) taken off. With the greatly expanded health topics' list, they reported using MEDLINEplus more frequently as their primary or secondary health reference resource. However, the June 1999 monitoring period data do not support this impression.

Overall, MEDLINEplus usage in the public libraries has not been particularly remarkable throughout the pilot project. Averaging the HTML hits out across all monitored sites, there are only 3-4 hits per site per week. This translates to only about one user session per week per library. In contrast to the relatively flat usage statistics from project participants, the overall usage of MEDL has increased approximately 18% from the previous monitoring period in April, to the most recent period in June.

Figure 2 shows the total number of hits per library for all 35 monitored libraries, during the course of the project. Note that the New York Public Library System, Charleston County Public Library, and Baltimore County account for 53% of the total hits by all 35 institutions being monitored. The sheer size of these library systems and their multiple branches likely account for the high numbers of hits to MEDLINEplus.

sCid, Victor and Fred Wood. "Results of Monitoring NLM Web Server Usage From Selected Public Library Workstations." National Library of Medicine. 1999

Figure 1.

MEDLINE Plus - Weekly Number of Hits from 35 Public Libraries.
HTML Files, Enhanced Address Set, All Successful Hits.
October 22, 1998 - July 3, 1999

Figure 1.

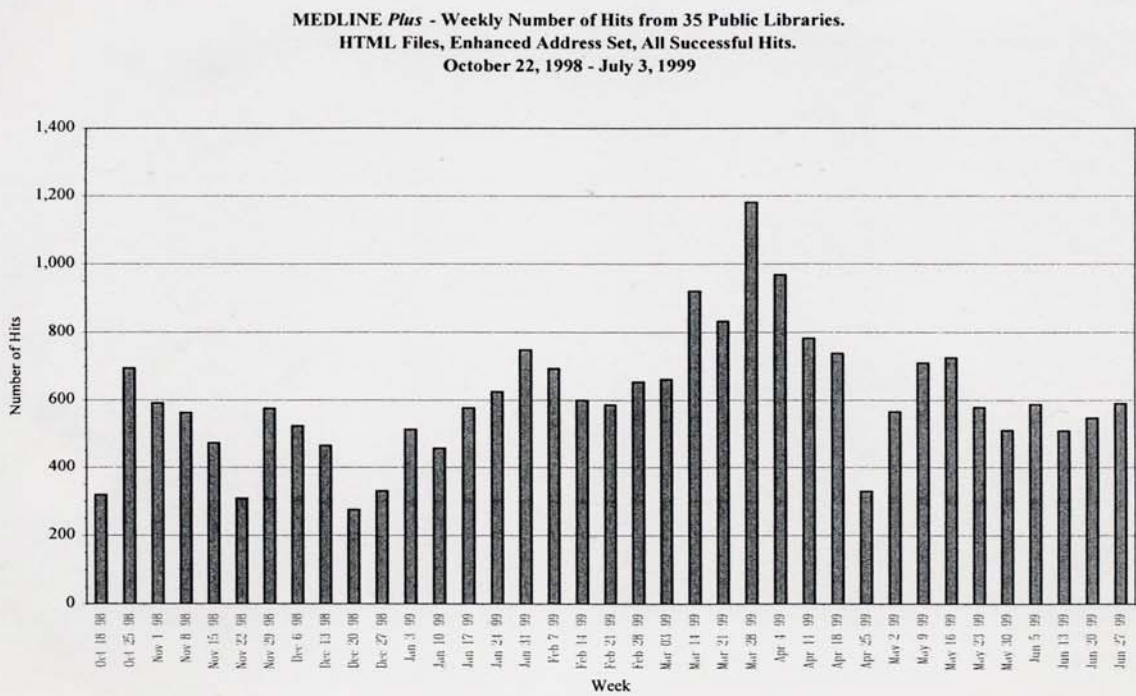
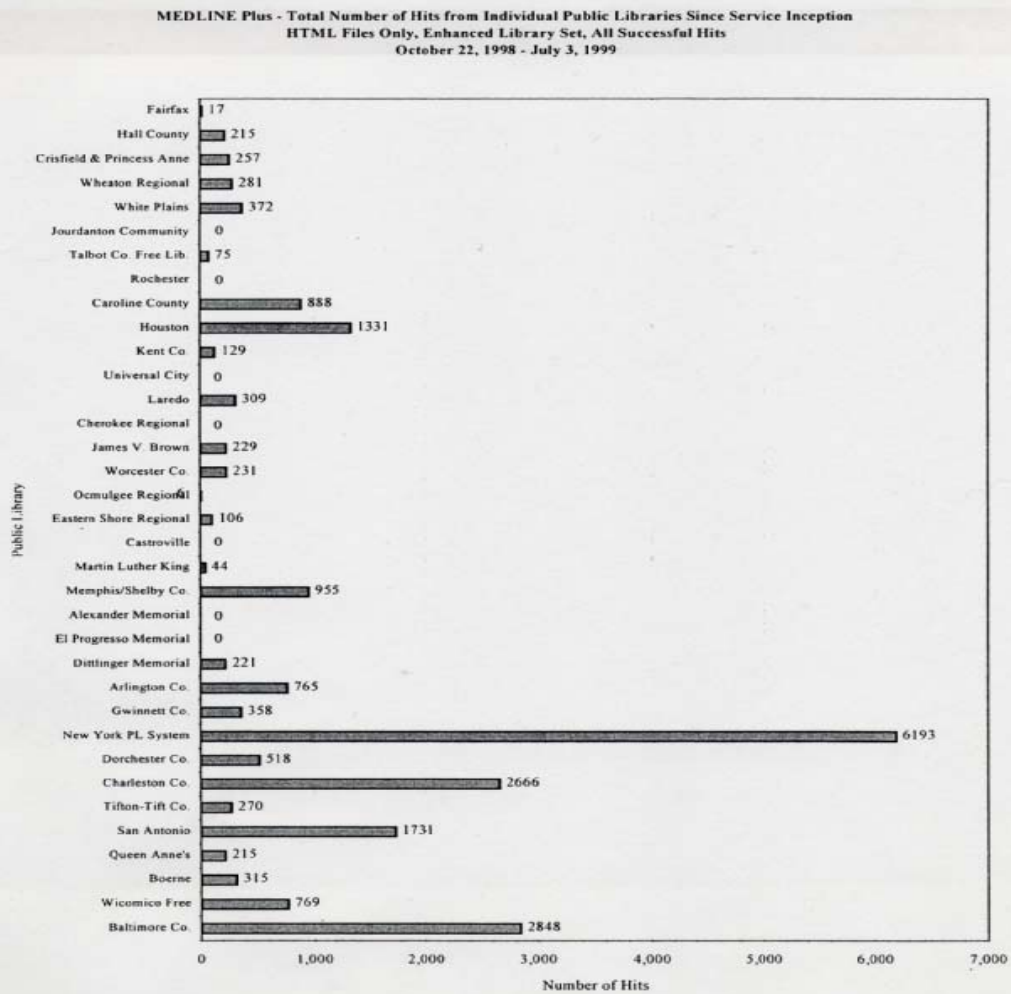


Figure 2.

**MEDLINE Plus - Total Number of Hits from Individual Public Libraries Since Service Inception
HTML Files Only, Enhanced Library Set, All Successful Hits
October 22, 1998 - July 3, 1999**

Figure 2.



The nature of public libraries and new online information tools

Although MEDLINEplus continues to receive rave reviews from librarians and patrons, changing the actual behavior of such users occurs slowly in public libraries. Reference librarians who have used Health Reference Center and the Merck Manual for years will take time to get familiar with and rely on a new resource. In libraries where health reference accounts for only a small percentage of their total reference activity, librarians may only infrequently access MEDLINEplus, further slowing their migration to the new information source.

While discussing her experience with MEDLINEplus, one rural librarian brought up a significant point about her patrons, which may apply more broadly. Two of her largest patrons groups are seniors and school children/adolescents. The seniors are keenly interested in health information, but are computer and Internet shy. Whereas, the students are computer and Internet savvy, but their interest in health is limited primarily to diet and fitness topics. The librarian believes this partially explains why the newly purchased collection of medical books is more heavily used than MEDLINEplus.

Another participant volunteered that most of his patrons still need a great deal of hand holding when it comes to using the Internet. A general feeling was expressed by a number of librarians that sending a novice computer user to a CD-ROM product such as Health Reference Center is easier for them to navigate than is the Internet. This especially affects understaffed libraries, where time is always a scarce resource in high demand.

Conclusion

Although the usage statistics gathered by NLM do not reveal a strong correlation between project participation and MEDL usage at this time, it would be premature to draw conclusions from this data. There is no comparison data with public library sites not in the project, so it is difficult to draw conclusions about the impact of the project on MEDLINEplus usage in the participating libraries. The procedure of introducing a new reference product, training staff and users, and evaluating its usefulness in the public library is a lengthy process. The fact that MEDLINEplus was a resource still under construction throughout the project and debuted after the project was initiated only compounds the timing issue. Public library patrons and even librarians are not familiar with NLM and its mission. Patrons have instant name recognition with Dr. Koop and the Mayo Clinic websites. And after years of using Health Reference Center, public librarians are effortlessly familiar and confident with that product. Lastly, the Internet is still a confusing and new landscape for many library patrons and public librarians. In many of the participating libraries, basic computer and Internet classes are filled with new and novice users just beginning to master the mouse.

However, there is much to be encouraged by. The response to NLM's effort to organize and evaluate consumer health information on the Internet was uniformly positive from patrons and staff. In every library visit, focus group, and conference call conducted

⁶ The usage statistics from Mayo and Dr. Koop within public libraries is unknown and therefore not available for comparison.

throughout the evaluation, participants expressed a solid association between the project and MEDLINEplus. Librarians felt strongly that MEDLINEplus was an appropriate and useful tool for consumer health information and they appreciated the authority of NLM's expertise. Those librarians and patrons who successfully used MEDLINEplus, reported they would use it again and many suggested it to family and friends.

Discussion & Recommendations

The pilot project generated a substantial, but subjective, amount of activity in participating libraries and the communities they serve. The librarians were free to implement the project to the extent most appropriate for their patron population and within the available resources of their library. This approach resulted in varying levels of training, promotion, and outreach across the 41 library systems. Comparing libraries according to the scarce quantitative data reported would therefore be misleading and of little benefit. Instead the evaluation team looked at the characteristics of individual libraries and their efforts which resulted in positive outcomes.

In Part II, the activities and impacts of participating in the pilot project were disclosed as reported to and observed by the evaluation team. The following section is a qualitative discussion in which the broad findings and shortcomings, individual successes, and recommendations will be addressed.

Training

Staff training was one of the biggest successes of the pilot project. Both participating and supporting librarians expressed the crucial need for training in the area of health information. The participating librarians were, for the most part, highly appreciative of any training that they received. Much of the staff training was conducted in the early months of the project.

Patron training experienced a more limited success. Patron training was not conducted as uniformly or as widely as was staff training. It was difficult to measure the success of patron training efforts. Many libraries did not keep statistics on one-on-one training sessions. It is difficult to reach a consensus about what constitutes a significant number of persons attending a training event. For many of the smaller libraries or libraries providing weekly training events a small number of attendees like 3 might be considered significant. In some settings 6 class participants might be considered significant while in other settings that same number might be disappointing.

For patron training sessions, workshops and classes which focus on a specific disease/condition or address a particular area of health are more popular and actually bring in more participants than sessions which are billed as general health information classes. Likewise, general Internet classes are quite popular, and some libraries had success in including health as one of the topics to be covered in the general Internet classes. Patron training is difficult in many library settings due to lack of good training space. The hands-on classes, where they were available, were perceived as being more useful than demonstration classes.

NLM's role in training was more of supplying background support or documentation. Many of the training sessions followed NLM course outlines or even the NLM

PubMedJIGM training manual. Many of the training sessions included handouts that came from NLM and NN/LM web sites. There was not much supporting documentation available (course outlines, handouts, etc.) for conducting patron training. Most of the librarians felt that by being better trained they were in turn better able to train patrons. Therefore any role that NLM would play in training staff, would indirectly assist in training patrons.

Staff Training Pitfalls

One of the biggest pitfalls in the staff training was in terms of timing. Most of the staff training was completed prior to the release of MEDLINEplus. Even in the instances where MEDLINEplus got included in training, it was often only as a demonstration and not in any kind of depth. The librarians have indicated that MEDLINEplus is a better tool for the public and they wish that they had received more (or any) training on MEDLINEplus.

Other difficulties with staff training stem from scheduling problems. It was difficult in many of the larger library systems, and some of the systems were never able to complete their staff training due to scheduling difficulties. The supporting librarians often had to be creative in how, when, and where they offered the training.

A final pitfall is that many of the participating libraries had no plan for ongoing training. There was no plan for training new staff or for completing staff training. Even in instances where there was an acknowledged need for MEDLINEplus training, there was no plan in place for getting staff trained on MEDLINEplus. Along a similar vein, many of the librarians were asking for refresher or advanced courses, yet their library system had no plans in place for providing this level of training.

Characteristics of a Successful Staff Training

- ◆ Trained a significant percentage of staff
- ◆ Staff training covered many library departments and/or branches (depending on the size and extent of system participation)
- ◆ Plans in place for ongoing staff training

Success Story

Baltimore County Public Library is an example of a successful staff-training program. One representative from each of 15 branch libraries attended half day training at the University of Maryland's Health Sciences Library. Each representative returned to their branch and trained the other full time and part time staff. This resulted in a total of 120 full time librarians plus part time staff being trained in Baltimore County. Local medical librarians have offered to teach refresher courses and advanced topics to the public librarians as needed. This training helped overcome the hesitancy of librarians to use MEDLINE. Before the training, they believed that they would need to learn MeSH terminology and rules.

The Baltimore County training plan also allowed them to deal with MEDLINEplus training. When they discovered that they would need to train librarians on

MEDLINEplus, they were able to develop a MEDLINEplus training plan knowing that they would only have to train the 15 branch representatives.

Staff Training Recommendations

- ◆ Work with the NN/LM to develop a general medical reference course outline for public librarians
- ◆ Working through the NNILM, develop and implement a train the trainer course. This would include PubMed, MEDLINEplus, general medical reference, and an introduction to the web based modules so that they could use those for training at a local level.
- ◆ Develop an outline and other basic training session tools public librarians can use as a template for planning their own patron training sessions.
- ◆ Enlist appropriate groups to review or co-develop the above training course outlines and tools.

Patron Training Pitfalls

The only real shortcoming regarding patron training was the lack of any reported activity in a small number of participating libraries. Even in the libraries reporting no patron training, one-on-one training was probably occurring in the course of the reference encounter.

In libraries that did schedule patron training classes, the low turnout often discouraged many librarians from offering subsequent classes.

Many public libraries faced obstacles in providing training. It is difficult in many libraries to find a good location for training. Few libraries have good training rooms, and many libraries face a computer shortage. Even the libraries that had space available for an entire training class, could only do a demonstration due to computer shortages.

Conducting a hands-on class also required more staff than many public libraries could devote to a single training.

Characteristics of Successful Patron Training

- ◆ Ongoing in some form or another
- ◆ Employs several different approaches
- ◆ Includes both NLM resources and general health information
- ◆ Focuses on a specific health concern, disease, or condition

Success Stories

San Antonio Public Library worked with the University of Texas Health Sciences Center San Antonio (UTHSCSA) to create a MEDLINEplus training. This was a good joint effort between the public and supporting library. There was a pretty good turnout and response to this training event. In addition to the special MEDLINEplus training, San Antonio Public library offers regularly scheduled Health on the Internet Classes. They have a special health website and the Internet trainers use that website as the basis for their Health on the Internet Classes. The San Antonio public library is fortunate to have a

computer/Internet classroom equipped with 18 workstations for hands-on training of staff and patrons.

The Boerne Public Library also has a successful patron-training program. Boerne Public is a good example of patron training done in a setting with limited training resources. They don't have a training facility or special computer training room, yet were able to implement ongoing training. Boerne does offer regular Thursday training sessions. Although these sessions tend to focus on general Internet resources, health is included as a major topic in those classes. In addition, the Boerne Public Library has a volunteer who is available on a regular basis to work with patrons on an individual basis. From Oct.- May, 102 patrons attended 33 training sessions.

Patron Training Recommendations

- ◆ Develop a web based training module for PubMed and MEDLINEplus
- ◆ Develop consumer based MEDLINEplus and PubMed brochures with enough instructional information to get users to the site and allow them to start using it.
- ◆ Enlist MLA Consumer and Patient Health Information Section (CAPHIS) members and other appropriate groups to review or co-develop consumer instruction materials.
- ◆ When possible and appropriate, focus training sessions on a specific patient/consumer population or around a disease or condition group, rather than general health information.

Promotion

Promotional activities undertaken on behalf of the pilot project were a source of praise and consternation. The promotional items provided by NLM were consistently rated highly by participating libraries and nearly all participants mounted some type of promotional campaign. However, the tangible results of these efforts were illusive. While the librarians were adamant on the value of providing patrons something to take with them, they were simultaneously ambivalent regarding the patron impact of such handouts. The lack of measurable outcomes resulting from activities carried out during the project was disheartening to some participants.

Generalizing successes and failures according to a specific set of variables is challenging in light of the missing impact factor. Staff size, library hours, community size, and opportunities for liaising with other community groups all affected the extent to which a library "successfully" promoted the project. In the end, by providing the project participants with a wide variety of possible promotional activities, each library was able to pick and choose the types of activity best suited to their individual situation. Passive promotion such as making the brochures and bookmarks available and mounting an in-house display were activities almost every library was able to carry out. Active promotion, such as visiting physicians, maiming a booth at a health fair, and giving demonstrations to community groups, was something highly motivated small libraries and better staffed large libraries were able to accomplish. Successful libraries were those that implemented an assortment of activities within the library, the professional health care population, and the community at large.

Promotional Pitfall

The primary difficulty of the promotional campaign was its perceived failure to generate appreciable results within the library's patron community. Whether the campaign genuinely failed to generate health information seeking behavior is virtually impossible to determine. However, a significant minority of participating librarians perceived the results of their activities as less than spectacular.

Characteristics of Successful Promotion

- ◆ Conducted a variety of passive and active promotional activities.
- ◆ Promotion efforts extended beyond the library walls with activities occurring at community events and other locales.
- ◆ Participants "piggy-backed" project promotion on other events and activities, which were already well established or had their own promotion campaign.
- ◆ Television coverage or appearances on a live radio show.

Success Stories

There were many success stories among the library participants. The following libraries all carried out a wide range of activities, both passive and active.

- ◆ Rochester Public library invited Congresswoman Louise Slaughter to use MEDLINEplus at the library. Rochester area news media were notified and a segment highlighting the project appeared that evening on the local television news.
- ◆ Charleston County partnered with the Medical University of South Carolina to man a booth at a citywide health and wellness fair and a senior health screening day. The librarian also appeared on a local television news show to talk about the project and patient education.
- ◆ Tifton's Coastal Plain public librarian was invited to participate in two radio call-in shows, including one station with a large audience, across multiple states. A significant number of patrons mentioned the shows when seeking reference assistance at the library.
- ◆ Cherokee Regional Library gave presentations and demonstrations to a broad array of community and civic groups, including; a high school student group, a local healthfair, and the Library for the Blind. The library also liaised with MobileMed, the home health care nurses' van, which now visits the library to provide flu shots and blood pressure screening services to patrons.
- ◆ Alexander Memorial (Cotulla), a very small rural library, used the project to showcase the library's services to several local government bodies, resulting in a larger budget for the library and dispelling the library's reputation as a "warehouse for antique books."

In addition to the activities listed above, each of these libraries, participated in outside events, submitted articles to the local media, and created in-house promotional displays. By partnering with other organizations and using the media outlets available to them, these libraries were successful in promoting the library as a source of consumer health information and patient education

Promotion Recommendations

- ◆ Continue to develop and produce high quality PR materials especially bookmarks and brochures, but also consider pens as well. These materials should clearly identify the MEDLINEplus URL and provide a brief summary of what users will find and how they can get started using the site.
- ◆ PR material photographs should include minorities.
- ◆ Promote MEDLINEplus as the consumer health information source in all promotional activities.
- ◆ Suggest evaluation techniques for gauging efficacy of promotional efforts.
- ◆ Reinforce the educational role of the promotional campaign and de-emphasize the expectation that promotional efforts will generate higher usage of project resources within the library.
- ◆ When promoting training sessions, outreach efforts, and other events, tend toward the specific rather than promoting the session as a general health information session. Select the patient population (women's health, senior citizens) or a disease/condition group to focus the event's promotion around.

Outreach

Outreach efforts targeting specific community groups, although carried out by fewer participants, generally received higher marks for satisfaction and positive outcomes. Outreach implied that library staff directed their educational and promotional efforts at a particular community of potential users. The level of effort and time commitment for outreach activities was usually higher than that of similar promotional activities. Librarians developed specialized programs and demonstrations, gathered information and created take-home packets for participants. Others made a concerted effort to liaise with local health care professionals, clinics, and hospitals.

Outreach Pitfalls

Too many libraries addressed their outreach efforts only to busy physicians and hospital staff members. In many instances, public librarians made a single attempt to contact physicians and hospital or clinic staff members. When the offer to demonstrate information resources or provide promotional materials was ignored, the library gave up on its outreach efforts.

Characteristics of Successful Outreach

- ◆ Contacting not-for-profit health organizations, patient support groups, and others who have an established interest in providing health and wellness information to their clients and members.
- ◆ Approaching health care professionals beyond just busy physicians. For instance, school nurses, the local health department, senior center administrators, and clinics that serve migrant workers and low-income patients.

- ◆ Tailoring programs and demonstrations to appeal to the unique information needs of the group.

Success Stories

For those libraries that attempted genuine outreach in their community, there were many success stories, which resulted in information seeking activity on behalf of the participants.

Brooklyn Public very successfully hosted two groups, which have continued to use the library's facilities and resources for their members. The staff demonstrated library and Internet resources to a sarcoidosis support group, incorporating MEDLINEp/us and NLM promotional materials. Following that presentation the group has started meeting at the library and members frequently use the resources presented. Brooklyn held a similar session for the Health Information Access Coalition, an organization of over 100 health-related non-profits, clinics, AIDs service organizations, and others. The Coalition subsequently requested library assistance in gathering information for one of its member organizations. In both instances the library foresees an ongoing relationship with these community groups.

The Dorchester County librarian fostered relationships with a number of individuals in the local health care provision community. After sending out information packets to local professionals, she invited representatives from the health department, a senior center, a local clinic, and others to take part in a discussion of consumer health needs among their clients. The participants were enthusiastic to liaise with the library and make use of the services it has available.

Outreach Recommendations

- ◆ Encourage public libraries to seek out patient support groups, health-related non profit organizations, senior centers, health departments, school nurses, hospitals, physicians, pharmacists, and any other community group or individual which could directly benefit or whose clients could benefit from the information services available through the library.
- ◆ Outreach should be tailored to the probable needs and interests of the target population. Avoid general presentations on health information.

Interlibrary Loan/Document Delivery

NLM played a limited direct role in document delivery. The supporting libraries worked independently to create arrangements with public libraries (as appropriate and requested). NLM's role was limited to its traditional role of supporting the DOCLINE and Loansome Doc services.

Due to the limited numbers of actual documents supplied, and NLM's limited role in the document delivery implementation of the pilot project, NLM's role in document delivery should remain at a low level. It would not be a good use of NLM resources to invest much time or money into large-scale document delivery efforts at this time.

Pitfalls

In many public libraries, document delivery and interlibrary loans refers only to books. Many public libraries do not have a tradition of dealing with article delivery. Often the interlibrary loan office is a separate department within the library system, far removed from the reference desk. Individual librarians might have very little contact with ILL and document delivery. In addition many librarians believe that patrons are unwilling to wait or pay for articles. The librarians' belief that patrons don't want document delivery becomes a self-fulfilling prophecy because the librarians in turn do not promote or suggest article delivery.

Many of the difficulties and misunderstandings in establishing document delivery relationships stemmed from bureaucratic difficulties at both the participating and supporting libraries. In most of the supporting libraries, interlibrary loan service was also a completely separate administrative unit. Often choices about charging were out of the hands of the supporting librarian. Decisions about charging, in many of the supporting libraries were made at very high administrative levels and the librarians working with the project had little leeway in negotiating costs.

Characteristics of Success

- ◆ Creating a document delivery system that is easy to use and responds to local patrons' needs.
- ◆ Advertising and promoting document delivery services.

Success Story

The Eastern Shore Regional Library worked with the Eastern Shore AHEC to set-up Loansome Doc access for its libraries. Five of the Eastern Shore libraries took advantage of this opportunity to create a new document delivery system. Of the three libraries that did not establish Loansome Doc accounts, two continued to request articles through the Eastern Shore Regional Library, which did have a Loansome Doc account. All 5 of the libraries with Loansome Doc accounts used them at least once to request articles.

This was a good arrangement. If the Eastern Shore AHEC could supply the articles from its collection, they were sent for free. If the Eastern Shore AHEC could not supply the articles, it would request them for the library. The Eastern Shore AHEC worked to find locations that would supply the articles for free. During the project, there were only about 2 articles for which there were charges.

The participating librarians were all very happy with this arrangement. Their biggest concerns were that the arrangement would not continue. This arrangement worked well because of the personal commitment of the Eastern Shore AHEC librarian in fully training all of the librarians to deal with medical interlibrary loans. The participating public librarians that took advantage of this service were all in smaller libraries and were

in closer contact with the library staff working with interlibrary loans and with library patrons requesting articles.

While this is a good arrangement, and is certainly a success story, there were some problems. There were still 3 Eastern Shore libraries that did not take advantage of this opportunity. They chose a route of tradition over innovation. Overall, there still were not significant numbers of article requests.

ILL/Document Delivery Recommendations

- ◆ Create sample document delivery arrangements, how-to guides, and patron ILL agreements/disclaimers. Samples could be made available through the NN/LM to interested medical and public libraries.

Pilot Project Funds

The beneficial impact of the \$5,000 given to each participating library was greatest among the smaller libraries, especially those with limited computer equipment and small budgets for their health collections. In some cases the library was able to purchase its first Internet accessible computer workstation. Other libraries were able to set up a dedicated workstation for health related queries.

Many libraries divided their funds between computer equipment and collection development. Relatively expensive reference texts were updated with new editions and popular circulating titles were purchased. All libraries reported heavy usage of the new circulating materials, especially single topic (specific disease/condition) books, those written by popular authors, consumer health videos, and care-giver handbooks.

Funding Pitfalls

The only drawbacks encountered with the pilot project funding were the limitations placed on certain libraries by administrators and city officials. Originally, the funds were supplied by NLM for any project-related expenses. However, library bureaucracies and town councils in some instances placed restrictions on how the library's project money could be spent. Librarians affected by these limitations expressed frustration and disappointment with the level of activity they were able to carry out during the project.

Successes

Many librarians commented on the positive impact these new resources had on the library and its patrons. Staff and users were pleased with the library's capacity to fill a new or formerly neglected information role. The ability to provide health information also raised the position of the library in the community. Previously regarded as "just a place to find popular novels and borrow free videos", one library used its new esteem to obtain higher funding from its city council. Regarding their new Internet access, another librarian commented, "Getting access to the Internet has been like adding a whole new wing to the library."

Co-operative Relationships Between Public and Medical Libraries

Participation in the pilot project created new relationships and strengthened existing relationships between medical and public libraries. Most, if not all, the participants seemed satisfied with the relationship that grew out of project participation. All of the supporting libraries said that they were planning on continuing the relationship in some form after the end of the project. Relationships were strengthened through a better understanding of each other's resources and services.

The development of these relationships did not significantly impact the workload of the supporting libraries. Most of the work built upon already existing activities. This project did not significantly impact the workload of the supporting libraries because each supporting library was only working with a very limited number of public libraries. The development of these relationships would not work if each supporting library were asked to take on too many public libraries. The relationship worked best where the ratio between supporting library and public library was small.

Pitfalls

Some of the challenges faced in creating these relationships rest upon the different bureaucratic structures of the two institutions. There was often a lack of understanding between the two institutions of how the other institution operated. The supporting and public libraries had different priorities, and these differences were often not communicated to nor fully understood by each other. In some cases, these bureaucratic differences were allowed to become roadblocks to a successful relationship.

Other relationship pitfalls include basing the cooperative relationship on only one factor. An example of this would be a public library that only used its supporting library for initial training. In many cases, the relationship between the two libraries was not fully actualized because the relationship was built on only one factor such as training or document delivery.

The relationships that were the most successful were built on regular communication. The relationships that ran into problems were ones that involved very irregular communication patterns. The lack of regular communication originated from both the supporting and the public libraries. Often the supporting libraries felt that they were there if the participating libraries needed them, but they never checked-in to see if they were needed. Likewise, many of the public libraries did not communicate with their supporting library when they needed assistance.

Characteristics of Success

- ◆ Regular or routine communication between the two institutions
- ◆ A relationship based on more than one element (in other words its not just a training or document delivery relationship)
- ◆ Plans to continue the relationship beyond the end of the project
- ◆ The relationship grew increasingly strong throughout the project

Success Story

The relationship between the Medical University of South Carolina and the Charleston Public Library worked well. The Charleston County Public Library project coordinator said that she felt like she now had contacts at MUSC upon which she could call. The two institutions worked together on training, promotion, and document delivery. A Loansome Doc arrangement was worked out between the two institutions although the public library did not use it during the course of the project. In terms of promotion, MUSC offered to present joint demonstrations to community groups using MUSC equipment if necessary. MUSC developed a PowerPoint presentation about the project and health information for use with community groups. MUSC librarians also gave a presentation to the Charleston County Public Library Board of Trustees about the pilot project.

Although this was a good relationship, there were still improvements that could have been made. The relationship relied very much on one contact at the public library. Much of the relationship did not become institution to institution as much as it was based on person to person. There were often difficulties in knowing whom to contact at the public library beyond the project coordinator.

Cooperative Relationship Recommendations

- ◆ NLM should work collaboratively with already existing medical library-public library partnerships.

Evaluation

The actual gathering of user data proved to be a difficult task, and in the end there was limited data from library users. There are several reasons contributing to this limited user information. An early assumption in the course of the project was that the public libraries would be able to gather user data through the use of surveys or locally administered questionnaires. This proved to be problematic for a variety of reasons. Librarians as a rule deal in gross number types of statistics. There are not good mechanisms in place for gathering more specific types of information. Many of the library systems had regulations protecting patron confidentiality and were concerned that this type of survey might infringe upon that confidentiality. Another problem stems from the time it takes to plan, write, and implement a survey. Most of the public librarians were simply too busy to take on that type of time commitment.

Very few libraries attempted any sort of project evaluation in their own library. Of those who did, their success at getting feedback from patrons and staff members was limited. A small number of libraries provided surveys at workstations dedicated to health research. Only a few patrons took the time to fill out the surveys. The few that were returned, contained information that was usually too patron-specific to make any useful generalizations. None of the participating libraries attempted to document health reference encounters, except for the occasional "success story". Only two of the large, urban libraries surveyed their reference staff and Internet trainers.

Given the difficulties in getting user information from public libraries, the decision was made to gather user data using NLM staff and resources. Focus groups were the tools of choice for gathering patron information. For a variety of reasons, it was difficult to find libraries willing to host a focus group. Confidentiality is taken very seriously in public libraries, and often focus groups were seen as potential violations of patron confidentiality. It was difficult for the libraries to recruit participants. The focus group exercise was new in many of the library settings and the library users were not sure about what they were signing up for. There were not good mechanisms in place for librarians to identify potential focus group participants. In the libraries that did have a good focus group turnout, a librarian had personally recruited the participants.

Public librarians, already concerned about patron confidentiality have a heightened concern for confidentiality when it comes to dealing with health information. Many librarians are reluctant to ask about this type of information, and likewise many library users are reluctant to discuss this type of information request. It is also difficult to anticipate the timing of this type of request. Most people are interested in medical information only when they have a personal need for it. At any given time, there will only be so many patrons looking for health information and it is difficult to anticipate which patrons will be looking for this information ahead of time.

Once convened, it was often difficult to pull the information from patrons. NLM staff and Associate Fellows, who lacked extensive training in leading focus groups, conducted the focus groups. Often many of the patrons were reluctant to talk and just a few participants dominated the groups. A more prevalent problem was one of terminology. The participants often would not answer the questions as they were asked. Many of the participants would not understand the difference between a search engine and a web site, therefore when we asked them what web sites they visited they would often answer something like Yahoo as if we had asked about search engines. The participants also were often not as Internet savvy as anticipated and often could not discuss where they had been on the Internet. Another problem with the patron focus groups was a lack of experience with NLM products. Many participants had not used MEDLINEplus, or if they had they were not aware of it. They were, therefore, unable to discuss the NLM products in much detail.

Evaluation Recommendations

- ◆ Sponsor public library user surveys to gain a deeper more complete understanding of health information needs, uses, and access points of the general public.
- ◆ Sponsor usability studies to directly gauge and measure public reaction to and interaction with NLM databases.

Communication

The communication mechanisms set up by NLM proved to be an undisputed success according to participants. Public and supporting libraries were able to exchange ideas, obtain feedback, and submit reports with ease. The project listserv kept librarians updated on additions to MEDLINEplus and also functioned as a gentle reminder to use

the NLM consumer health website. The conference calls were appreciated for the instant feedback librarians could get from NLM's project staff, MEDLINEplus team members, and the supporting libraries. The project website served as a repository of project ideas and information that participants could access, as needed, to obtain suggestions for training, promotion, document delivery, or any other project-related activity. Busy librarians also commended NLM for the online reporting form, which significantly reduced the burden of submitting their monthly project data. The website was so popular that participants suggested continuing to make it available even after the project ended.

Communication Recommendations

- ◆ Continue to communicate updates and changes in NLM products to the public library community.
- ◆ Maintain a venue like the project web site where public librarians can share what they are doing in the area of consumer health.

Summary

Overall the participating public librarians and supporting medical librarians were enthusiastic about the Public Library pilot project. They felt like it had been a worthwhile endeavor and a good expenditure of their time and effort. By and large, the public librarians felt more confident handling health related reference requests as a result of the project. The supporting librarians emerged from the project with a strengthened commitment to working with public librarians in the area of consumer health.

While there was an overall positive response to the pilot project, there were also some challenges. Communication was often difficult between the participating and supporting libraries. The bureaucratic structures of some of the larger library systems made project implementation cumbersome. In many of the libraries, both large and small, high staff turnover made project continuity difficult. The many competing demands on the library staff's time adversely affected project participation.

Reviewing the project outcomes, it is crucial to bear in mind that health is but one of the many topics covered by public libraries and that the general public continues to rely on a variety of sources when seeking medical information. Thus, despite the enthusiastic response to project participation, there was very little significant change in the volume of health related reference requests or in the volume of interlibrary loan requests for health-related materials. However, this modest response to the pilot project should not dissuade future efforts. Although an increase in the volume of health related reference requests did not result from project participation, the participating librarians did emerge from the project feeling more confident in handling health related information. The positive response by librarians and the growing public interest in the field of health information indicate that NLM should continue in the consumer health arena.

Appendix A

Pilot Project Participants' Follow-up Questionnaire

I. ILL/Document Delivery:

1. Was there any change in ILL requests for medical journal articles for the overall period of the pilot project? If so, please describe. If not, any ideas why not?
2. Was there a document delivery/ILL arrangement already in place for medical literature, before the pilot project?
3. If there was no previous ILL arrangement, was one created for this project? And, what could NLM have done to facilitate or advise you on setting up your arrangement?
4. Briefly describe your document delivery/ILL arrangement for medical literature.
5. What are your concerns regarding ILL services?
 - ◆ Lack of funding for free document delivery to patrons
 - ◆ Charging patrons for document delivery
 - ◆ Other (please describe)

II. Promotion/Outreach

1. What promotional and/or activities (specifically) did you accomplish and (approximately) when did they occur?
 - ◆ Brochures, pens and bookmarks were available and/or handed out to patrons.
 - ◆ Library display on consumer health and/or MEDLINEplus
 - ◆ Visited or sent materials to local physicians, clinics or hospitals.
 - ◆ Demonstration or presentation to community group, health fair, or other event on the topic of consumer health.
 - ◆ Article or ad in library newsletter
 - ◆ Newspaper article or Public Service Announcement
 - ◆ Radio show appearance or PSA
 - ◆ TV news or cable show appearance or PSA
 - ◆ Other (please specify)
2. In your opinion, which of these promotional activities had the greatest impact? Or was there no noticeable impact?
For example:
3. Did patrons mention seeing a newspaper article, hearing a radio announcement, or seeing a local news segment on the project?
4. Did a patron mention his/her physician recommended the public library or gave them a brochure or bookmark?
5. During the pilot project, did your library conduct any outreach activities to special
6. populations?
 - ◆ Local hospital/clinic staff
 - ◆ Patient or family support groups
 - ◆ Senior citizens
 - ◆ Nursing students
 - ◆ Middle or High-school students
 - ◆ Employee groups
 - ◆ Other (specify)

III. Pilot Project Funds

1. How did your library spend its funds?
 - ◆ Purchase medical reference books for collection
 - ◆ Purchase computer equipment
 - ◆ Training related expenses
 - ◆ Produced promotional materials
 - ◆ Other (please specify)
2. If you purchased materials for your collection (reference or the general collection)
 - ◆ Were they frequently off the shelf or checked out?
 - ◆ Did staff use them to answer reference questions?

IV. Training

1. Please approximate the number of persons trained during the entire pilot project on Medline, MEDLINEplus and/or other "health on the Internet" type trainings:
 - ◆ Staff:
 - ◆ Patrons:
2. Total number of sessions offered during pilot project:
 - ◆ Staff:
 - ◆ Patrons:
3. Does your library offer other types of health-related trainings?
 - ◆ For example:
 - One-on-one electronic resources (Internet or other) training
 - How to evaluate health information on the Internet
4. Did you offer health information training to patrons before the pilot project?
5. How could NLM or the NN/LM supporting libraries, assist your library with its staff training needs?

V. Impact of the Pilot Project

1. Do you feel your library met its goals for the pilot project? Please explain:
2. Prior to the pilot project, if a patron had a medical question which you were unable to answer, how would you assist them?
 - For example:
 - Did you refer them to another resource, such as a local hospital library, a university health sciences library or another public library? Did you use the Internet or other electronic resources to look for health information?
3. Did participating in the project change the way you handle medical questions?
4. In general, do you and your staff feel more confident assisting patrons with their health information requests as a result of the pilot project?

5. At your library, approximately what percentage of reference questions are health-related?
- 0-5% 6%-10% 11%-20% 21%-30% greater than 30%

Vi Other

1. Does your library have a relationship with a hospital library or university health sciences library where library staff can turn for medical reference assistance? (Please describe, briefly) Did this exist prior to the pilot?
2. Can you comment on how the pilot project has contributed to meeting the health information needs of your patrons?
(this could be a general comment on new services, trained staff members, additional resources, or a specific "success story")
3. In what ways do you think NLM can best assist public libraries in providing health information to consumers?

Appendix B

Pilot Project/Supporting Libraries

Follow-up Questionnaire

I. ILL/Document Delivery

- A. What type of document delivery support is your library providing to the participating libraries?
- B. If you are supplying documents, how many documents have you supplied? (broken down by participating library and month if possible)
- C. Are you charging participating libraries for document supply? (how much per loan?)
- D. Has participation in this project placed any noticeable additional workload on your staff regarding document delivery?

II. Promotion/Outreach

- A. What type of promotional/outreach support have you provided to the participating libraries?
- B. Were any outreach events conducted by your library separate from the project? (i.e. not in cooperation with one of the participating libraries)
- C. Have you participated in any special promotional/outreach events?
- D. What additional promotional activities could better help promote the project?
- E. What suggestions do you have for improving the NLM supplied promotional materials?
- F. In your opinion, which promotional activities have had the greatest impact?

III. Training

- A. What type of training did you provide to the participating libraries?
- B. Did you provide any specific training on MEDLINEp/us?
- C. How many training sessions did you conduct? (broken down by type of training if possible) How long was each individual session?
- D. What other type of training support did you provide for the participating libraries? (i.e.- helping write documentation, helping plan a class)
- E. Approximately how much time did you spend on training activities?
- F. Has participation in this project placed any noticeable additional workload on your staff regarding training?
- G. What additional training support could NLM or the NN/LM provide?

IV. Communication

- A. Approximately how much time was spent on communication mechanisms for the project? (reports, teleconferences etc.)

B. What communication mechanisms do you feel were the most useful? (reports, web site, listserv, teleconferences etc.)

C. Please describe any additional communication mechanisms you set up with the public libraries you were supporting?

D. Did you communicate with them on a regular basis?

E. Do you have other suggestions for improving communication between public libraries, supporting libraries, and the National Library of Medicine?

V. Other Activities

A. Reference Assistance

1. Have you provided any specialized health/medical reference assistance to the participating public libraries? (how much, broken down by participating library if possible)

2. Approximately how much time was spent on reference assistance?

3. Has participation in this project placed any noticeable additional workload on your staff regarding reference assistance?

4. What could better promote the use of this type of reference assistance?

B. Funds

1. Did you offer any assistance to the libraries in spending their funds (i.e. Collection suggestions)?

2. How did your library spend the funds?

C. Technical Assistance

1. Did you offer any technical support to the libraries regarding installation or upgrading of terminals and Internet links associated with this project?

2. If yes, what type of support?

VI. Impact of the Pilot Project?

A. Did your library have a cooperative relationship with public libraries prior to the project?

B. Will your library continue to work with the public library after the pilot ends?

C. What do you feel has been the biggest benefit of this project?

D. Overall, what were the biggest challenges faced by participating in the project?

E. Overall, through your participation in this project, what have you learned about the role of public libraries in meeting consumer health information needs?

F. What other suggestions do you have to facilitate a relationship between public libraries, NLM, and the NN/LM?

Appendix C

NYPL Patron Focus Group

February 26, 1999

Participants	6 women, 3 men few mid-age, mostly 50's and 60's (guessing) primarily novice users of the Internet
Where do you go for health information?	Friends Doctor Library's reference book collection Library's online reference (Internet) Medline - take abstracts to NYAM for full article Home health encyclopedia NOAH - New York Online Access to Health
How did you learn about health information on the Internet?	Many had taken a class offered by librarian, Jane Fisher Hunt & Peck/Surfing Librarian's suggestion
Why are you looking for health information?	For own or family member's disease/condition For doctor or hospital information (credentials, board certification, HMO plan coverage, ratings, etc.) For general wellness information "Doctors don't have time to spend with patient, must seek out information for themselves"
Are you satisfied with the information you found?	"yes, via hunt and peck method was able to find a number of good sites which then lead on to more useful information on specific condition and general wellness information" skeptical of information on Internet, doesn't know if information is peer-reviewed, fears "quackery" and alternative medicine sites, believes professional articles are not very useful for patient/consumer pleased with information, but confused about navigating the various sites lack of full-text/document delivery is problematic pleased with currency of information
What other types of information would you like to find on the Internet?	Directories of doctors performing specific procedures, doctors' board certifications, doctors facing litigation or under review by medical boards, doctors belonging to certain HMO or other medical plans, etc. Directories of HMOs, rehabilitation centers, etc. (specifically including quality of doctors and institutions) Drug information Graphic representations of disease. An indicator marking sites which include graphics, overlays, etc. Information for children - disease/condition information

What would help you find health information on the Internet?	<p>written at their level</p> <p>Print brochure/booklet of instructions on how to find health information on the Internet - "time on computers is limited by various factors (connection time costs, high demand at library terminals, no computer at home), would be helpful to plan strategy before sitting down to computer"</p> <p>Confusion/difficulty of retracing steps used in a successful search. Too much clicking through to various sites, users are unable to remember how they got there - basic Internet/information skills are lacking</p>
Content/Health Topics organization	<p>Organize by body system.</p> <p>Need common name table AND medical terminology for pre- and post- diagnosis information access.</p> <p>Want "search engine" style of information retrieval.</p> <p>Add Spanish language MEDLINEplus index or homepage.</p>

General impression:

Most users were not sufficiently Internet nor health information savvy enough to fully utilize

MEDLINEplus

- ◆ Some participants expressed frustration when their initial search did not retrieve desired information. Their successes seemed a combination of accident and luck.
- ◆ Online instructions and "help" screens were not mentioned as being used.
- ◆ Use of "search" feature brought mixed and unsatisfactory results.
- ◆ Many participants did not know what Medline, MEDLINEplus, PubMed, etc. were or if they had used them.
- ◆ Navigating the Internet (information organization on the Internet) seemed to be a big stumbling block.
- ◆ Only one participant expressed skepticism about the quality of information on the Internet.

However, most users were able to find some information, which at least partially satisfied their needs.

- ◆ At least a couple participants mentioned using the information in preparation for seeing their physician.
- ◆ Users who did find their health topic were pleased with the ability to find definitions, diagnosis and treatment information all linked together.
- ◆ At least one user found PubMed and retrieved several abstracts which she was very pleased with.

Appendix D

Dorchester County Public Library

March 31, 1999

Patron & Health Professionals Discussion Group

Where do you go for health information?

- Computer
- Reference Books
- Medical library
- Participant has patron who specifically requests “no computer info.”

Why / what type of health information are you looking for?

- Disease/Diagnosis
- Drug/Prescription information
- General wellness (exercise, nutrition, etc.)
- After prompting, a couple of users had also obtained directory type information.

What were you looking find but didn't find?

- Cultural issues associated with health care and disease.
- Foreign language versions of patient information.

These comments were from administrator who treats a number of migrant (non-English speaking workers.

- Recreational therapy linked to specific disease/condition.
- Alternative medicine (after prompting)
- Online support group (directory?)
- Information on caregivers

MED+ Navigation

- “Search” box problem:

Type in “back” for any type of back problem and hits include all pages that include “Back to previous page” or similar.

- No way to create “complex search” using boolean operators.
- Patron asked why M+ wasn't at the top of hit list when using Alta Vista, Yahoo, Metacrawler, etc.
- Participant liked the “leaving NLM M+ site” message when clicking on links.
- General feedback was that site is easy to use, so no need for online tutorial or other help pages.
- When user searches on a health topic that isn't included, a message should be included stating that new topics are being added and that the user should check back in the future. Getting zero hits discourages the user from using M+ again.

Organization

- Ideas on how to organize Health Topics page:

Group alphabetically by letter

Body system

Image map of human body

Patient group: gender, age, etc.

Give multiple options to reach disease/condition

Include "see reference" for terms

Look at reference books to see how they group information.

- Add Scope Note type information, so user can see what is included under a particular health topic before going there.

Other

- Most used links on M+:

- Search Databases

- Health Topics

- Publications

- Link you'd like to use on M+:

- Differential diagnosis resource

- FAQ page

General comments

Document Delivery

Using ILL or local resources to obtain articles did not seem to be an issue.

Connection speed - time limits

Time restrictions (library limits, connection time costs from home) were not a concern among participants.

Marketing M+

Most ideas were similar to what is being done (factsheets, brochures, bookmarks, small posters; packets to local clinics, and local press). New suggestion was to do a small video piece for local news stations and distribute packets to school nurses, libraries.

Observation:

As we have noticed before, there is a fair amount of confusion when discussing Internet navigation and the types of resources used on the Internet. Patrons were not aware of the difference between a "health information website" and a general Internet search engine, such as Yahoo! or Alta Vista.

Participants:

Public Librarian

2-3 Library Patrons

4-5 Public Health Workers

Appendix E

San Antonio Public Library

April 9, 1999

Patron Discussion Group

- Where do you go for health information?
- Internet
 - Dr. Koop (www.drkoop.com)
 - NOAH (www.noah.cuny.edu)
 - Mayo Clinic (www.mayohealth.org)
 - Ask Jeeves (www.askjeeves.com) *a non-medical site
 - Medline and M+
 - Medical reference books
 - Alternative medicine books (at bookstore)
 - Dr. Weil books and website
- Why / what type of health information were you looking for?
- #1 answer: Disease / condition information
 - #2: Drug information
 - Directory information:
 - finding a doctor
 - finding a patient / support group
 - Alternative medicine information
 - Women's health information
 - Children's health - vaccinations
 - Regional information - where is a procedure performed?
 - "Topics to embarrassing to ask doctor about."
- Who is information for?
- Primarily for self or family member
 - Also for patient support group members.
- What do you do with the information you find?
- Takes information to doctor.
 - Prepares questions for next doctor appt.
 - Passes information to support group members.
- Where did you learn about health information on the Internet?
- Class at public library.

- Long-time Internet users.
- Via generic Internet search engine.
- Local newspaper listing of health sites.
- SAPL health and medicine homepage.

MEDLINE+

- Search box should be more prominent and function better.
- No one had used “canned” Medline searches feature.
- Search Databases feature - people don’t know what it means, find it confusing.
- Before choosing to print a document, patrons want to know how many pages will be printed - in the library patrons are charged per page of printing.

Organizing M+

- Patron would like to see “best” or “comprehensive overview” annotation added to list of links on disease/condition pages.
- Organizing Health Topics page (no new ideas):
 - Alphabetical
 - Body system
 - General categories (gender, age, etc.)

Internet health site comments:

- Dr. Koop
 - Name recognition.
 - Consumer friendly. Easy to use.
 - Like search box and scroll down menus. Allows for different approaches to health topic information.
 - Articles on timely medical topics.
- NOAH
 - Layout of site makes it very easy to use.
- MEDLINE+
 - Specific condition wasn't on list of health topics.
 - “Medline and M+ are confusing.” Too much information.
 - Others really appreciated the exhaustive coverage found on Medline and M+.

Internet access

- Most have Internet connection at home.
 - Cost of home connection: \$10-si 6/hour
 - People prefer accessing Internet from home, rather than library or work.
- Local schools vary in levels of connectivity.
- Patrons were generally frustrated with slowness of Internet during peak usage hours.

General observations:

1. Patrons with serious, long-term conditions greatly appreciate the availability of in-depth, professional information such as they find on Medline and Medlineplus.

Patrons who want a thumbnail sketch of a disease/condition prefer the more basic descriptions found on “Ask Jeeves” and Dr. Koop.

2. Everyone wants full-text.

Participants: 8 total

Mostly patrons, plus one Internet trainer and one SAPL staff member.

Appendix F

New York Public Library Focus Group

Library Staff - MidManhattan

February 26, 1999

Reference sources used:

- Go to print sources first, compliment with appropriate citations from an index database.
- Health Reference Center
- Health Watch (an alternative medicine CD-ROM product loaded on separate workstation and is very heavily used according to staff)
- Medline
- Another librarian goes directly to journal citation databases (Medline & others) if she believes that is where answer will be found.
- Observation - many patrons go directly to computer workstations (online)

Situation specific reference referrals

- Obscure or rare disease/condition information internet sources are excellent.
- Patron looking for "latest on..." - go directly to online resources.
- Student homework assignments - usually direct to MEDLINEplus Health Topics list before Medline.
- Patron lacking in Internet navigating skills - refer to Health Reference Center (DOS, in general, is easier to navigate for novice computer user)
- Patron looking for local doctor who performs a particular procedure - use PubMed.
- Patron wanting ALL information on disease/condition - Medline and Mplus.

Volume of health related reference requests

- The general reference librarians frequently refer people to reference requests: Health Reference Center.
- Overall impression is of a high usage of health reference collection and high usage of electronic health information resources.
- Change in usage - as awareness of health information availability has risen, more people are seeking it out.
- In Internet training classes there is always at least one request for a health information search/instruction.
- ILLs have been increasing
- "Allied health" information requests have steadily increased.

Health Info. Patron profile:

- Everything from high schoolers to senior citizens. 4
- Branch libraries get more senior citizens than mid-town.

Patron training on health information:

- Weekly patron training class “Health on the Internet”
- Staff create “pathfinders” which include print and online resources for a specific health topic (i.e. health information statistics)
- Class handouts include: list of URLs, pathfinders, “How to evaluate a website”, Choices bookmark, NOAH brochure

What patrons want most:

- Physician information - board certification
- “Questionable doctors” - malpractice or other disciplinary info.
- Local information - “where in New York...?”

Suggestions for improving MEDLINEplus:

- Site layout is problematic:
 - “Health topics” list has no indentation when one topic wraps to second line, which is confusing. Cannot see topic, subtopic connection. Site would be better with column to column display, so user could easily trace steps taken.
- Information additions:
 - Normal lab values
 - Herbal medicines and their interactions with other medications.
 - Drug interactions

OTHER COMMENTS:

Niche filled by Medline - the patron who is upset or has an “emotional need” to exhaustively research a disease/condition, even if the information is not used (i.e. professional literature that is beyond comprehension of patron).

Terminology - Need way to link lay person or slang terminology to medical terminology used in professional literature and indexing. Currently, librarian either must use educated guesses or put term in general search engine (i.e. Netscape) to come up with correct medical term. But this method is imprecise at best.

MEDLINEplus bookmarks, brochures, posters - Reaction has been limited. Patrons who notice them are usually those interested in exhaustive searches. They have been good for raising awareness among other librarians/staff members. “You have health questions? - Medline has answers” is misleading/inappropriate (see below).

Medline for consumers - PubMed (professional journal articles) should not be advocated as consumer health information. Patron retrieves an abstract and thinks they

“researcher & their condition. Also we (NLM and librarians) don't know if patron takes information to physician or not.

OBSERVATIONS:

Librarians are librarians - the reference source they chose to use, depends on the question asked. Print versus online, Medline versus Health Reference Center, etc. depends on the patron, his/her needs, and often there is a progression depending on the patron's desire for basic versus exhaustive research.

Appendix G

Fairfax Library Discussion Group

Sherwood Library

March 2, 1999

Nature of health
information needs:

1. Needs vary according to community:
 - Senior citizens have time to do research and in general have more medical questions.
 - Young families only seek information on rare conditions/diseases, information on caring for elderly family members, and homework help.
2. People don't automatically think of getting health information at the library.
 - Patron/patient is not at the library when need for health information occurs (i.e. they are at doctors office usually).
 - Need to educate health providers about library resources.
3. Universal patron want: full-text and quick & easy information that can be taken home that day.
4. Patrons are often looking for basic, print resources such as directories, and basic information on a disease/condition.

Library staff

1. Comfort level of assisting patrons with health concerns:
information:
 - Public librarians are hesitant assisting patients with medical and legal questions.
 - Also not comfortable training patrons to search health information sites, as they aren't comfortable with their own level of ability.
2. Medical terminology - can be problematic for staff. Patron has lay-term or partial diagnosis; librarian must make educated guess at true medical term.
3. MEDLINE articles are at a comprehension level inappropriate for most patrons (and most public librarians). Not consumer friendly.

MEDLINE/M+navigation

1. MEDLINE and M+ have patrons "going in circles". Neither patron, nor librarian are clear just exactly what they are using and where they are in website. Choose Medline, go to PubMed IIGM page, choose again, etc.
2. Page design:
 - Best information should be at the top.
 - Remember that individual browsers and machines display websites differently - place

valuable information so that users will see it immediately and not have to scroll down.

3. Include suggestion box for feedback (email link).
4. Health Topics links are excellent and a good template for librarians to use.

Other comments and observations :

1. Librarians appreciated MEDLINE training as it makes them more comfortable working with patron's health information requests.
2. Anecdotal evidence and personal use by librarians almost always had positive outcomes and useful information was found. Patients feel "empowered" by ability to research their condition.

Participation:

@ 10 Sherwood library staff members

Branch Director

4 branch librarians

GWU trainer

Appendix H

Baltimore County Public Library

Librarian Discussion Group

March 18, 1999

Nature of health information needs:

1. People want full-text, don't want to go elsewhere for full article.
2. Patron groups:
 - Students from nearby secondary schools and colleges.
 - Nursing students - school libraries are inadequate, librarians are unhelpful, etc. Often the public library has to send them back to school library to get articles.
 - Seniors
3. What gets people into the library for health information?
 - News magazine story
 - Talk show on a health topic
 - New book by well-known author (example Dr. Weil)
 - TV news magazine story
 - Dr. who gives list of books to patients

Library staff:

1. "Medline is too difficult for most patrons". Professional level of concerns: information, retrieval mechanisms, terminology, navigation?
2. Need M+ training, BCPL had only done Medline training in branch libraries.
3. Lack of "diversity" on promotional materials. Also didn't care for breast exam picture on brochure cover (?)

Medline / M+ navigation:

1. M+ Health Topic pages should include notation with each link whether it is a link to another site directory or whether user will find full-text information on that page.
2. If "Search" on M+ retrieves nothing, should go to Pubmed with search statement already in query box.
3. Alternative therapies - librarians know that by delving into M+ they will find alternative therapy sites. Should bring "Alternative Therapies" to top of search, so patron can easily find them.
4. Computer time is limited, 1/2 hour to an hour, so patrons don't have a lot of time to spend hunting for information. People are impatient and don't want to click through numerous pages to find information.
5. Health Reference Center is easier to use - so that is usually first "line of defense"

Medline / M+ usage:

1. Librarians used Medline immediately after training, but usage has dropped off drastically since then.
2. Anticipate a great amount of usage when local school science/health projects are done, librarians will recommend M+ to students.
3. Pattern is to look in other health information databases first, then go to

Medline as secondary choice if needs aren't met.

4. "Depends on request" - For current info. NLM products are good, M+ topics are very good.

Other comments and observations:

1. What does NLM want M+ to be, ideally?

- An easy-to-use resource with basic information, understandable by the majority of patrons? (i.e. One which librarians would turn to first when trying to answer a reference request?)
- A unique resource of in-depth information, for only those patrons who desire the latest, most complete information whether it was originally intended for health professionals or consumers? (i.e. One which is used much less frequently, but is useful resource when other tools are inadequate?)

2. Even Health Ref Ctr mixes lay and profession terminology. Would like something that was solely written for consumers.

3. ILL increase is very slight. Basically if people absolutely need the article they go to UM Health Sciences Library, otherwise they don't bother to order it through the PL.

4. BCPL (or just certain branches?) received Gates Foundation grant - Arbutus has Computer Learning Center, consisting of 6 computers.

5. Promotion:

- No PR done yet. Branches have not even received the promotional materials NLM sent for distribution.
- One newspaper article at very beginning of pilot.
- Posters, brochures and bookmarks get easily covered up or lost, something different would be helpful. Mousepad is harder to lose. Need to change people's perspective - people should think of library as a place to go for health questions.

Participation:

BCPL consists of 15 branches - 8 were represented, plus the RML and "info services" person (11 persons).

Appendix I

Participating Libraries

Region One

Supporting Library- Middle Atlantic Region/New York Academy of Medicine
Participating Libraries

New York

New York Public Library, Mid Manhattan Branch

New York Public Library, 96th St. Branch

White Plains Public Library

Pennsylvania

James V. Brown Public Library

Supporting Library- SUNY Health Science Center-Brooklyn Library

Participating Library

New York

Brooklyn Public Library

Supporting Library- University of Rochester School of Medicine and Dentistry-Edward G. Miner Library

Participating Library

New York

Rochester Public Library

Region Two

Supporting Library- Southeastern Atlantic Region/University of Maryland at Baltimore, Health Sciences and Human Services Library

Participating Library

District of Columbia

District of Columbia Public Library System

Georgia

Cherokee Regional Library System

Coastal Plain Regional Library, Tifton-Tift

Gwinnett County Public Library

Hall County Public Library

Ocmulgee Regional Public Library

Maryland

Baltimore County Public Library

Enoch Pratt Free Library

Supporting Library

Participating Library- University of Alabama at Birmingham-Lister Hill Library of the Health Sciences

Participating Libraries

Alabama

Birmingham Public Library

Supporting Library- Eastern Shore Area Health Education Center

Participating Libraries

Maryland

Cecil County Public Library

Eastern Shore Regional Library

Caroline County Public Library

Dorchester County Public Library

Kent County Public Library

Queen Anne's County Library

Somerset County Library

Talbot County Free Library

Wicomico County Free Library

Worcester County Library

Supporting Library- The Medical University of South Carolina Library

Participating Library

Charleston County Public Library

Supporting Library- University of Tennessee at Memphis Library, Health Sciences Library and Biocommunications Center

Participating Library

Tennessee

Memphis/Shelby County Public Library

Supporting Library- George Washington University Medical Center, Himmelfarb Health Sciences Library

Participating Libraries

Maryland

Wheaton Regional Library

Virginia

Arlington County Public Library

Fairfax County Public Library

Region Five

Supporting Library- Houston Academy of Medicine-Texas Medical Center Library

Participating Library

Texas

Houston Public Library

Supporting Library- University of Texas at San Antonio Health Science Center Libraries

Participating Libraries

Texas

Laredo Public Library

San Antonio Public Library

Alamo Area Library System

Alexander Memorial Library (Cotulla)

Castroville Public Library

Jourdanton Community Library

Universal City Public Library

Boeme Public Library

Dittlinger Memorial Library (New Braunfels)

El Progreso Memorial Library