

NATIONAL LIBRARY OF MEDICINE

Health Disparities Strategic Research Plan and Budget, Fiscal Years 2009-2013

NLM MISSION/VISION STATEMENT	1
OVERVIEW OF NLM STRATEGY FOR ADDRESSING HEALTH DISPARITIES	1
1.0 AREAS OF EMPHASIS IN RESEARCH	2
1.1 Area of Emphasis One: Conduct Informatics Research to Support Reduction of Health Disparities	2
1.1.1 Objective One: Solicit research proposals on the Impact of Health Literacy on Use of Health Information	2
1.1.2 Objective Two: Conduct research to evaluate the impact of education interventions using health information technology and consumer health resources on functional health literacy	3
2.0 AREAS OF EMPHASIS IN RESEARCH CAPACITY BUILDING	5
2.1 Area of Emphasis One: Expand opportunities in informatics research training and career development for investigators from racial and ethnic minority and other health disparity populations	5
2.1.1 Objective One: Achieve diversity recruitment goals at university-based informatics training programs	5
2.1.2 Objective Two: Fill Short-Term Trainee Positions (STTP) in informatics	5
2.1.3 Objective Three: Award “Research Supplements to Promote Diversity in Informatics Research”	6
2.1.4 Objective Four: Recruit and train a diverse cadre of scientists and students through intramural fellowships in medical informatics research	7

2.2 Area of Emphasis Two: Increase the number of health sciences librarians from racial and ethnic minority and other health disparity populations who support the research enterprise and the information needs of the public7

2.2.1 Objective One: Create opportunities for training and career development in health sciences librarianship for students from racial and ethnic minority and other health disparity populations8

2.3 Area of Emphasis Three: Encourage interest in health careers and research9

2.3.1 Objective One: Support special initiatives that encourage minority medical students to pursue careers in biomedical and clinical research9

2.3.2 Objective Two: Support special initiatives that employ innovative educational curricula that strengthen high school students’ readiness to pursue health careers10

2.3.3 Objective Three: Support special K-12 educational outreach initiatives that encourage interest in health careers through use of information resources and Technology11

3.0 AREAS OF EMPHASIS IN COMMUNITY OUTREACH, INFORMATION DISSEMINATION, AND PUBLIC HEALTH EDUCATION13

3.1 Area of Emphasis One: Create new health information resources and technologies that help to reduce health disparities13

3.1.1 Objective One: Provide easy-to-use consumer health information resources such as MedlinePlus en espanol that provide authoritative information for health professionals and the general public that is sensitive to cultural diversity issues, educational level, and language13

3.1.2 Objective Two: Develop population-specific web sites that focus on the issues of particular populations or geographic areas15

3.1.3 Objective Three: Develop culturally and linguistically appropriate health information for refugees and their caregivers16

3.1.4 Objective Four: Develop easy-to-use environmental information resources such as Tox Town and Toxmystery that are sensitive to cultural diversity issues, educational level, and language17

3.1.5 Objective Five: Experiment with new economic models that employ minority business enterprises in creation of information resources for special populations18

3.1.6 Objective Six: Develop and launch *Salud*, a bilingual magazine for

Hispanic readers that complements the English language version of the <i>NIH MedlinePlus Magazine</i>	19
3.2 Area of Emphasis Two: Conduct outreach to increase awareness and promote use of health information resources and technologies by racial and ethnic minority populations and other health disparity populations	21
3.2.1 Objective One: Support special projects with Historically Black Colleges and Universities that promote eHealth programs on their campuses and in their communities	21
3.2.2 Objective Two: Train practicing African American health professionals and information professionals to use NLM, NIH, HHS and other quality health information resources	22
3.2.3 Objective Three: Promote improved access to HIV/AIDS information to health professionals, patients, the affected community and their caregivers, as well as the general public in minority communities	23
3.2.4 Objective Four: Collaborate with tribal health systems, tribal colleges, and other Native American organizations and agencies to improve access to and use of health information by health care providers, patients and the general public on reservations and in Native communities	26
3.2.5 Objective Five: Experiment with an innovative fellowship program for tribal leaders that co-trains health and information technology professionals	28
3.2.6 Objective Six: Experiment with educational models engaging Hispanic high school student leaders to train fellow students and their families to use health information resources	29
3.2.7 Objective Seven: Participate in national and regional powwows	31
3.2.8 Objective Eight: Exhibit health information resources at community and professional conferences that reach audiences from racial and ethnic minority populations and other health disparity populations	32
3.2.9 Objective Nine: Deploy the 5,800 member National Network of Libraries of Medicine (NN/LM) to identify and address gaps in local health information access and use by racial and ethnic minority populations and other health disparity populations	32

3.2.10 Objective Ten: Create new partnerships among academic health sciences libraries, public libraries, and community-based organizations with the goal of forming community coalitions to improve access to health information for members of minority and underserved populations as well as health professionals serving these populations	33
3.3 Area of Emphasis Three: Develop exhibition programs that showcase and explore the scope, causes, and possible solutions to health disparities	34
3.3.1 Objective One: Implement an exhibition on the global health challenge to prevent disease and improve quality of life	34
3.3.2 Objective Two: Implement an exhibition on Native American concepts of health and illness	35
3.3.3 Objective Three: Implement an annual exhibition in celebration of African American History Month	36
4.0 AREAS OF EMPHASIS IN INTEGRATION of RESEARCH, RESEARCH CAPACITY BUILDING, and COMMUNITY OUTREACH, INFORMATION DISSEMINATION and PUBLIC HEALTH EDUCATION	38
4.1 Area of Emphasis One: Increase research capacity through information technology, information dissemination and outreach to minority-serving colleges and universities	38
4.1.1 Objective One: Initiate collaborative projects with Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs) and Hispanic Serving Institutions to strengthen their capacity to conduct research addressing environmental health and health disparities in minority and low socioeconomic communities	38

National Library of Medicine

Health Disparities Strategic Research Plan and Budget, Fiscal Years 2009-2013

NLM MISSION/VISION STATEMENT

Over the past half century, the nation's investment in scientific research has resulted in unprecedented revolutionary progress in biological, medical, and material sciences. Information technology holds the promise of delivering specific knowledge in a timely manner to billions of people worldwide, in ways undreamed of even a short time ago. The National Library of Medicine (NLM), in pursuit of its longstanding mission to acquire, organize, and disseminate health-related information, now has the opportunity to provide near-instantaneous reliable access to high quality health information resources when and where decisions are made. The support of NIH's efforts to understand and eliminate health disparities between minority and majority populations is an integral part of NLM's mission.

OVERVIEW OF NLM STRATEGY FOR ADDRESSING HEALTH DISPARITIES

NLM is directing many of its efforts toward remedying the disparity in health opportunities experienced by important segments of the American population. These efforts are based on the belief that improving access to affordable and easy-to-use health-related information – in the form of published literature, databases, and the authoritative content of others – can help solve health disparities. Collection and database development is critical to this. The advanced information products and services of the NLM are built on the foundation stone of its unparalleled collections of biomedical information. The Library today is seen as a principal source of biomedical information and the NLM's many high-technology programs are infused with the confidence and competence resulting from nearly 175 years of experience in filling the information needs of health professionals. The Library continues to place primary emphasis on its role as acquirer, organizer, and disseminator of health-related information.

The Library is devoting considerable attention and resources to improving access by health professionals, patients, families, community-based organizations, and the general public to information, with special emphasis on rural, minority, and other underserved populations. NLM firmly believes that improved access to health information in PubMed/MEDLINE, MEDLINEplus, *ClinicalTrials.gov*, and the Library's numerous other Web-based database resources will result in higher quality health care for the Nation's citizens.

In the following areas of emphasis, NLM utilizes a number of strategies to ensure access to health-related information, including:

- Increasing the scope of information products and services to include cultural, psychological, behavioral, social, gender-based and environmental influences.

- Building partnerships with community-based and professional organizations.
- Employing communication methods that are racially and culturally sensitive and appropriate.
- Improving the information infrastructure and communications capabilities of minority communities.

1.0 AREAS OF EMPHASIS IN RESEARCH

1.1 Area of Emphasis One:

Conduct Informatics Research to Support Reduction of Health Disparities

Much health disparities research focuses on disease conditions and socio-economic factors. More attention is needed on the information landscape as it relates to health disparities. For example, if underrepresented minorities do not have access to authoritative, research-based information resources, they may depend on anecdotal information to guide important health decisions. Research on access, organization and use of published health information for personal health decisions is a fundamental part of NLM's research grant programs.

1.1.1 Objective One:

Solicit research proposals on the Impact of Health Literacy on Use of Health Information

NLM participates in the multi-IC grant initiative, Understanding and Promoting Health Literacy, offering both R01 research project grants and R21 Exploratory/Developmental grants in this general area.

1.1.1.1 Action Plan

- Add the following specific interest statement to the NIH issuance for the Understanding and Promoting Health Literacy grant program:

NLM is interested in research relating to the ways computers can be used to help health disparity populations or minority and other underrepresented populations make informed decisions about their health. Research topics of interest include computerized health literacy tools for information organization, visualization and decision-making. For any proposed project to be competitive for NLM funding, an evaluation arm must be included that assesses validity and reliability of findings, or efficacy of a proposed intervention.

- The program announcement for this grant initiative will be reissued in early in 2010, with 3 application deadlines per year, ending in May 2013. If applications addressing this interest statement are assigned to NLM and receive a fundable impact score, they will be given priority consideration for funding.

1.1.1.2 Performance Measures

- Number of applications received that are responsive to the published statement of interest in health disparity populations.
- Number of awards issued for applications responsive to the published statement of interest in health disparity populations.

1.1.1.3 Outcome Measures

- For grants funded in this interest area, annual progress reports will be reviewed to identify results related to the effectiveness of the information technology in helping racial and ethnic minority and other health disparity populations make informed decisions about their health.
- Publications or other products that result from the grant will be tracked for impact using bibliometric techniques such as citation analysis, as such techniques can be useful in assessing the contribution of a paper to progress in a particular research area.

1.1.1.4 Projected Budget

NLM could support up to 2 grants per fiscal year, for up to \$.5M in FY2010 and FY2011.

1.1.2 Objective Two:

Conduct research to evaluate the impact of education interventions using health information technology and consumer health resources on functional health literacy

This research initiative evaluates if use of consumer health resources such as MedlinePlus.gov and different types of provider-generated health educational interventions impact patient functional health literacy, self-efficacy, and health information seeking behavior. The goal is to develop educational protocols that could be used in diverse health care clinical or home visitation settings. The clients who receive home visitation services normally are characterized as medically underserved audiences that would experience health care disparities without the home visitation intervention.

1.1.2.1 Action Plan

- Conduct health literacy studies with physicians and patients in health care clinical settings
- Conduct health literacy studies with home visitation workers and patients or their caregivers in home visitation settings

1.1.2.2 Performance Measures

- Functional health literacy, self-efficacy, and health information seeking metrics.

1.1.2.3 Outcome Measures

- Post-intervention functional health literacy, patient or caregiver self-efficacy, provider-patient communication or provider-caregiver communication, patient

satisfaction, patient self-efficacy, and patient or caregiver health information seeking.

- Physician or home visitation worker satisfaction with the integration of a health educational intervention within routine clinical or home visitation work flow.
- Protocols for provider-generated health educational interventions within diverse clinical, home, and socio-demographic settings.

1.1.2.4 Projected Budget

FY10: \$.1 M

FY11: \$.1 M

2.0 AREAS OF EMPHASIS IN RESEARCH CAPACITY BUILDING

2.1 Area of Emphasis One:

Expand opportunities in research training and career development for investigators from racial and ethnic minority and other health disparity populations

In addition to undertaking informatics research relating to health disparities, it is important to have a cadre of trained informatics researchers whose focus of interest includes health disparities research. Equally important is the recruitment into that cadre of investigators from racial and ethnic minority and other health disparity populations

2.1.1 Objective One:

Achieve diversity recruitment goals at university-based informatics training programs

Each university-based informatics research training program funded by NLM is required to have a plan for recruiting trainees from racial and ethnic minority and other health disparity populations. In addition, they report annually at their success at recruiting these applicants into the trainee pool. This is a fundamental requirement for each training program and is a core component of NLM's extramural work in this area of emphasis.

2.1.1.1 Action Plan

The notice of grant award states requirements for reporting, and non-competing awards are not issued until reports have been received about an organization's success at recruiting trainees from minority and underrepresented groups. The progress reports are monitored by program staff each year. Any RFA issued for a new competition will have a section outlining the applicant's responsibilities in this regard.

2.1.1.2 Performance Measures

- Number of minority and underrepresented trainees at NLM's university-based training programs.

2.1.1.3 Outcome Measures

- Retention of minority trainees in informatics careers will be evaluated periodically through analysis of reports and application records.

2.1.1.4 Projected Budget

NLM expends approximately \$15 million per year on its university-based informatics training programs. A portion of these expenditures supports trainees from minority or underrepresented populations.

2.1.2 Objective Two:

Fill Short-Term Trainee Positions (STTP) in informatics

Any of NLM's university-based programs can request funds, separate from their training award, to support short-term trainee positions (STTP). STTP programs are a tool for

recruiting people into informatics as a career. NLM has defined its STTP program so that only minority, health disparity or people from disadvantaged backgrounds are eligible. Since its inception, this diversity-focused program has awarded more than 30 short-term trainee slots at 7 training programs. These are 3-month slots, usually used in the summer, that allow a graduate student to obtain coursework, mentoring and/or research experience in informatics.

2.1.2.1 Action Plan

- Promote awareness of STTP opportunities

2.1.2.2 Performance Measures

- Number of training slots requested
- Number of slots filled with qualified candidates

2.1.2.3 Outcome Measures

- An outcome measure we use is to periodically match lists of STTP recipients to list of trainees accepted as fellows into our University-based informatics training programs. However, in determining the timeframe for tracking outcomes, it is important to note that the STTP program is designed as a long-term investment, in that it may be several years before the STTP trainee is ready to enter PhD training in informatics or pursue informatics after post-doc training in another field.

2.1.2.4 Projected Budget

NLM would invest up to \$.25M per year in this program. Actual expenditures depend upon the number of requested STTP training slots.

2.1.3 Objective Three: Award Research Supplements to Promote Diversity in Informatics Research

NLM participates in the NIH program entitled “Research Supplements to Promote Diversity in Health-Related Research”. This program provides support for students, postdoctoral candidates and investigators from minority and underrepresented populations, allowing them to work with an informatics researcher funded by NLM. Applications are submitted by the funded researcher on behalf of the interested person.

2.1.3.1 Action Plan

NLM will continue participation in the NIH program, which accepts applications at any time. The current announcement will be re-issued in September 2011, and NLM will participate in its successor.

2.1.3.2 Performance Measures

- Number of applications received
- Number of applications funded

2.1.3.3 Outcome Measures

- The progress report of the parent grant reports progress of the trainee, including publications, and serve as the means for assessing successful outcomes for the training experience.

2.1.3.4 Projected Budget

Costs for the program depend upon the career experience level of the applicant. NLM would expend up to \$.075M per year for this program.

2.1.4 Objective Four: Recruit and train a diverse cadre of scientists and students through intramural fellowships in medical informatics research

The NLM conducts an intramural Informatics Training Program for training in biomedical informatics at the NLM with the purpose of increasing the number of researchers in the field. Students from Historically Black Colleges and Universities, students of Hispanic origin, and students from Tribal Colleges and Universities are eligible and encouraged to participate. The students work on informatics research projects in areas such as consumer health informatics, image processing, and language processing. The students work closely with senior staff at the Center and present what they have learned at the end of the summer in a seminar to the NLM community. NLM participates in conference recruitment fairs and also advertises the Informatics Training Program at its public Web site, in mailings to professional schools, and in advertisements in a representative set of professional journals. The Center actively participates in the National Association for Equal Opportunity in Higher Education (NAFEO), Hispanic Association of Colleges and Universities (HACU), and Washington Internships for Native Students (WINS) programs every summer.

2.1.4.1 Action Plan

- Ensure the Informatics Training Program is advertised in recruitment fairs and professional schools likely to reach a diverse audience

2.1.3.2 Performance Measures

- Number of applications received from minority applicants
- Number of minority students and scientists trained

2.1.3.3 Outcome Measures

- Number of trainees who pursue biomedical informatics research careers

2.1.3.4 Projected Budget

FY10: \$.09 M per fellow

FY11: \$.09 M per fellow

2.2 Area of Emphasis Two:

Increase the number of health sciences librarians from racial and ethnic minority and other health disparity populations who support the research enterprise and the information needs of the public

2.1.1 Objective One:

Create opportunities for training and career development in health sciences librarianship for students from racial and ethnic minority and other health disparity populations

The education and training of health sciences librarians is a key component of NLM's mission and appears as a central theme in the Library's long range planning for the past 50 years, with developing a strong and diverse workforce being one of the four key goals of its long range plan for 2006-2016. According to a 2004 study by the American Library Association, it is very difficult to recruit minorities into librarianship, yet it is critical to do so. NLM has been working to increase minority participation in health sciences librarianship through outreach, training, scholarships, fellowships, and mentoring.

NLM collaborates with partners such as the Medical Library Association, the American Library Association, the Association of Academic Health Sciences Libraries, and the Association of Research Libraries to sponsor recruitment programs, mid-career leadership training, scholarships, and internships for library school students to achieve a diverse workforce. NLM has also partnered with the ALA on its Diversity in Libraries conferences and with the ethnic caucuses of the Association to provide training in the use of high quality health information for all types of librarians.

The American Library Association (ALA) sponsors one of the oldest and best-known diversity recruitment programs for the profession. Since 1997, ALA's Spectrum Scholarship Program has supported over 600 students with scholarships to library school. In 2001, the Medical Library Association and NLM together made a 10-year commitment to support an annual scholarship for a student with an interest in the field of health sciences librarianship, and support for a 2nd annual scholarship was added in 2005.

For the past five years, NLM has leveraged the existence of two strong institutions—the Knowledge River Institute at School of Information Resources and Library Science (SIRLS) and the University of Arizona Health Sciences Library (AHSL) – to invest in internships for Knowledge River Scholars at the AHSL. NLM provides annual funding assistance to the health sciences library to support the work experience for the interns. SIRLS established the Knowledge River Institute among the culturally rich Latino and Native American populations of Arizona to become a teaching, research and outreach program that celebrates the diversity of those communities, focusing on educating information professionals who have experience with and sensitivity to Hispanic and Native American populations. Two of the NLM-funded graduate students have been selected subsequently for intramural training as NLM Associate Fellows and several others have attained leadership positions in libraries providing health information to consumers.

2.1.1.1 Action Plan

- Identify and collaborate with partners in the effort to recruit and train health sciences librarians

2.1.1.2 Performance Measure

- Number of internship placements in health sciences libraries
- Records of interns' training activities
- Feedback about students' internship experience
- Number of scholarships provided
- Number of supported students completing library school

2.1.1.3 Outcome Measures

- Increased awareness and knowledge of quality information resources, including NLM resources, among the fellows
- Increased knowledge about NLM, its mission and goals among the interns
- Future career choices by the fellows, the relationship of these choices to health librarianship
- Number of supported students pursuing careers in health sciences libraries
- Increased numbers of health sciences librarians from racial and ethnic minority and other health disparity populations

2.1.1.4 Projected Budget

FY10: \$.06 M

FY11: \$.06 M

2.3 Area of Emphasis Three:

Encourage interest in health careers and research

2.3.1 Objective One:

Support special initiatives that encourage minority medical students to pursue careers in biomedical and clinical research

Action Plan:

- Provide support to the Student National Medical Association (SNMA) for its Physician-Researcher Initiative to encourage entrance into academic medicine. The program features educating the membership about having a career as a physician-researcher, providing opportunities for research experiences, and developing mentorship relationships.

Performance Measures:

- Number of program participants

Outcome Measures:

- Number of participants who pursue careers in academic medicine and research

Projected Budget:

FY10: \$.02 M

FY11: \$.02 M

2.3.2 Objective Two:

Support special initiatives that employ innovative educational curricula that strengthen high school students' readiness to pursue health careers

2.3.2.1 Action Plan:

NLM will support initiatives with Mentoring In Medicine (MIM), an organization with a mission to ignite an interest in health careers among underrepresented minority African-American and Hispanic students located at schools in New York City's Harlem and South Bronx, and to help them execute a plan for success. MIM pairs more than 500 health care professionals with students from 3rd grade through health professional school in socio-economically disadvantaged communities. A new MIM Program, Science and Health Career Exploration, is funded by NLM and co-sponsored by the Friends of the NLM. This initiative is designed to reach six public and charter schools with an after school program to enrich the high school biology curriculum and encourage enrollment in higher education programs leading to degrees in medicine, allied health professions, and medical librarianship. Principals, science teachers and guidance counselors from participating schools will oversee 40 sessions of biology instruction in 12 organ systems, taught by visiting health professionals/mentors over a two-year period. The participating schools constitute an ideal laboratory in which to experiment with new approaches for stimulating and sustaining student interest in health careers, within the larger context of STEM education in the U.S. Twelve to thirty students from each high school are currently enrolled in the program. Their learning progress will be evaluated over the 4 semesters and an evaluation plan will be developed to track enrollment in health professional training programs after graduation.

Future activities may include expanding the program to additional schools or supporting a new initiative in health careers, which is a national priority.

2.3.2.2 Performance Measures:

- Number of participating students
- Number of students who complete the program
- Level of student participation in activities during the course of the program
- Number of instructors and mentors
- Quality of work product, such as research poster presentations, by the students

2.3.2.3 Outcome Measures:

- Readiness for pursuing health careers
- Number of participants who pursue health-related degrees and health careers

2.3.2.4 Projected Budget:

FY10: \$.1 M

FY11: \$.1 M

2.3.3 Objective Three: Support special K-12 educational outreach initiatives that encourage interest in health careers through use of information resources and technology

The goal of NLM's K-12 educational outreach is to work with the K-12 educational community, including teachers, administrators, and students, to increase the participation of minorities in science and biomedical research careers through the use of health information resources, information technology, and medical informatics.

NLM's efforts in this area include developing science and health information resources and activities for K-12 populations and promoting these resources and activities in educational settings with predominantly minority students. A number of existing NLM resources are appropriate for K-12 education. These include Toxmystery for the elementary school level; and Tox Town, ChemIDplus, TOXMAP and Household Products Database for middle and high-school level biology, chemistry and health education, and MedlinePlus for health information on a broad range of conditions. In addition, NLM is currently building a new web portal for environmental health education at the middle school level. Resources are often accompanied by lesson plans and activity maps for teachers. Activities involving these information resources include school presentations, presentations and training at educational conferences. In addition to the information development, outreach and promotion, NLM conducts a number of activities aiming to interest middle and high-school students from minority communities in biomedical and health-related careers. These include a program with the School of Nursing at the Medical University of South Carolina and a minority high school in Charleston that used MedlinePlus as a vehicle for teaching health literacy and student leadership, and a distance education program involving minority high schools in Kotzebue, Alaska; Honolulu, Hawaii; and Los Angeles, California. Finally, NLM sponsors the development of a teen wellness book, which educates teens about NIH health resources related to obesity, alcoholism and substance abuse, and provides them with strategies for addressing these problems in their families.

2.3.3.1 Action Plan

- Continue developing resources and activities
- Maintain existing collaborations and develop new collaborations with minority serving public schools, community-based organizations and professional associations;
- Conduct training sessions and activities for teachers and students in schools with large minority populations
- Conduct biomedical and health-related career events in schools with large minority populations
- Promote K-12 resources in educational and professional publications

2.3.3.2 Performance Measures

- Number of health topics of high concern to minority communities that are covered in resources and activities

- Number of ongoing collaborations with minority serving public schools, community-based organizations and professional associations
- Number of events and activities conducted in minority-serving communities
- Number of teacher and student participants in the activities

2.3.3.3 Outcome Measures

- Increased familiarity with health and biomedical careers among minority students
- Increased interest in pursuing careers in health and biomedicine among minority students
- Increased understanding of environmental health concerns and their relationship to race and social class among students and teachers
- Increased understanding of public health concerns of particular relevance to teens and their parents among minority students
- Increased awareness and in-depth familiarity of NLM resources among teachers in minority-serving communities
- Increased utilization of the resources by students and teachers in minority-serving schools
- Increased understanding of information quality evaluation criteria among students

2.3.3.4 Projected Budget

FY10: \$.05 M

FY11: \$.05 M

3.0 AREAS OF EMPHASIS IN COMMUNITY OUTREACH, INFORMATION DISSEMINATION, AND PUBLIC HEALTH EDUCATION

3.1 Area of Emphasis One:

Create new health information resources and technologies that help to reduce health disparities

3.1.1 Objective One:

Develop easy-to-use consumer health information resources such as MedlinePlus en español that provide authoritative information for health professionals and the general public that is sensitive to cultural diversity issues, educational level, and language.

In 1998, NLM began to provide health information to consumers through a website, MedlinePlus. This was in direct response to data which showed that NLM's PubMed/MEDLINE database, available free on the web since June of 1997, was being searched by members of the public seeking health information for themselves and their families. The Spanish language companion site, MedlinePlus en español, was launched in 2002. MedlinePlus is guided by continuous input from its users and an NIH Advisory Group.

MedlinePlus is a resource that health professionals, families and friends can depend on for information that is authoritative and up to date and provided in two languages, English and Spanish. There are 814 health topics in English and 778 in Spanish. The most recent MedlinePlus user survey shows that 19% of respondents consider themselves "health care providers," MedlinePlus averages well over 500,000 visits per day, so over 100,000 visits to MedlinePlus each day are from health care providers. MedlinePlus emphasizes information from the NIH institutes, other HHS agencies and authoritative health information providers. It links to searches of PubMed/MEDLINE and to thousands of clinical trials through *ClinicalTrials.gov*. In using MedlinePlus, health care providers have the latest consumer, professional and clinical trials information all in one place organized by health topic to better serve their patients. The entire web site is available in Spanish and many topics are provided in over 40 languages including Chinese, Korean, Somali, French, Vietnamese, Hindi and many others.

NLM's goal is to continue to develop and test new ways of presenting the website that will enhance its appeal and usefulness to health care providers and the populations they serve and to identify and link to additional resources that will meet their special health information needs. A key component of this strategy is to work through NLM's National Network of Libraries of Medicine to reach providers so that they will be equipped to serve racial and ethnic minority populations and other health disparity populations. The major objectives in NLM's proposed five-year program include:

- Conduct research into the health information needs of health care providers who are using the internet to find information for their practice;
- Identify, obtain, and improve presentation of content appropriate for reaching health care providers serving racial and ethnic minority populations;

- Work with health care provider organizations, libraries, and other groups, to ensure that these resources are available, known, and used;

3.1.1.1 Action Plan

- Identify and make additional non-English resources available on MedlinePlus
- Collaborate with NIH Institutes to identify topics needing Spanish translation and encourage increased emphasis in this area;
- Improve the outreach of MedlinePlus to health providers and others through new web communications such as Twitter and other micro-blogging methods
- Reach health providers and their patient by distributing MedlinePlus through mobile technologies in both English and Spanish,
- Improve e-communications and outreach to health providers through email newsletters and announcements in both English and Spanish
- Improve web discoverability of MedlinePlus by health providers by improving search engine optimization in both English and Spanish
- Identify additional Spanish and non-English sites to link to

3.1.1.2 Performance Measures

- Numbers of Twitter subscribers and impact of Twitter feed in micro blogging and other communities
- Use of MedlinePlus Mobile in English and Spanish and other mobile-enabled feeds
- Numbers of subscribers to MedlinePlus update emails in English and Spanish
- Number of page views delivered to MedlinePlus from public search engine in English and Spanish
- Number of non-English language links available

3.1.1.3 Outcome Measures

- Increased use of MedlinePlus by health care providers, patients, families and friends in all languages provided
- Increased impact factor of NLM micro blogging and other technologies, especially among health care provider e-communities
- Satisfaction levels of health providers and their patients with MedlinePlus

3.1.1.4 Projected Budget

This is a core component of NLM's operational budget. The budgets associated with addressing health disparities are reflected in the outreach activities that facilitate dissemination and promote use of the information service.

3.1.2 Objective Two:

Develop population-specific mini web sites that focus on the issues of particular populations or geographic areas

Special populations have special needs for health information, as do the institutions and individuals who work within these communities. The National Library of Medicine has created a series of web sites aimed at some of these populations. The web sites currently available are: Arctic Health site (<http://arctichealth.nlm.nih.gov>); Asian American Health (<http://asianamericanhealth.nlm.nih.gov>); and American Indian Health

(<http://americanindianhealth.nlm.nih.gov>). A Native Hawaiian Health Web site is in the early stages of development. Each of these sites has sections devoted to diseases and conditions important for the specific population, traditional medicine, research information, and topics of particular concern for the group, such as pollution in the arctic. NLM has collaborative relationships with relevant groups for the ongoing maintenance, expansion, and promotion of each web site. For example, NLM is collaborating with the Association of Asian Pacific Community Health Organizations, to identify additional material for inclusion in the web site as well as for promotion of the site in the Asian American community.

NLM's goal includes the development of a series of web sites and other tools that will serve the needs of policy makers, researchers, health providers, and members of the communities involved. The web sites may serve as focal points for gathering into one place important information about the health care issues and research relevant to that population or area. NLM will enter into partnerships with local or other significant groups to maintain the web site and potentially expand it to serve additional needs of the constituents.

3.1.2.1 Action Plan

- Identify special populations or subpopulations (e.g., Teens, Seniors) as targets for these web sites
- Develop and maintain web sites that are responsive to the needs of the communities
- Identify new materials and formats for addition to sites; collect and add new materials
- Identify and negotiate with community organization, or other group to collaborate with NLM on the web site and develop accompanying materials and outreach plans
- Provide outreach and training for using health information to empower communities
- Continue to monitor and assess web sites

3.1.2.2 Performance Measures

- Number of page views
- Number of inquiries
- Number of visitors to the sites
- Number of languages in which materials are presented (where appropriate)
- Number of materials in languages other than English
- Number of population-specific health issues covered

3.1.2.3 Outcome Measures

- Increased use of the resources by professionals working with special population groups and by lay members of these groups
- Satisfaction with the resources among health professionals and lay users
- Increased understanding of health topics of special concern to various populations among members of these groups and health professionals who work with them
- Associated projects/programs developed

3.1.2.4 Projected Budget

FY10 \$.19 M

FY11 \$.19 M

3.1.3 Objective Three:

Develop culturally and linguistically appropriate health information for refugees and their caregivers

Each year, more than 15 million people seek political asylum or become refugees in various parts of the world. Of these, the United States welcomes the largest number. Most are displaced persons from developing countries where infectious diseases (e.g., tuberculosis, hepatitis, malaria, and various parasitic and emerging diseases) are prevalent. In addition to communicable diseases, other health problems that are specific to and characteristic of refugees include the physical after-effects of war, torture, and displacement. Refugees are also at risk from a range of mental health problems associated with their previous experience, which may have included periods of war and flight, torture, rape, witnessing violent death, loss of friends and family. Migrants, broadly defined, require a broad range of health services. In all cases, it is important that information be culturally and linguistically appropriate for the respective consumer and their providers.

3.1.8.1 Action Plan

To improve access to quality health information, a collaborative partnership has been formed to develop an information network that will enable resettled refugees, their health care providers and public health administrators to gain access to information relevant to refugee health. The partnership includes the Association of State Refugee Health Coordinators, who have oversight responsibility for refugee health care in their states. This network includes a Web site and database that is linked to existing sites specializing in refugee health, as well as medical information databases from the National Library of Medicine and other credible sources of health information. The network also facilitates communication among health professionals involved in refugee health by using a members-only section of the Web site and an email list.

3.1.8.2 Performance Measures

- Number of individuals or states participating
- Number of items added to the database
- Number of languages included in database
- Number of materials in different languages
- Number of trusted partners
- Usage statistics – number of page views, number of unique visitors
- Number of specific queries sent to the site

3.1.3.3 Outcome Measures

- Health care providers' awareness of the resources
- Health care providers' use of the resources
- Satisfaction of health care providers

- Satisfaction of consumers

3.1.3.4 Projected Budget

FY10 \$.1 M

FY11 \$.1 M

3.1.4 Objective Four:

Develop easy-to-use environmental information resources such as Tox Town and Toxmystery that are sensitive to cultural diversity issues, educational level, and language.

Tox Town was developed in 2003 to help users learn about potential toxins in their homes, schools, and communities. The site uses simplified graphic images to help users navigate through various locations to find information. Initial reception of the site by consumers has been very positive and NLM has conducted focus group testing on the site as well. A text-based Spanish language version has also been developed. Additional scenes have been developed including a city, port, and the U.S.-Mexico Border. Toxmystery was developed as a game for 7-10 year olds to teach them about potential environmental hazards in their home. It has been installed in a children's museum in Pittsburgh where it has become an integral part of the exhibition. Both sites were presented in training sessions and events for school-age children, parents and teachers.

3.1.4.1 Action Plan

- Identify and make additional non-English resources available on Tox Town
- Identify and make available on Tox Town additional health information that is sensitive to culturally diverse groups
- Disseminate information about Tox Town and Toxmystery to health professionals, health care organizations, schools, educational organizations, libraries, health care, community, faith based, and other organizations who work with minority and low income populations
- Exhibit at national meetings of minority health professional and educational organizations and national groups that have a minority focus
- Fund projects with libraries, community, faith-based, minority educational, and other organizations that reach out to minority and low income populations to improve their access to health information.
- Additional plans include:
 - Conduct minority focus groups
 - Conduct usability study of Spanish interface
 - Develop Spanish language promotional materials
 - Conduct presentations to schools and educational organizations
 - Evaluate use of Spanish language site
 - Install Toxmystery in the NLM Visitor's Center
 - Disseminate Toxmystery kiosk specifications to support additional installations

3.1.4.2 Performance Measures

- Number of non-English resources and culturally-sensitive resources available through Tox Town
- Number of hits to Spanish interface
- Number of Spanish language promotional materials distributed

- Number of exhibits at meetings and conferences which target minority groups and health disparities

3.1.4.3 Outcome Measures

- Increased awareness of Tox Town and Toxmystery among educators, librarians, and staff of community-based and faith-based organizations working with minority populations
- Increased awareness of Tox Town and Toxmystery by minority populations
- Increased use of Tox Town and Toxmystery by minority populations
- Increased perceived value of Tox Town and Toxmystery among educators, librarians, and staff of community-based and faith-based organizations working with minority populations
- Increased perceived value of Tox Town and Toxmystery by minority populations

3.1.4.4 Projected Budget

FY10 \$.21 M

FY11 \$.21 M

3.1.5 Objective Five:

Experiment with new economic models that employ minority business enterprises in creation of information resources for special populations

To improve dissemination of HIV/AIDS information, the NLM is augmenting its online collection with tens of thousands of abstracts from AIDS-related conferences. Through the MHA Nation Tribal Economic Development Outreach Project, NLM partners with an American Indian IT company to convert published AIDS-related conference abstracts from print and various electronic media to the standard XML electronic format used in NLM information systems, thus permitting its accessibility by users worldwide. The abstracts will be included in the Meeting Abstracts collection in the NLM Gateway Service. Dual benefits are job creation on an Indian reservation in North Dakota, and improved information dissemination.

An important goal of this objective is the development of a healthy tribal community in part through outreach assistance to a tribal information technology company that would ultimately result in jobs creation on the reservation – in this case, the Ft. Berthold Indian Reservation, home to the MHA Nation—Mandan-Hidatsa-Arikara, also known as Three Affiliated Tribes. Given the high unemployment rates on Indian reservations, the National Congress of American Indians recognizes job creation as one of the top priorities for addressing the underlying causes of many tribal health issues.

3.1.5.1 Action Plan

- Complete Year 2010-2011 plan for conversion of AIDS abstracts into XML
- Complete Year 2010-2011 plan for MHA Systems infrastructure enhancement
- Update quality assurance plan
- Participate in periodic quality control teleconferences with the project management

3.1.5.2 Performance Measures

- Accommodation of any changes in DTD and document conversion standards
- Develop detailed production and quality assurance schedule
- Conduct update training for MHA Systems Inc staff
- Number and frequency of MHA Systems Inc. staff participating in periodic quality assurance teleconferences with the project management
- Upgrade MHA Systems Inc. IT infrastructure in key areas.

3.1.5.3 Outcome Measures

- On schedule document conversion production runs
- Acceptable quality assurance results
- Number and type of any identified document conversion errors
- Prompt corrective actions to address any identified conversion errors.
- Timely and accurate invoicing and business operations for conversion work.
- Number of MHA Systems Inc. staff participating in training updates.
- Percent reliability and uptime of MHA Systems Inc. IT infrastructure supporting the document conversion work.

3.1.5.4 Projected Budget

FY10: \$.19 M

FY11: \$.19 M

3.1.6 Objective Six:

Develop and launch *Salud*, a bilingual magazine for Hispanic readers that complements the English language version of the *NIH MedlinePlus Magazine*

In 2006, the NIH, the NLM, and the Friends of the National Library of Medicine (FNLM) launched the *NIH MedlinePlus* magazine – a free, 32-page, consumer quarterly that contains no commercial advertising, assuring its readers that the information is produced only for the public good. The goal of the *NIH MedlinePlus* magazine is to provide Americans a gold standard of reliable up-to-date health information in a very user-friendly format. The *NIH MedlinePlus* magazine, commended by the Congress, offers readers a comprehensive range of health information backed by the nation’s leading medical researchers. Each issue highlights four major health conditions, giving readers up-to-date and authoritative information on prevention, diagnosis treatment and research findings. It also highlights exciting research currently underway on each condition including on-going clinical trials. Finally, the magazine profiles some of the most fascinating people – from laboratory scientists to public figures – making a difference in the search for medical breakthroughs.

In 2009, an English/Spanish version of the magazine, *NIH MedlinePlus Salud*, was created to bring quality health information to even more people, and to address the specific health needs of the growing Hispanic population. *NIH MedlinePlus Salud* is the NIH’s first general interest consumer magazine in Spanish. The magazine’s content comes from the NIH and includes the latest research and useful health tips. Each article is written in both English and Spanish.

A key component to the magazine's distribution strategy is to reach patients where they are receiving their health care -- in their doctors' waiting rooms, or at their health center, clinic, or hospital. More importantly, we encourage the public to subscribe to it. The intended outcome is for the *NIH MedlinePlus* magazines, and NLM's MedlinePlus.gov web site, to become home reference resources on medical matters for those seeking health information and for those impacted by health disparities so that they will have access to the same quality health information as the rest of the population. The magazine's lively graphics, charts, quizzes and diagnostic tools provide culturally diverse readers of all ages with news you-can-use in easy-to-read formats, both in English and in Spanish, and online.

3.1.6.1 Action Plan

- Partner with organizations having closely aligned patient-education goals to increase the distribution of the magazine to minority and low income populations
- Prioritize distribution based on the greatest need and effectiveness in reaching minority, low income, and low literacy users
- Emphasize the magazine's role of health education aimed at culturally diverse groups
- Distribute magazine at national meetings of organizations that reach out to minority and low income populations
- Conduct focus group testing of the magazine with minority, low literacy, and Spanish speaking users
- Collaborate with organizations serving Spanish speakers to identify key health topics of interest to their members
- Partner with NIH Institutes to increase the number of health topics of interest to culturally diverse populations
- Identify and make available health care information that is sensitive to culturally diverse populations

3.1.6.2 Performance Measures

- Number of subscribers to the bilingual version of the magazine, *NIHMedlinePlus Salud*
- Number of online visitors to the bilingual version of the magazine
- Number of online visits to articles of special interest to minority populations
- Number of distribution outlets that reach culturally diverse populations
- Number of articles with specific focus on issues of interest to culturally diverse populations
- Number of magazines distributed at exhibits that target minority groups and health disparities

3.1.6.3 Outcome Measures:

- Evaluation of reader interest and satisfaction among minorities and low income, and low literacy populations
- Growth in circulation and readership of *NIHMedlinePlus* magazine(s) among minority and low income populations
- Evaluation of effectiveness of distribution to minority and low income populations

3.1.6.4 Projected Budget:

FY10: \$1.15 M

FY11: \$1.15 M

3.2 Area of Emphasis Two:

Conduct outreach to increase awareness and promote use of health information resources and technologies by racial and ethnic minority populations and other health disparity populations

3.2.1 Objective One:

Support special projects with Historically Black Colleges and Universities that promote eHealth programs on their campuses and in their communities

In response to the disparities in morbidity and mortality among minority groups, the National Library of Medicine partnered with the United Negro College Fund Special Programs Corporation (UNCFSP) on a new initiative in 2002 – *The UNCFSP/NLM HBCU ACCESS Project*. Recognizing that access-related issues and the subsequent under-utilization of health information by ethnic minorities perpetuates health disparities, UNCFSP and NLM developed the “eHealth” project to promote increased utilization of the NLM online health resources on Historically Black Colleges and Universities (HBCUs) campuses and in the surrounding communities. The goals of the project include increasing awareness, knowledge, and use of NLM health information resources on HBCU campuses and in the surrounding community, with the expectation that this will contribute to reducing health disparities. An additional goal is to support the development of essential academic success skills in junior HBCU faculty – grant writing, grant management and publishing research findings.

The project includes an annual eHealth workshop for faculty and staff from all HBCUs that includes presentations of model outreach programs, previously funded projects, federal and non-federal funding programs, scientific information about health disparities, as well as an opportunity for training in the use of NLM’s electronic resources. In addition to the annual workshop, each year four HBCUs receive funding for their project, a high level of technical assistance throughout the year, and intensive training for the project team on using electronic health information resources. To date, grantees conducted more than 200 campus and community events, presenting NLM resources to over 5,000 participants.

3.2.1.1 Action Plan

- To work with UNCFSP to host the annual workshop at NLM
- To work with UNCFSP on developing the RFP that solicits applicants for funded projects
- To work with UNCFSP on determining guidelines for technical support to the projects
- To provide training for HBCU faculty and staff

3.2.1.2 Performance Measures

- Number of HBCU courses and other activities that incorporate NLM resources
- Number of HBCU community activities that incorporate NLM resources
- Number of students and faculty members trained in the above activities
- Number of community members trained in the above activities
- Number and types of promotional and informational materials developed by the grantees (including websites)
- Number of attendees to the annual NLM eHealth workshop
- Number of applications for the annual award

3.2.1.3 Outcome Measures

- Increased awareness, knowledge, and use of NLM health information resources among HBCU students, faculty and staff
- Increased perceived value of NLM health information resources among HBCU students, faculty and staff
- Increased awareness, knowledge, and use of NLM health information resources among members of HBCU-surrounding communities
- Increased perceived value of NLM health information resources among members of HBCU-surrounding communities
- Increased knowledge about health disparities among HBCU students and community members
- Number of federal and foundation grants obtained by former project grantees
- Number of project-based publications by former grantees

3.2.1.4 Projected Budget:

FY10: \$.25 M

FY11: \$.25 M

3.2.2 Objective Two:

Train practicing African American health professionals and information professionals to use NLM, NIH, HHS and other quality health information resources

NLM recognizes that it is critical to establish relationships with health professionals, information professionals and members of organizations that encourage and foster communication and information access in local communities and with different segments of the population. It is of particular interest to ensure that the government is meeting the needs of minorities and underserved communities.

Access to the latest and best information is essential to medical decision-making for patients and their providers. Despite its tremendous potential, many members of minority communities do not have access to electronic information resources. Many minority health professionals serve in their own communities and also may lack access to or knowledge of these important resources.

NLM is approaching this program on a number of fronts. NLM collaborates with the five ethnic caucuses of the American Library Association (the American Indian Library Association, the Asian Pacific American Library Association, the Black Caucus of the American Library Association, the Chinese American Library Association and Reforma) and

the Office of Literacy and Outreach Services, ALA to develop the capacity of minority librarians and librarians serving minority and low literacy communities to access and use NLM's quality health information resources. Activities include bringing health topics and health information components to their annual meetings to increase awareness and provide training. The five ethnic caucuses, OLOS and the NLM believe that the sharing of health information and knowledge within communities of color will result in improved health outcomes for diverse populations.

Another mechanism that NLM is using to identify needs is through the librarians at the health sciences libraries of minority educational institutions. These librarians and their libraries service minority health professionals, students, and their communities and are uniquely situated to provide this input to NLM. NLM then uses this information to create products, programs, and services.

To facilitate access to and delivery of health science information through information technology for health care providers, NLM maintains a training program with the National Medical Association (NMA). Improving the ability of NMA's members to use quality health information resources, including those from NLM, enables them to remain current in their area of specialty, conduct medical research, improve patient care, involve their patients in clinical trials, and provide consumer level information for their patients. NLM provides training courses at NMA regional and annual meetings to introduce physicians and their staffs to health information databases and other electronic resources and services. NLM also has a training program with the National Black Nurses Association and would like to expand to other health professional organizations.

3.2.2.1 Action Plan

- Collaborate with the American Library Association Ethnic Caucuses to provide conference support for health information programming and identify other relevant activities
- Collaborate with the National Medical Association to plan and conduct training activities at regional meetings
- Identify additional health professional groups and associations with which to collaborate
- Conduct presentations or training activities at meetings of health professionals and health information professionals
- Assess progress, barriers, outcomes of minority consumer health outreach projects and refine program

3.2.2.2 Performance Measures

- Number trained
- Number of training sessions
- Feedback from pre- and post- training surveys
- Number and types of projects conducted

3.2.2.3 Outcome Measures

- Improved strategies for information dissemination in minority communities
- Improved access to information by minority health professionals, information professionals, and community members

3.2.2.4 Projected Budget

FY10: \$.135 M

FY11: \$.135 M

3.2.3 Objective Three:

Promote improved access to HIV/AIDS information to health professionals, patients, the affected community and their caregivers, as well as the general public in minority communities.

NLM is continuing to expand community-based outreach programs for underserved communities to improve access to HIV/AIDS information for health professionals, patients, the affected community and their caregivers, as well as the general public. A comprehensive AIDS information service is vital to enable people to combat the AIDS epidemic. Scientists, physicians, educators, and other health professionals need rapid access to the latest information on AIDS research, diagnosis, treatment, control, and prevention. Consumers require similar access to appropriate information for decision-making about their behavioral choices and treatment. Community-based organizations, clinics and other types of service providers also need access to high quality, accurate and timely information for their staff and clients. NLM initiated its efforts to work with consumers based upon recommendations from a joint NLM/OAR sponsored conference held in 1993 designed to elicit input from the community about needed services and resources. Since that time, interactions with representatives of AIDS community-based organizations have indicated that there is a continued need for quality information products and services, training, and funding for local efforts to improve access. As the epidemic has expanded further into minority communities, the need for resources and training has increased significantly, rather than decreased. NLM is now working with grassroots organizations that focus on the immediate needs of socioeconomically disadvantaged minorities to assist in developing infrastructure for information access. The goal is to enable organizations to provide access to quality information resources to their clients, staff, and community, as well as to incorporate the use of accurate information into the routine conduct of their business.

The major objectives in NLM's HIV/AIDS outreach and training program include: 1) Providing an annual funding program to enable community organizations, health departments, and libraries to provide access to electronic resources, training in the use of these resources, expanding collections, Internet connections, development of locally specific information materials, town hall meetings, and opening access to collections and document delivery services; 2) Maintaining and updating HIV/AIDS information resources, particularly AIDSinfo and infoSIDA, with Spanish language enhancements, including translations of titles and summaries of clinical trials, development of training resources and supporting materials, translation of the current glossary, and other related enhancements to make HIV/AIDS databases more useful to Hispanic communities; 3) Conducting training courses for faculty, staff and students at Historically Black Colleges and Universities (HBCUs) and other Minority Educational Institutions, and their local communities in accessing and using electronic HIV/AIDS resources. Emphasis is placed on supporting community-based organizations, libraries, faith-based organizations, and health departments to design and implement local programs that include information access topics related to

information retrieval, skills development, Internet access, resource development and document access, e.g., through collaboration with local public libraries.

3.2.3.1 Action Plan

- Issue annual RFQ for HIV/AIDS Community Information Outreach Program, publicize and promote the HIV/AIDS Community Information Outreach Program, encourage proposal submissions, and issue awards
- Monitor performance of funded HIV/AIDS Community Information Outreach Program submissions, if needed, provide support / technical assistance
- Use feedback from completed funded HIV/AIDS Community Information Outreach Program to inform future award process and program promotion
- Work with community organizations to promote an understanding of the role of information and information access in fighting HIV/AIDS
- Work with minority educational institutions including HBCUs, Tribal Colleges and Universities, and Hispanic Serving Institutions as well as other government agencies to co-sponsor conferences with opportunities for training workshops and information dissemination
- Exhibit and conduct presentations and training sessions at meetings of minority health professionals such as the Black Nurses Association and the National Medical Association.
- Conduct training courses at HBCUs, Hispanic Serving Institutions, Tribal Colleges and other institutions with high minority populations. Invite participation by representatives of local community organizations in these training courses.
- Continue to work with the National Minority AIDS Council on the Equal Access Initiative, to provide training to leaders and staff at funded minority serving AIDS community-based organizations.
- Work with the National Minority AIDS Council and the NIH Office of AIDS Research to expand the Equal Access Initiative with Spanish language materials and resources for the Caribbean.
- Promote the use of AIDSinfo and its companion Spanish-language site, infoSIDA, in minority communities and to providers serving high minority populations

3.2.3.2 Performance Measures

- Number of community-based organizations submitting proposals for NLM funding
- Number of community-based organizations contacted with information about HIV / AIDS Community Outreach Program
- Number of community-based organization staff and members trained in accessing AIDS information resources
- Number of faculty, staff and students trained from minority educational institutions
- Number of exhibits, presentations and training courses held at HBCUs, minority institutions, or at minority health professional conferences/meetings
- Number of projects funded at minority institutions
- Number of training courses and attendees at Equal Access Initiative training sessions

3.2.3.3 Outcome Measures

- Increase in the awareness and utilization of NLM HIV/AIDS information resources among HBCU students and faculty, staff of community-based organizations and members of affected communities
- Increase in the perceived value and usefulness of NLM HIV/AIDS information resources among HBCU students and faculty, staff of community-based organizations and members of affected communities
- Increase in the awareness of NLM HIV/AIDS information resources among NLM course trainees and exhibit and presentation attendees
- Increase in the knowledge about NLM HIV/AIDS information resources among NLM course trainees and exhibit and presentation attendees
- Increase in the perceived value and usefulness of NLM HIV/AIDS information resources among NLM course trainees and exhibit and presentation attendees
- NLM plans to measure impact and outcomes of new awards through the analysis of the findings disseminated by awardees and staff.

3.2.3.4 Projected Budget

FY10: \$.25M

FY11: \$.25M

3.2.4 Objective Four:

Collaborate with tribal health systems, tribal colleges, and other Native American organizations and agencies to improve access to and use of health information by health care providers, patients and the general public on reservations and in Native communities.

Native American populations may have limited access to health information in their health care settings, local educational institutions, and in other settings within the community. In many cases a public library is not available or does not have a health information component, or there may be other barriers to its use. Over the last 12 years, NLM has conducted a variety of health information outreach projects with Native American organizations and developed model information access programs, which can provide guidance on how to help meet this need.. These have included projects with American Indians, Alaska Natives, and Native Hawaiians. The projects have included information technology infrastructure improvements in Native communities, hardware and software upgrades, training in online use of health information for health providers, patients, and families, and a variety of special health education and awareness projects (such as health fairs, healthy lifestyle classes).

For example, a partnership exists among the Chickasaw Nation, the National Library of Medicine and a technology company owned by a member of the Chickasaw Nation, to develop a health information center in the Chickasaw Nation's health facility. The information center, coupled with training for staff and patients, combined with outreach and promotional work, will ultimately provide excellent services to patients and their families as well as other tribal members and the providers. No medical or health library currently exists in the health facility.

As another example, NLM is partnering with the Tribal Library at the Cankdeska Cikana Community College, Ft. Totten, ND, to improve the library's coverage of health-related

literature and information, and to intensify the library's engagement with the local tribal community on health-related topics. As a result of outreach initiatives to Native Americans, NLM has identified outreach to tribal libraries as a priority. In many cases, tribal libraries provide a vital access point for students and community members to the health-related literature.

NLM will continue to carry out carefully selected health information outreach projects with Native Americans, as part of NLM's and NIH's implementation of the HHS and White House tribal consultation policies and guidance.

3.2.4.1 Action Plan

- Review prior and ongoing Native American outreach projects.
- Identify lessons learned and current or emergent project needs.
- Identify and negotiate with tribe or organization to collaborate with NLM
- Develop the partnership
- Identify needs and how best to fill them
- Identify location and implement training
- Conduct outreach and promotion of the information center
- Continue to monitor and assess service

3.2.4.2 Performance Measures

- Number of users of information centers and libraries
- Number of questions received by the information center
- Number of health information outreach sessions or meetings held.
- Number of Native American training participants in outreach sessions.
- Percentage or number of participants that are health providers.
- Quality of collaboration among participants.
- Feedback from outreach participants.
- Number of planning meetings or activities.
- Number of tribal site visits conducted.
- Number of tribal college staff and tribal community representatives consulted.

3.2.4.3 Outcome Measures

- Improved access to information by the community served
- Number and quality of specific projects identified or initiated.
- Associated projects/programs developed at the site
- Number of new or enhanced tribal connections for health information (where applicable).
- Involvement of tribal libraries and health clinics in project implementation.
- Results of training (and other interventions).
- Lessons learned and submitted to NN/LM community outreach clearinghouse.
- Levels of tribal awareness of web-based health information resources relevant to tribal health concerns.
- Changes in health information seeking behavior of tribal participants in training sessions and special activities.

3.2.4.4 Projected Budget:

FY10: \$.11 M

FY11: \$.11 M

3.2.5 Objective Five:

Experiment with an innovative fellowship program for tribal leaders that co-trains health and information technology

NLM has initiated a fellowship program for representatives from Native American tribes and communities (including Native Alaskans and Native Hawaiians) to learn (1) about NLM's programs and services, (2) how to use information resources and integrate them into their programs, (3) information technology, (4) information dissemination. The fellows study successful community-based projects funded by NLM and develop ideas on how to involve their community in this process.

NLM's experience with Native American tribes and communities indicates that many are not only unfamiliar with health information resources, but equally unfamiliar with the process of obtaining funding and implementing programs in information access. They are not likely to have the expertise to provide training in the use of information resources and services. An information fellowship for staff from tribal groups may provide the needed experience and understanding to enable them to take advantage of government programs and resources.

The objective for this program is to provide an opportunity for representatives from American Indian tribes, agencies or organizations, Alaskan Native tribes or villages, and Native Hawaiian communities to learn about the National Library of Medicine, the National Network of Libraries of Medicine, and successful information projects currently underway. This project not only provides training in the use of information resources, instruction in managing information outreach projects, information about potential opportunities, but most importantly, connection with people and programs that might provide support and assistance in the future.

3.2.5.1 Action Plan

- Plan curriculum for fellowship
- Identify annual participants
- Conduct fellowship
- Continue to monitor and assess progress
- Adjust curriculum based upon feedback
- Identify methods and criteria for selecting new fellows

3.2.5.2 Performance Measures

- Attendance at scheduled sessions
- Professional contacts made during fellowship
- Positive feedback from interactions

3.2.5.3 Outcome Measures

- Successful project proposal for NLM funding
- Increased awareness and knowledge of NLM health information resources
- Increased use of health information resources
- Increased understanding of what constitutes a successful information outreach program
- Increased familiarity with information technology
- Successful local projects
- Ongoing relationship with NLM and NN/LM

3.2.5.4 Projected Budget

FY10: \$.12M

FY11: \$.12M

3.2.6 Objective Six:

Experiment with educational models engaging Hispanic high school student leaders to train fellow students and their families to use health information resources

Over the last nine years, NLM has conducted health information outreach and health careers training programs with Hispanic-serving high schools in the Lower Rio Grande Valley of Texas. These outreach programs are focused primarily on minority high school students who attend various magnet high schools in the South Texas Independent School District. The program started with the South Texas High School of the Health Professions, known as MedHigh, and has expanded to include several other health-related magnet high schools in that region. The core concept is MedlinePlus High School Peer Tutoring, where high school students are trained in access to and use of MedlinePlus online health information, and then in turn train their peers in finding and using such health information. The program has evolved to include direct student collaboration with teacher and librarians, student participation in curriculum development, participation in health fairs, summer institutes, and student health organizations, and varied community outreach. In the last two years, the program has expanded to explicitly include training for students in health careers directions and opportunities. The program has received numerous awards for excellence, including from the Texas State Library Association, National Commission on Libraries and Information Science, and the Institute for Libraries and Museum Services.

3.2.6.1 Action Plan

- Complete academic year high school peer tutoring planning
- Identify lessons learned and current/emergent project needs
- Select high return new, revised, or extended project elements for inclusion
- Implement high school peer tutoring health information outreach and training plan
- Evaluate high school peer tutoring plan implementation

3.2.6.2 Performance Measures

- Number and quality of peer tutoring activities included in plan
- Number of students participating in planning activities
- Roles of students participating in planning
- Number of teachers and librarians participating in planning

- Inclusion of planning and evaluation specialist in planning and implementation
- Number of students, teacher, and librarians participating in plan implementation
- Balance of implementation activities among health information and health careers training elements

3.2.6.3 Outcome Measures

- Number of fully trained high school peer tutors
- Number of home high school and other high school students trained by the peer tutors
- Number of curriculum elements substantially developed by the peer tutors
- Evaluated quality of peer tutor training and related curriculum
- Perceived student and faculty satisfaction with peer tutoring
- Enhanced role of librarians in the academic and teaching process
- Number of high school students trained in MedlinePlus
- Number of high school students trained to use online health careers websites
- Perceived student satisfaction with MedlinePlus and health careers websites
- Number of peer tutors participating in health fairs and similar
- Number of students and others attending health fairs and visiting the peer tutor exhibit tables
- Student feedback on the value of the peer tutor health fair exhibits
- Number of peer tutors participating in community health outreach
- Number of community members attending peer tutor activities
- Independent evaluation of peer tutoring activities and programs
- Contributions of the peer tutoring program to student academic and career development
- Perceived satisfaction by graduated peer tutors
- Observations of high school teachers and librarians on the efficacy of the peer tutor program

3.2.6.4 Projected Budget:

FY10: \$.102 M

FY11: \$.102 M

3.2.7 Objective Seven:

Participate in national and regional powwows

An outgrowth of NLM's Tribal Connections Program is the NIH Native American Powwow Initiative. This initiative began in the offices of the NIH Acting Deputy Director and NIH Director's Equal Employment Opportunity Officer, who both realized that the Tribal Connections Pacific Northwest and Southwest might be relevant closer to NIH's home base in Bethesda, MD. NIH and NLM collaborated on the initial formulation of the powwow initiative. The initiative is now in its ninth year, with several institutes participating. To date, NLM HQ has participated in about 55 powwows, most in the greater mid-Atlantic region (states of NC, VA, MD, DE, NJ, and PA). The NLM involvement includes staff from the OD/OHIPD, OD/OA, OD/OCPL, and OCCS, and the SIS, LO, LHC, and NCBI. The NLM powwow exhibit includes wireless "live" demonstrations of MedlinePlus and other consumer-oriented web sites, when electric power and wireless cell connections are available at the powwow location. At all powwows, NLM provides a range of health information pamphlets on NLM resources to complement the face to face outreach and response to

queries that powwow attendees may have. Overall, NLM has found that powwow attendees are very open to and interested in health information, for themselves and their families.

3.2.7.1 Action Plan

- Complete Year Nine of the NIH Native American Pow-Wow Initiative.
- Train NLM staff participating at the powwow
- Evaluate Pow-Wow Initiative and Develop Future Plans.
- Implement Pow-Wow Continuation Plan on a Phased Basis.

3.2.7.2 Performance Measures

- Number and quality of powwow planning activities.
- Number of pre-powwow staff training activities.
- Efficient powwow scheduling and logistical arrangements.
- Number and distribution of NLM staff participating in the powwow initiative.

3.2.7.3 Outcome Measures

- Number, geographic spread, and diversity of powwows selected for inclusion.
- Estimated powwow attendance and percentage of attendees visiting the NIH/NLM exhibit tables.
- Number of persons watching or participating in online computer searching demos at the powwows.
- Anecdotal evidence of the powwow attendees' interest in NIH/NLM exhibits and prospective (or actual) use of health information from exhibited web sites.
- Overall value added of powwow participation, as compared with other types of outreach and with the associated financial and staff costs and logistical arrangements.
- Lessons learned for effective powwow participation and implications for future powwow activities in the Mid-Atlantic region and other regions.

3.2.7.4 Projected Budget

FY10: \$.03 M

FY11: \$.03 M

3.2.8 Objective Eight:

Exhibit health information resources at community and professional conferences that reach audiences from racial and ethnic minority populations and other health disparity populations

The NLM participates as an exhibitor at approximately 25 community and professional conferences per year that are intended for audiences from racial and ethnic minority and other health disparity populations. The purpose of NLM's presence is to increase awareness and expand knowledge of the NLM, NLM websites, and the NIH. The exhibit includes live demonstrations of MedlinePlus and other consumer-oriented web sites. In addition, NLM provides a range of health information pamphlets on NLM resources to complement the face to face outreach and response to queries that attendees may have.

3.2.8.1 Action Plan

- Conduct planning activities to identify events at which to exhibit

- Participate as exhibitor in the conferences
- Evaluate success of the exhibit activity

3.2.8.2 Performance Measures

- Number, geographic spread, and diversity of exhibits selected for inclusion

3.2.8.3 Outcome Measures

- Estimated conference attendance and percentage of attendees visiting the NIH/NLM exhibit booth
- Number of persons watching or participating in online computer searching demos at the exhibit booth
- Anecdotal evidence of the exhibit visitors' interest in NIH/NLM exhibits and prospective (or actual) use of health information from exhibited web sites
- Overall value added of exhibit participation, as compared with other types of outreach
- Lessons learned for effective exhibit participation and implications for future exhibit activities

3.2.8.4 Projected Budget

FY10: \$.25 M

FY11: \$.25 M

3.2.9 Objective Nine:

Deploy the 5,800 member National Network of Libraries of Medicine (NN/LM) to identify and address gaps in local health information access and use by racial and ethnic minority populations and other health disparity populations

3.2.9.1 Action Plan:

The NN/LM National Network Office will prepare the Request for Proposals for the 2011-2016 NN/LM contracts. The purpose of these contracts is to achieve at a minimum the following goals: a) develop collaborations among NN/LM libraries to improve access to and sharing of biomedical and electronic health information resources; b) promote awareness of and access to biomedical and electronic health information resources for health care providers, the public health workforce and the public; and c) develop, promote and improve access to electronic health information resources among Network member libraries, health care providers, the public health workforce, and organizations that provide health information to the public. With more than 5800 full and affiliate members representing academic health sciences libraries, hospital libraries, public libraries, and community based organizations, the NN/LM plays a pivotal role in NIH's outreach programs to reduce health disparities and improve health information literacy.

3.2.9.2 Performance Measures

- Award NN/LM contracts to eight health science institutions.

3.2.9.3 Outcome Measures

- Number of activities with a focus on minority groups and health disparities areas

- Number of training sessions in which half or more than half of participants were from minority populations
- Number of projects funded targeting minority and underserved groups
- Number of exhibits at national health professional and consumer-oriented meetings that target minority and underserved populations.

3.2.9.4 Projected Budget

This is a core structural component of NLM's operational programs and activities, providing infrastructure for information outreach program. The outreach budget for the health disparities component of the NN/LM is included in Objective 3.2.10.

3.2.10 Objective Ten:

Create new partnerships among academic health sciences libraries, public libraries, and community-based organizations with the goal of forming community coalitions to improve access to health information for members of minority and underserved populations as well as health professionals serving these populations

3.2.10.1 Action Plan

The National Network of Libraries of Medicine (NN/LM) directs considerable resources and effort at the development, implementation and evaluation of outreach programs and plays a pivotal role in NLM's outreach programs to reduce health disparities and improve health information literacy. The major focus of the outreach program is outreach to health care providers and consumer health information services. The program encourages and support collaborations and partnerships with Network member libraries through funded projects and agreements. The projects are designed to target: a) Special populations; b) Health care providers and public health workers serving special populations; and c) Minority institutions and those whose objective is to train minority health practitioners or those who serve minority populations. NLM funds approximately 200 community-based projects per year to enhance access to health information for minority and underserved populations, building upon long-standing relationships with minority-serving institutions and developing many new relationships with schools, churches, public health departments, and others interested in improving health literacy and information access. Projects take place in rural and inner city communities and special populations across the United States.

3.2.10.2 Performance Measures

- Fund projects with libraries, community, faith-based and other organizations that work with minority and low-income populations to improve their access to health information.
- Develop programs that focus on reaching minorities and underserved populations.
- Develop programs to expand the awareness and use of NLM's resources.
- Train members of the target populations.
- Sponsor technology fairs.
- Exhibit at health professional and consumer-oriented national meetings that target minority and underserved populations.
- Enhance the Internet access capabilities of Network member libraries.

3.2.10.3 Outcome Measures

- Increase the number of individuals introduced to NLM's resources and services
- Increase the number of partnerships formed
- Evaluate funded projects which target minority and underserved populations

3.2.10.4 Projected Budget

FY10: \$.48 M

FY11: \$.48 M

3.3 Area of Emphasis Three:

Develop exhibition programs that showcase and explore the scope, causes, and possible solutions to health disparities

The Exhibition Program of the National Library of Medicine presents lively and informative exhibitions that enhance the awareness and appreciation of science, medicine, and history. The Program conducts scholarly research in science, medicine, and history; interprets that research for presentation to diverse audiences; designs and develops engaging displays; and produces educational outreach programs. The Exhibition Program makes traveling versions of its exhibitions, which are hosted by America's libraries and medical centers. Scores of school groups and other organizations visit the exhibitions each year, and many more are able to access the accompanying online versions.

3.3.1 Objective One:

Maintain an exhibition on the global health challenge to prevent disease and improve quality of life

Continuing through FY2010 at NLM, the interactive exhibit, *Against the Odds: Making a Difference in Global Health* addresses the revolution in global health that is taking place in towns and cities around the world. Examples include a look at the public health problems posed by Hurricane Katrina; the barefoot doctors program, which trained over one million young people to treat the common ailments of residents of rural China in the 1960s and 1970s; a campaign for oral rehydration in Bangladesh that was so successful that it has been adopted in Afghanistan as well; and, in another example of nation-to-nation collaboration, *Against the Odds* shows how the Pholela Health Center in South Africa inspired the community health center movement in the U.S.

Throughout, harnessing the best of 21st century technology, engaging text and graphics, and interesting objects, *Against the Odds* focuses on how individuals and communities, in collaboration with scientists, advocates, governments and international organizations, are taking up the challenge to prevent disease and improve quality of life and are making a difference in the health of people around the globe. Recognizing all the factors that cause illness, they are working on a wide range of issues—from community health to conflict, disease to discrimination. The people who face these problems play an important role in their resolution, and the exhibit promotes the idea each of us can participate in the search for solutions.

3.3.1.1 Action Plan

- Implement exhibition education and outreach plan
- Implement traveling exhibition plan
- Maintain online exhibition presence

3.3.1.2 Performance Measures

- Number of in person and online visitors to the exhibition
- Number of formal tour group visitors, including K-12 students

3.3.1.3 Outcome Measures

- Number and types of traveling exhibition opportunities
- Levels of exhibition visitor satisfaction
- Exhibition press and public affairs coverage

3.3.2 Objective Two:

Implement an exhibition on Native American concepts of health and illness

Over the last 5 years, NLM has conducted consultations that have laid the groundwork and developed materials for the next NLM major exhibition, tentatively titled “Native Concepts of Health and Illness.” This exhibition is a capstone of NLM’s Native American outreach over the last decade. The exhibition will present Native Concepts relevant to health using to the maximum extent practicable the statements, recordings, artifacts, and art work and literature of Native Americans on this topic. The exhibition will have a physical presence at the main NLM building in Bethesda, MD, and will have both an online web presence and smart phone and social networking presence that will allow citizens from throughout the country to benefit from the exhibition’s information and presentations.

3.3.2.1 Action Plan

- Complete exhibition planning
- Convene exhibition advisory group
- Implement exhibition plan
- Implement exhibition opening night and associated activities
- Implement exhibition education and outreach plan

3.3.2.2 Performance Measures

- Number of planning and advisory group meetings
- Iterations of exhibition plan
- Number of Native Concepts exhibition modules
- Number of commissioned Native exhibition elements
- Number of Native Americans consulted during exhibition implementation
- Number of Native American interviews conducted

3.3.2.3 Outcome Measures

- Number of Native Americans participating in opening events
- Collaboration with Native groups in the exhibition opening

- Number and type of Native design, presentation, and content elements in the exhibition
- Number of in person and online visitors to the exhibition
- Number of formal tour group visitors, including K-12 students
- Number of Native tribes and other Native organizations reached by the exhibition outreach
- Number of partnerships with tribal museums, libraries, and educational institutions, and similar
- Traveling exhibition opportunities
- Levels of exhibition visitor satisfaction
- Exhibition press and public affairs coverage

3.3.3 Objective Three: Implement an annual exhibition in celebration of African American History Month

In celebration of African American History Month, the NLM partners with the traveling exhibition program of the Schomburg Center for Research in Black Culture, which is a research library of the New York Public Library, to present high quality exhibitions featuring health-related topics of important to African American history.

In 2010, the NLM is presenting a panel *Within these Walls: Contraband Hospital and the African Americans Who Served There*. This unique exhibition brings to light a story not known to many Americans, about Contraband Hospital in Washington, DC, which provided care to fugitive slaves and African American soldiers during the Civil War. Through personal stories, observations, photographs and historical documents, *Within These Walls* documents the efforts of unsung African American surgeons and nurses to provide care and comfort to black soldiers and civilians.

For African American History Month 2009, the exhibit *Nelson Mandela: Man of the People*, an extraordinary photographic tribute to the life and work of South Africa's first democratically elected President. The exhibition featured the work of the critically acclaimed photographer, Dr. Peter Magubane.

In addition to the African American History Month showcase exhibit, the NLM emphasizes topics relevant to addressing health disparities in selecting the full range of its exhibition program.

3.3.2.1 Action Plan

- Develop annual exhibition for African American History month
- Identify partners for the exhibition content
- Convene exhibition advisory group
- Develop and implement exhibition plan
- Implement exhibition opening night and associated activities
- Implement exhibition education and outreach plan

3.3.2.2 Performance Measures

- Number of planning and advisory group meetings
- Iterations of exhibition plan
- Installation of exhibit

3.3.2.3 Outcome Measures

- Number of in person and online visitors to the exhibition
- Number of accesses to online materials related to the exhibit
- Levels of exhibition visitor satisfaction
- Exhibition press and public affairs coverage

4.0 AREAS OF EMPHASIS IN INTEGRATION of RESEARCH, RESEARCH CAPACITY BUILDING, and COMMUNITY OUTREACH, INFORMATION DISSEMINATION and PUBLIC HEALTH EDUCATION

4.1 Area of Emphasis One:

Increase research capacity through information technology, information dissemination and outreach to minority-serving colleges and universities

4.1 Objective One:

Initiate collaborative projects with Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs) and Hispanic Serving Institutions to strengthen their capacity to conduct research addressing environmental health and health disparities in minority and low socioeconomic communities

The environmental justice movement took shape in the early 1980s, questioning inequities in the distribution of toxic waste sites that activists asserted were disproportionately located in minority and other low-income areas. In 1987, the United Church of Christ published a study, *Toxic Waste and Race in the United States*, calling attention to the association between hazardous waste facilities and the racial/socioeconomic composition of the communities hosting such facilities. The study reported that while economic status played an important role in the nationwide location of commercial hazardous waste facilities, the race of the residents proved to be a more significant determinate.

In 1990, then-Governor Clinton of Arkansas organized a group of seven governors to assess the state of the environment in the Delta Region covering 219 counties between Illinois and the Gulf of Mexico. A result of this initiative was the Mississippi Delta Project, an objective of which was to create partnerships among government, academia, private sector organizations, and community residents. Through these partnerships efforts were made to identify key environmental hazards, promote environmental quality, and reduce and, where possible, prevent these hazards from impacting on health and the environment. Emphasis was placed on affected persons in underserved communities. The National Library of Medicine was one of the federal agencies and institutes cooperating in the Mississippi Delta Project.

The Environmental Health Information Partnership (EnHIP) began in 1991 as the Toxicology Information Outreach Project. The initial mission of this project was to strengthen the capacity of Historically Black Colleges and Universities (HBCUs) to train health professionals to use NLM's Toxicology and Environmental Health Information Program databases. Instructional resources were to be developed to support academic programs such as: 1) educational tools to increase awareness of information resources available, 2) instructional tools for teaching students and faculty how to use these information resources, and 3) a new mechanism to reach minority and underserved communities to increase their understanding of risks associated with exposure to toxic and hazardous chemicals.

The initial collaboration began with nine Historically Black Colleges and Universities (HBCUs) that had graduate programs in biomedicine. The current program includes

representation from 14 HBCUs, 3 Hispanic Serving Institutions, and 3 Tribal Colleges. The goal is to strengthen the capacity of participating minority serving educational institutions to use NLM's electronic resources in the classroom and in the community to eliminate health disparities and improve health. Not only do faculty, staff and students at the participating institutions receive training in using NLM's toxicology, environmental health, and other electronic resources, but representatives from the participating institutions attend twice yearly meetings that include updates about NIH and NLM programs, funding opportunities, and a topical area of interest to the participants. NLM also supports development of local programs and projects related to health disparities and NLM goals, but also meet their own missions. The member institutions are training a large segment of the minority health professionals of the future or they are preparing minority students to pursue professional education. This is a group that will be critical to eliminating health disparities in their communities. Partnering with NLM and with each other will help them build appropriate competencies to take advantage of health information and technology.

As a result of this project, online searching has been integrated into the curricula at many of the HBCUs involved in the project. Even further, several of the HBCUs have used this exposure to electronic information resources to implement programs in medical informatics. To date, over 80 HBCUs have participated in the extended project and training is continuing at HBCUs throughout the country. Reports from many of the HBCUs indicate that the awareness and interest generated by this training has enabled them to work collaboratively with other institutional components to bring these NLM resources as well as access to the Internet to their institutions. NLM conducted a formal assessment which showed the profound impact that program has had on the participating schools.

To further extend the impact of this effort and to address the concerns about health disparities that may be associated with race, socioeconomic status, environmental factors, etc., this effort was expanded from the HBCUs to include more broadly members of minority and low socioeconomic communities as well as other educational institutions serving minority populations.

4.1.1.1 Action Plan

- Collaborate with HBCUs, tribal colleges, and Hispanic Serving Institutions to hold training courses for faculty, staff and students
- Collaborate with professional organizations of minority health professionals to hold training courses
- Identify minority community-based organizations to collaborate with for training and information dissemination
- Disseminate information about NLM's resources and services
- Develop materials for use by minority organizations, institutions, and health professionals
- Conduct presentations at conferences
- Sponsor or co-sponsor conferences and meetings to create opportunities to raise awareness and disseminate information.
- Encourage/fund the development and implementation of local information access or information use programs and projects

4.1.1.2 Performance Measures

- Number of training courses conducted on HBCU campuses, at tribal colleges or Hispanic Serving Institutions
- Number faculty, staff, students, community members trained
- Number of professional organizations of minority health professionals, with which collaborations were developed and / or maintained
- Number of promotional and informational items developed
- Number of conferences sponsored
- Number of conference attendees
- Number of presentations and exhibits delivered at conferences
- Number of new projects developed

4.1.1.3 Outcome Measures

- Ongoing qualitative assessment of EnHIP
- User satisfaction with training
- Increased awareness, knowledge and perceived value of NLM resources among course and conference attendees
- Increased awareness, knowledge and perceived value of NLM resources among staff and stakeholders of minority health professionals organizations
- Tracking new projects supported and analyses of progress

4.1.1.4. Projected Budget

FY10: \$.51 M

FY11: \$.51 M