

National Library of Medicine Environmental Health Information Outreach Program

Advances in Science: Environmental Cardiology

Proceedings
January 26, 2007



Environmental Health Information Outreach Program

The mission of the Environmental Health Information Outreach Program (EnHIOP) is to enhance the capacity of minority serving academic institutions to reduce health disparities through the access, use and delivery of environmental health information on their campuses and in their communities.

Assumptions: Environmental health refers to the impact of chemical, microbial, physical, and radiological agents on the health of living organisms.

Minority serving educational institutions are those served by programs funded under Title III Historically Black Colleges and Universities, American Indian Tribally Controlled Colleges and Universities, Alaska Native and Native Hawaiian Serving Institutions, and Title V Hispanic Serving Institutions.

Visit the EnHIOP home page at <http://sis.nlm.nih.gov/outreach/enhiop.html>.

Current Participating Institutions

- Benedict College**—Columbia, SC
- California State University at Northridge**—Northridge, CA
- Charles R. Drew University of Medicine and Science**—Los Angeles, CA
- Diné College**—Tsaile AZ and Shiprock, NM
- Florida A&M University**—Tallahassee, FL
- Hampton University**—Hampton, VA
- Haskell Indian Nations University**—Lawrence, KS
- Howard University**—Washington, DC
- Jackson State University**—Jackson, MS
- Medgar Evers College**—New York, NY
- Meharry Medical College**—Nashville, TN
- Morehouse School of Medicine**—Atlanta, GA
- Morgan State University**—Baltimore, MD
- Oglala Lakota College**—Pine Ridge, SD
- Southern University at Baton Rouge**—Baton Rouge, LA
- Texas Southern University**—Houston, TX
- Tuskegee University**—Tuskegee, AL
- University of Puerto Rico Medical Sciences Campus**—San Juan, PR
- University of Texas at El Paso**—El Paso, TX
- Xavier University of Louisiana**—New Orleans, LA

THE NATIONAL LIBRARY OF MEDICINE

**ENVIRONMENTAL HEALTH
INFORMATION OUTREACH PROGRAM**

PROCEEDINGS

Morehouse School of Medicine
Atlanta, Georgia
January 26, 2007

Advances in Science: Environmental Cardiology

Prepared for
Specialized Information Services Division
National Library of Medicine

Prepared by
Medical Education and Outreach Group
Oak Ridge Institute for Science and Education

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MOREHOUSE SCHOOL OF MEDICINE

Morehouse School of Medicine (MSM) was established in 1975 as the Morehouse College Medical Education Program. The mission of what was then a two-year program was the recruitment and training of minority and other students committed to the primary health care needs of minorities and the underserved. Independence from Morehouse College and a name change to Morehouse School of Medicine came in 1981. In 1983, MSM joined the Atlanta University Center (AUC), a consortium of five predominantly black institutions of higher learning in close proximity. The AUC institutions (Morehouse School of Medicine, Clark Atlanta University, the Interdenominational Theological Center, Morehouse College, and Spelman College) share the common goal of providing quality education for African Americans and other students of diverse backgrounds.



The meeting of the Environmental Health Information Outreach Program was held on the MSM campus at the Louis W. Sullivan National Center for Primary Care (NCPC), the only congressionally designated center of its kind in the United States. Dedicated in 2002, the NCPC serves as a national resource for education, research, and policy leadership in primary health care. The NCPC Executive Board Room, seen in the picture above as the diagonal extension of windows, is an exceptional meeting facility that could well serve as a model for others in size, layout, and multimedia capabilities.

MSM has grown into a four-year institution and is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools and offers the following degrees: doctor of medicine, doctor of philosophy in biomedical sciences, master of public health, and master of science in clinical research. Seven residency programs are available: family medicine, community health and preventive medicine, internal medicine, obstetrics and gynecology, psychiatry, surgery, and pediatrics.

MSM's commitment to community service is evident in its educational, research, and service programs. Outreach and mentoring are an integral part of the programs, and residents serve in hospitals that address the health care needs of Atlanta's underserved populations. MSM's 13 research centers and institutes focus on diseases and conditions that disproportionately affect African Americans and other minorities around the world. In addition, approximately 60 percent of the alumni honor the school's mission by serving in communities located in rural areas and inner cities.

Among its many honors, MSM has been recognized by the Association of American Medical Colleges for its leadership in primary care training. In 1993, 1995, and 1999, MSM led the nation's medical schools in the percentage of graduates entering primary care practices.

*The Morehouse School of Medicine is a historically black institution established to recruit and train minority and other students as physicians, biomedical scientists, and public health professionals committed to the primary health care needs of the underserved.
MSM is not affiliated with Morehouse College.*

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**NATIONAL LIBRARY OF MEDICINE
ENVIRONMENTAL HEALTH INFORMATION OUTREACH PROGRAM MEETING**

**Morehouse School of Medicine
National Center for Primary Care
Executive Board Room, 4th Floor
Atlanta, Georgia
January 26, 2007
8:15 a.m. – 4:45 p.m.
Henry Lewis III, Pharm.D., Presiding**

AGENDA

- 8:15 a.m.–8:45 a.m. **Registration and Continental Breakfast**
- 8:45 a.m.–8:55 a.m. **Welcome and Greetings**
John Maupin, Jr., D.D.S.
President, Morehouse School of Medicine
- 8:55 a.m.–9:05 a.m. Eve Higginbotham, M.D.
Dean and Senior Vice President for Academic Affairs,
Morehouse School of Medicine
- 9:05 a.m.–9:30 a.m. **Opening Remarks**
Betsy Humphreys, M.L.S.
Deputy Director, National Library of Medicine (NLM)

Jack Snyder, M.D.
Associate Director, Specialized Information Services Division, NLM
- 9:35 a.m.–9:40 a.m. **Recognition of Perry Riggins**
Jack Snyder, M.D., NLM, and Henry Lewis III, Pharm.D.,
Professor of Pharmacy, Florida A&M University
- 9:40 a.m.–9:50 a.m. **Introductions**
Henry Lewis III, Pharm.D.
Chairman, EnHIOP
- 9:50 a.m.–10:25 a.m. **Environmental Cardiology**
Elizabeth Ofili, M.D., M.P.H., F.A.C.C.
Professor and Chief of Cardiology;
Director, Clinical Research Center,
Morehouse School of Medicine

10:25 a.m.–10:35 a.m.	BREAK
10:35 a.m.–11:10 a.m.	National Health Museum Louis Sullivan, M.D. President Emeritus, Morehouse School of Medicine
11:10 a.m.–11:45 a.m.	Cardiovascular Research Gary Gibbons, M.D. Director, Cardiovascular Research Institute, Morehouse School of Medicine
11:45 a.m.–12:50 p.m.	Working Lunch Overview: Association of Minority Health Professions Schools Phyllis Champion, President and Chief Executive Officer, Association of Minority Health Professions Schools, Atlanta, GA
12:50 p.m.–2:00 p.m.	Group Picture
2:00 a.m.–2:30 a.m.	Recent Advances in the Health and Medical Sciences William Lynn Weaver, M.D., F.A.C.S. Professor of Surgery; Chairman, Department of Surgery; Director, Surgery Residency Program, Morehouse School of Medicine
2:30 p.m.–3:40 p.m.	EnHIOP Strategic Plan Henry Lewis III, Pharm.D.
3:40 p.m.–3:50 p.m.	BREAK
3:50 p.m.–4:20 p.m.	EnHIOP Project Reports Sarah Coulter Danner, M.S.N., C.P.N.P., C.N.M., Oglala Lakota College Cheryl Taylor, Ph.D., R.N., Southern University at Baton Rouge Doris Withers, Ph.D., Medgar Evers College, City University of New York
4:20 p.m.–4:45 p.m.	Wrap-up Henry Lewis III, Pharm.D.

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
NATIONAL LIBRARY OF MEDICINE**

**PROCEEDINGS OF THE ENVIRONMENTAL HEALTH
INFORMATION OUTREACH PROGRAM (EnHIOP) MEETING
January 26, 2007**

The Environmental Health Information Outreach Program (EnHIOP) convened on January 26, 2007, at 8:45 a.m. in the Executive Board Room, National Center for Primary Care (NCPC), on the Morehouse School of Medicine (MSM) campus in Atlanta, Georgia. The theme of the meeting was: Advances in Science: Environmental Cardiology.

Distinguished presidents, deans, and professors representing 19 of the nation's Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions (HSIs), and Tribal Colleges and Universities attended the meeting to discuss issues and outreach activities in environmental health with staff from the National Library of Medicine's (NLM) Division of Specialized Information Services (SIS) and distinguished guest speakers. Morgan State University was not represented at this meeting.

A tour of the MSM campus was scheduled to follow the working lunch. However, time did not permit including the tour, so it was canceled to ensure that enough time would be available for the afternoon presentations and discussion of the strategic plan.

ATTENDEES

Representatives from Participating Institutions

Dr. Robert Anders, University of Texas at El Paso
Dr. Ann Barbre, Xavier University of Louisiana
Dr. PonJola Coney, Meharry Medical College
Dr. Robert Copeland, Jr., Howard University
Mrs. Sarah Coulter Danner, Oglala Lakota College
Dr. Earl Dixon (substitute), Tuskegee University
Dr. Thomas Hatfield, California State University, Northridge
Ms. Cynthia Henderson (new representative), Morehouse School of Medicine
Dr. Constance Hendricks, Hampton University
Dr. Diógenes Herreño-Sáenz, University of Puerto Rico Medical Sciences Campus
Mr. David Hurley (alternate), Diné College
Dr. Henry Lewis III (EnHIOP Chairman), Florida A&M University
Dr. Joseph McQuirter, Charles R. Drew University of Medicine and Science
Dr. Milton Morris, Benedict College
Ms. Kimberly Pounds, Texas Southern University
Mr. Perry Riggins (outgoing representative), Morehouse School of Medicine

Dr. Cheryl Taylor (alternate), Southern University at Baton Rouge
Dr. Paul Tchounwou, Jackson State University
Dr. Daniel Wildcat, Haskell Indian Nations University
Dr. Doris Withers, Medgar Evers College

Consultants to the EnHIOP

Mr. John Scott, Center for Public Service Communications
Dr. Melvin Spann, NLM, retired (EnHIOP Executive Secretary)
Dr. Bailus Walker (EnHIOP Senior Science Officer), Howard University

Speakers

Ms. Phyllis Champion, Association of Minority Health Professions Schools
Dr. Gary Gibbons, Morehouse School of Medicine
Dr. Eve Higginbotham, Morehouse School of Medicine
Dr. John Maupin, Jr., Morehouse School of Medicine
Dr. Elizabeth Ofili, Morehouse School of Medicine
Dr. Louis W. Sullivan, Morehouse School of Medicine
Dr. William Lynn Weaver, Morehouse School of Medicine

Guests

Mr. Thomas Adams, Association of Minority Health Professions Schools
Ms. Eme Anderson, Association of Minority Health Professions Schools
Mr. Chris Lee, Morehouse School of Medicine
Ms. Joyce Streeter, Morehouse School of Medicine
Mr. Bert Vaughan, Morehouse School of Medicine

NLM Staff

Ms. Betsy Humphreys, NLM Deputy Director
Dr. Jack Snyder, Division of Specialized Information Services
Ms. Marti Szczur, Division of Specialized Information Services
Gale Dutcher, Division of Specialized Information Services
Ms. Cynthia Gaines (EnHIOP Project Officer), Division of Specialized Information Services
George W. Franklin, Jr., Office of the Director
David Nash, Office of the Director

NLM/SIS Contractor Employees:

Ms. Rose Foster (EnHIOP Project Advisor), Oak Ridge Institute for Science and Education
Ms. Diane De Binder, Oak Ridge Institute for Science and Education

I. WELCOME AND GREETINGS

Dr. Henry Lewis III, Pharm.D., Florida A&M University, EnHIOP chairman, opened the meeting and introduced Dr. John Maupin, Jr., recently appointed president of Morehouse School of Medicine (MSM) for the past six months. Dr. Maupin welcomed everyone to the MSM campus and recognized Dr. Louis Sullivan, President Emeritus of MSM, for his exceptional

leadership and for being responsible for the design and construction of the building in which the group was meeting, the National Center for Primary Care.

Dr. Eve Higginbotham, Dean and Senior Vice President for Academic Affairs at MSM, was able to join the meeting later in the day and added her welcoming comments. She extended her invitation for the group to visit some of the researchers and clinicians who are doing such great work at MSM, as well as the MSM library. She added that she has a special appreciation for librarians, as she has a family member who is a librarian.

II. OPENING REMARKS

Dr. Henry Lewis III introduced Ms. Betsy Humphreys, Deputy Director, National Library of Medicine, who attended the meeting for Dr. Donald A.B. Lindberg, NLM Director, whose schedule did not permit him to attend. Ms. Humphreys, on behalf of Dr. Lindberg, presented to Dr. Maupin a certificate of appreciation from NLM for hosting the meeting and congratulated him for the wonderful facility that was offered for the meeting.

Ms. Humphreys presented a summary of the NLM Long Range Plan 2006–2016, describing the planning process as integral to NLM’s activities and accomplishments. She explained that previous long-range planning led to the creation of the Toxicology Information Outreach Program, the precursor of the Environmental Health Information Outreach Program. The current strategic plan takes into account the challenges in bringing together widely varied types of information to develop prevention and treatment strategies while protecting individual privacy, taking care not to create greater disparities in access to care in the process, and the major developments in society and technological advancements that can be projected in the year 2025.

Initially, more than 100 leaders, including Dr. Louis Sullivan, from diverse fields were brought together to create a vision. Four themes emerged from that process, and four panels were formed around these themes to make recommendations to the Board of Regents in the formulation of the new long-range plan. Dr. Robert Copeland, the EnHIOP representative from Howard University, participated in one of the four panels. Recommendations from the panels were consolidated into a document and the final version of that document was approved by the NLM Board of Regents and published on the Web in September 2006. The individual panel reports can also be viewed on the NLM Long Range Plan Web site: http://www.nlm.nih.gov/pubs/plan/lrp06/lrp06_home.html.

Ms. Humphreys emphasized that the accomplishment of the Library’s goals will not be achieved without help from many others, including the EnHIOP representatives. She encouraged the representatives to actively pursue becoming a part of this process. The four major goals are:

1. Seamless, Uninterrupted Access to Expanding Collections of Biomedical Data, Medical Knowledge, and Health information
2. Trusted Information Services that Promote Health Literacy and the Reduction of Health Disparities

3. Integrated Biomedical, Clinical, and Public Health Information Systems that Promote Scientific Discovery and Speed the Translation of Research into Practice
4. A Strong and Diverse Workforce for Biomedical Informatics Research, Systems Development, and Innovative Service Delivery

A recommendation that emerged from all four panels was the importance of starting young—introducing information in the elementary schools. Ms. Humphreys pointed out that NLM's Specialized Information Services Division's Tox Town—an interactive guide to commonly encountered toxic substances and environmental health risks that uses color, graphics, sounds, and animation—is a good example. An excellent point that was made by Dr. Sullivan during the process was that the biggest issue is trust: If people do not trust the system, they will not take advantage of the valuable services it has to offer.

Dr. Jack Snyder gave a brief update on activities in the National Library of Medicine's Specialized Information Services Division. These include refugee health concerns, aspects of the Hurricane Katrina aftermath, AIDS information services, addressing the needs of young people through Tox Town and ToxMystery, public health legal information, and pipeline issues in recruiting young people into biomedical disciplines. ToxMystery is NLM's new interactive learning site, designed to help kids age 7 to 10 find clues about toxic substances that can lurk in the home. Two new resources that will go live in the near future are a radiation event medical management tool and an information tool concerning dietary supplements. SIS is also working to better present drug information from federal resources with a multimedia approach, including digital images.

III. RECOGNITION OF PERRY RIGGINS AND INTRODUCTIONS

Dr. Jack Snyder and Dr. Henry Lewis III presented Mr. Perry Riggins, outgoing representative from Morehouse School of Medicine, with a plaque in honor of his valuable contributions to the Environmental Health Information Outreach Program. Dr. Snyder also read a letter of appreciation to Mr. Riggins from the NLM as a part of the presentation.

The plaque reads as follow:

PERRY RIGGINS
MOREHOUSE SCHOOL OF MEDICINE
In recognition and appreciation of his valued service to the
Environmental Health Information Outreach Program 2003–2006
NATIONAL LIBRARY OF MEDICINE

Following the presentation to Mr. Riggins, Dr. Henry Lewis III, EnHIOP Chairman, asked everyone at the meeting to introduce themselves. Ms. Cynthia Henderson is the new EnHIOP representative from Morehouse School of Medicine.

IV. ENVIRONMENTAL CARDIOLOGY

Dr. Elizabeth Ofili, Professor and Chief of Cardiology, and director of the Morehouse School of Medicine Clinical Research Center, presented on environmental cardiology, classifying it as an emerging discipline, identifying its potential link to health disparities, and describing the opportunity to use health information technology to actively engage at-risk minority populations.

Environmental cardiology involves the impact of environmental factors—such as cigarette smoke, chemical pesticides, contaminants in food and water, and particulate matter in the environment—on the incidence of cardiovascular disease. With the spread of urbanization worldwide, there has been a significant increase in cardiovascular disease, including stroke and heart failure. Some research has demonstrated that, when people move from rural areas to urban areas, their risk for heart disease triples in the same genetic pool, so clearly the environment has a large impact. Recent research has also demonstrated a link between pesticides and early onset heart disease, which predisposes individuals to related health problems such as high blood pressure and atherosclerosis.

Dr. Ofili discussed a recognized geographic variation in cardiovascular disease. For example, greater prevalence is seen in the Southeast than in other parts of the country. It is significant that the highest concentration of African Americans is also in the Southeast. The geographic element was demonstrated in her own practice when, in 1994, she moved from St. Louis, Missouri, where most of her patients were in their 60s, 70s, and 80s, to Atlanta, Georgia, where the majority of her patients were in their 50s and 60s. The 1998 *Georgia Heart Report* confirmed that, although the population of Georgia is approximately one-third African American, this population accounted for 68 percent of premature (before the age of 65) deaths from heart disease.

Many underlying risks for heart disease have yet to be identified and need to be explored. For example, African Americans are predisposed to high blood pressure and to an enlarged heart when they have high blood pressure. In other ethnicities, Hispanics are more at risk for metabolic syndrome and diabetes, and Asians have shown higher cardiovascular risk at lower risk levels. An association between education level and multiple risks has also been demonstrated, as well as between income level and multiple risks.

Dr. Ofili stressed the importance of sharing information to empower patients and to encourage them to become participants in their own health care. Some of the challenges to this are patient-based and some are physician-based. There is also the challenge of translating research information into new knowledge for practitioners, which could be helped by the use of electronic health records and dissemination of practice guidelines. MSM has instituted a concept they call Morehouse School of Medicine Community Physicians Network® (CPN) to address these challenges and to serve a broader population of patients with great success. They are using a cardiovascular treatment evaluation form to facilitate patient-physician interaction, detect multiple risks, and set patient goals. There are 130 practices in the Metro Atlanta area participating in the CPN; most are primary practices with some specialty and surgery practices.

MSM is participating in a number of important studies through its Clinical Research Center. Researchers have brought the community into the research center to participate in some of their activities.

V. NATIONAL HEALTH MUSEUM

Dr. Louis Sullivan, President Emeritus, Morehouse School of Medicine, and former secretary of the Department of Health and Human Services during the administration of former President George H.W. Bush, presented the vision for a National Health Museum (NHM). He described it as an extension of what the Atlanta University Center is doing—bringing health information to the public, but with a global reach. The history of this effort began in the 1980s with Dr. C. Everett Koop, then the U.S. Surgeon General, whose vision it was to educate the American public about health issues and to have that information available to the public on the National Mall in Washington, D.C. where millions visit every year. Dr. Sullivan explained that the NHM is a nonfederal, nonprofit endeavor and can play a significant role in improving the health literacy of Americans, which will lead to a healthier population and contribute to a reduction of health care costs. Another objective is to encourage young people to consider careers in biomedical sciences.

Dr. Sullivan explained that the NHM will have two major components, an interactive Experience Museum physically located in Washington, D.C., where a site has been selected near the National Mall, and a CyberMuseum, which will reach even more people through the Internet and through traveling multimedia exhibits known as “Health Response Centers” (HRCs). He described two HRCs that are already in operation. One is an interactive touch-screen kiosk that provides up-to-date information on seasonal flu, bird flu, and pandemic preparedness, with content provided primarily by the Centers for Disease Control and Prevention. This Flu Health Response Center has appeared in Houston, Miami, and Denver and is currently showing on the Lancaster General Hospital Health Campus in Lancaster, Pennsylvania—its first non-museum location. The second multimedia exhibit is the “Heart Health Response Center” with information provided primarily by the National Heart, Lung and Blood Institute. It features interactive multimedia screens that calculate body mass index and provide information about heart health risk factors and was exhibited at the Maryland Science Center in Baltimore, Maryland.

The Experience Museum will be built with a unique tubular design that will make the exhibits easy to see and stimulate discussion, with the goal of reaching visitors not only with vital information but on an emotional level, where understanding is enhanced and behavioral change begins. Experience zones in the museum will communicate key health objectives in three broad areas: permanent experiences based on timeless themes, seasonal experiences featuring time-sensitive topics and technologies, and daily experiences with real-time presentations.

In addition to the CyberMuseum and the Experience Museum, the NHM will house an Education Center and a Health Conference Center to serve the local and worldwide community of students and educators and to be a forum for health-related activities and events.

VI. CARDIOVASCULAR RESEARCH

Dr. Gary Gibbons, Director, Morehouse School of Medicine Cardiovascular Research Institute, discussed cardiovascular disease risk as it relates to environmental influences on hypertension and stroke. He shared a large body of research results that clearly indicate the important influence of environmental factors on this disease process. He also emphasized the importance of a holistic, interdisciplinary, and multidimensional approach in solving this complex problem. Understanding the context of the community and the environment—the home, the family, and the neighborhood—is also critical in addressing cardiovascular health disparities.

Some of the findings that Dr. Gibbons shared indicate that

- African American males ages 45–65 are four times more likely to have a stroke compared with their Caucasian counterparts.
- African Americans already have a higher prevalence of risk factors for cardiovascular disease, such as hypertension, obesity, and diabetes, so environmental factors will impact on them more heavily.
- A large body of epidemiologic data has related changes in air pollution to cardiovascular events.
- In the “Atlanta Empowerment Zone,” the area of the city in which MSM is located, there is a sixfold higher rate of preventable hospitalization for hypertension and a threefold higher rate of hospitalization for stroke, one of the complications of hypertension. This part of the city is characterized by a low socioeconomic status and predominantly African American neighborhoods and is laced with major traffic arteries, predisposing inhabitants to heavy air pollutants.

Dr. Gibbons described the degeneration of blood vessel health as an inflammatory process rather than a “plumbing problem,” and air pollutants promote a state of inflammation. This inflammatory process begins much earlier than previously thought—as early as 12 years of age according to one study. The blood vessels are actually very sensitive to all cardiovascular risk factors.

Obesity also promotes an inflammatory state because of free radicals, and there is an obesity epidemic in the African American population. Eighty percent of black females over the age of 40 are overweight, increasing their risk of diabetes, another risk factor for cardiovascular disease. In addition, while in general females are at a lower risk of coronary disease, research has shown that black females are at just as high risk or higher than white males. This is an area that needs more research.

Dr. Gibbons is very excited about the possibilities for new research at the Center of Excellence on Health Disparities, funded by the National Center for Minority Health and Health Disparities, National Institutes of Health. Their goal is to discover the biomarkers of risk before clinically advanced disease is found.

VII. OVERVIEW: ASSOCIATION OF MINORITY HEALTH PROFESSIONS SCHOOLS

Ms. Phyllis Champion, President and Chief Executive Officer of the Association of Minority Health Professions Schools (AMHPS) discussed the background of AMHPS and gave an overview of the organization during the working lunch. She acknowledged Dr. Henry Lewis III as a former president of AMHPS and Dr. Louis Sullivan as one of its founding fathers. Dr. Sullivan and others recognized the need to address health issues among African Americans in the country, and AMHPS was established in 1976 as a result of that collaboration. This led to a report that was issued by the then Secretary of Health, Education, and Welfare on the status of health care among blacks in America, and the report led to the initiation of public dialogue on this important matter.

Dr. Lewis is also a former president of the Minority Health Professions Foundation (MHPF), the organization that was created to carry out the program activities of the association. Ms. Champion announced that the MHPF changed its name to the Association of Minority Health Professions Schools, Inc., effective January 1, 2007, in order to better focus the efforts of the AMHPS.

AMHPS is comprised of four schools of medicine, five schools of pharmacy, two schools of dentistry, and one school of veterinary medicine within nine Historically Black Colleges and Universities (HBCUs) across the country. The nine HBCUs are as follows:

1. Charles R. Drew University of Medicine and Science
2. Florida A&M University
3. Hampton University
4. Howard University
5. Meharry Medical College
6. Morehouse School of Medicine
7. Texas Southern University
8. Tuskegee University
9. Xavier University of Louisiana

The mission of AMHPS is to improve the health status of African Americans and other minorities, increase the representation of African Americans and other minorities in the health professions, and strengthen member institutions and programs to improve the role of minorities with the provision of health care.

The AMHPS engages in a number of important activities to further its mission, including the Annual Symposium on Career Opportunities in Biomedical Sciences, a two and one-half day event that has been an inspirational experience for young minority students since 1987, exposing them to a wide spectrum of career opportunities and well-known minority health professionals. Students who were participants many years ago are now seen as faculty and presenters at the symposium. AMHPS is working on documenting this impact.

Ms. Champion also highlighted the Spann Public Health Training and Information Resource Center, which was originally established within the MHPF. AMHPS is now working to re-establish the Spann Center in its new location on the MSM campus, where it will house research manuscripts of minority researchers, support research on minority health issues and disparities, collect and store documents on culturally appropriate instructional materials, and fund scholarships for minority students to learn research techniques relating to minority health issues. The Spann Center is named after Dr. Melvin Spann, former Associate Director of the NLM's Specialized Information Services Division and creator of the Toxicology Information Outreach Program—the precursor of the Environmental Health Information Outreach Program.

VIII. RECENT ADVANCES IN THE HEALTH AND MEDICAL SCIENCES

Dr. William Lynn Weaver, Professor of Surgery, Chairman, Department of Surgery, and Director, Surgery Residency Program at Morehouse School of Medicine, spoke on the topic of efforts to increase the number of minority health professionals in this country and the importance of mentoring young minority students in this process. He described his personal experiences of being mentored and encouraged, first as a fourth-grader in Knoxville, Tennessee, with a trip to Knoxville College, where he was inspired to attend college, and later as a young surgeon in the American College of Surgeons when he first met and began to work with Dr. Olga Jonasson, who was the first woman to chair an academic department of surgery in the United States. She was an inspiration and a mentor to him. Dr. Jonasson was responsible for publishing data from the Longitudinal Study of Residents, 1994 to 1996, a groundbreaking study that showed the high attrition rate for blacks who went into the field of surgery.

Dr. Weaver shared a number of statistics related to ethnic minorities in the field of surgery and other efforts to remedy the racial and ethnic disparities in medical schools. One of these efforts was “Project 3000 by 2000,” which came out of the Association of American Medical Colleges with a goal to enroll 3,000 underrepresented minorities in U.S. allopathic medical schools by the year 2000. This goal was not reached. In the field of surgery, there was actually a decrease in the number of African Americans from 2001 to 2004. In 2000, only three percent of the students in surgery programs were African American, with the majority at Howard University, Meharry Medical College, Morehouse School of Medicine, and Charles R. Drew University of Medicine and Science. Sadly, Drew University, which was graduating nine per year in surgery, had to close its residency program in 2006. Now, only six surgery students enter the pipeline each year from the other three schools.

The importance of role modeling in increasing the number of minorities enrolled in and completing medical school cannot be emphasized enough. The motto is “Talk to them younger!” Dr. Weaver has developed a program in the American College of Surgeons that targets high school students in the cities in which the college holds its meetings each year: San Francisco, New Orleans, Chicago, and Washington, D.C. In this program, eleventh- and twelfth-grade students are brought to the meetings to meet the members and to be linked with a mentor from the college. The program goes beyond this special day, with the mentors remaining in contact

with their students. Last year, as a result of the mentoring they received, 15 of the mentored students enrolled in college with a major in either pre-med or a science.

Dr. Weaver described the mentoring activities that are an integral part of his department at Morehouse School of Medicine. One of the things they stress in their residency program is that, beyond getting a solid education, the residents must “give back.” Each resident is expected to find a high school or college student to mentor and keep in touch with that student. This process continues after they graduate—most of Dr. Weaver’s students go back to help the communities in which they grew up. This is something of which he is very proud.

IX. EnHIOP STRATEGIC PLAN DISCUSSION

Dr. Henry Lewis III, EnHIOP chairman, led a discussion on the strategic direction for the EnHIOP, including goals and objectives and how to measure progress. He asked that everyone consider how the EnHIOP should be positioned within the framework of the four major goals of NLM’s long-range plan and the group’s stated mission as it appears on the NLM’s EnHIOP Web page. The EnHIOP mission is as follows:

EnHIOP Mission

The mission of the Environmental Health Information Outreach Program is to enhance the capacity of minority-serving academic institutions to reduce health disparities through the access, use and delivery of environmental health information on their campuses and in their communities.

Copies of the draft discussion issues that had been formulated at the previous meeting were provided as a starting place for the discussion. Dr. Lewis asked the attendees to consider how EnHIOP as a group should address health disparities and how as individual institutions they should provide health information for the communities they serve. Suggestions and points for discussion that were mentioned included the following:

- Each institution representative should return from the meeting with the intention of and a plan for discussing the topics addressed at the meeting with faculty/staff/community members at their institutions. (Goal 2)
- Consider how this group can reach out to institutions that are not currently represented in the EnHIOP.
- Combine community outreach activities with recruitment.
- Disaster preparedness is an issue that could fit with EnHIOP in the context of information-sharing activities. (Goal 1)
- Identify and help establish programs to encourage minorities to go into biomedical informatics with the goal of creating minority leadership in that field. (Goal 4)

- Identify innovative ways to provide patient services by using informatics and current technology, such as home-based monitoring for chronically ill patients. (Goal 4)
- Extend minority outreach by promoting minority speakers from EnHIOP meetings.
- Consider the possibility of EnHIOP as a body developing a preparedness plan to respond in the event that other member institutions are faced with a disaster, such as Xavier and Southern were following Hurricane Katrina.
- EnHIOP is in a position to publish a white paper on environmental health issues that would highlight the disconnect that exists between “health” and “environmental health.”
- An urgently critical issue to Native Americans is the health impacts of climate change; this would be a good topic for advocacy because most Americans are unaware of the magnitude of these impacts. Dr. Dan Wildcat, the EnHIOP representative from Haskell Indian Nations University, is also very involved with the American Indian & Alaska Native Climate Change Working Group. He shared that the Department of the Interior is going to have to move three entire communities in Alaska because the permafrost is literally melting under their feet, and this is only the beginning. Climate change will affect everyone.
- Another consideration with climate change is that populations who are very rural are more affected than others. For example, the Oglala Lakota people of South Dakota live very close to the earth, so they are more affected by climate change. In these communities, modern services such as air conditioning, heating, plumbing, and electricity are scarce or very basic.

The EnHIOP representatives were assigned to four groups, based on the four major goals of the NLM Long Range Plan. Each group was charged with selecting from its assigned goal the components that are applicable to EnHIOP and making a list of recommendations for activities in which EnHIOP can engage to support that goal, both in the short term (within 24 months) and the long term (within 60 months). They were asked to also consider issues that were brought up during the day’s discussion that might not appear in NLM’s strategic plan. These groups will continue to meet via teleconferencing facilitated by NLM, and each group will provide a report at the next meeting.

X. EnHIOP PROJECT REPORTS

In 2006, 11 awards of \$5,000 each were made to 10 EnHIOP schools that submitted proposals to NLM to carry out information-related projects on their campuses and/or in their communities. Diné College submitted two proposals, and both were funded. Project updates were presented by the representatives from Oglala Lakota College, Southern University Baton Rouge, and Medgar Evers College.

Oglala Lakota College, Department of Nursing—Kyle, South Dakota

Taking Charge—Living Wisely: Iksabeya a'unpi, Phase III

Mrs. Sarah Coulter Danner, Chair, Department of Nursing, Oglala Lakota College (OLC) first shared some alarming statistics she had just received from the South Dakota Board of Health. According to a recently published Harvard School of Public Health study, the five counties in the United States with the lowest life expectancy are in South Dakota—three of these counties are in or intersect with the Pine Ridge Indian Reservation. These are the issues that the OLC project is addressing:

- Infant mortality is twice the national rate.
- Approximately 31 percent of the population on the reservation have Type I or Type II diabetes, and they are four times as likely to have amputations than any other population in the U.S.
- In Shannon County, where the OLC nursing program is located, 77.7 percent of the population lives 200 percent below the poverty level.
- Teenage suicide rates are four times the national average.
- Heart disease, malignancies, influenza, pneumonia, nephritis, nephritic syndrome, lupus, and juvenile rheumatoid arthritis are all at significantly higher rates than the national average.

Another major disparity in the Oglala Lakota population is the incidence of Sudden Infant Death Syndrome (SIDS), with one of the highest rates in the world. Because of this, OLC is one of five sites around the world for SIDS studies. Three researchers in the OLC School of Nursing are currently participating in three studies: The SIDS Project, the Safe Passage Study, and the EXPORT Early Predictors Study. Mrs. Coulter Danner briefly described the studies and some of the findings. For example, in the Safe Passage Study, fetal monitors are now being used to record how blood pressures and vital signs are affected in relation to fetal movement. The EXPORT Early Predictors Study will follow the babies who have been identified as at risk until age four years. One of the early indications is that fetal exposure to alcohol and smoking may create a deficit in the autonomous nervous system so that the baby's response to the challenge of suffocation may be impaired.

As a part of this research, OLC participates in the community with bereavement workshops and participant education for all families involved in the studies. The research is shared with the nursing students and faculty and with the Indian Health Service physicians and midwives. The information is also shared with the tribes through Pow Wows and Health Fairs and with DVD and video. The reservation's radio station is also used to transmit announcements and health information; however, since high winds damaged the radio tower, the broadcast covers only about 40 miles and no funds are available to repair the damage.

Mrs. Coulter Danner also shared a short video that OLC is using to attract people on the reservation to the nursing program and make it easier to disseminate health information. Sharing information on the reservation is a major challenge. The OLC library is the only library in the

center of a reservation the size of Connecticut. Computers are scarce, and the written word is ineffective at reaching any but the younger generation because it is an oral culture. The college now has a remediation department teaching reading, writing, and math. The video is a good vehicle because it combines Native American music with action, and people will watch it.

Southern University at Baton Rouge

Addressing the Environmental Health Needs of Displaced Katrina Evacuees Living in a Trailer Park Using the NLM Environmental Health Information Outreach Program

Dr. Cheryl Taylor, Associate Professor and Director, Office of Nursing Research, Southern University at Baton Rouge (SUBR), discussed environmental issues in relation to the services that the SUBR nursing school is providing to people affected by Hurricane Katrina with the help of the NLM. She described pre-Katrina New Orleans with its large concentration of refineries and power plants, its oil and gas pipelines, its industrial canal that destroyed the protective wetlands and served as a funnel for the Hurricane Katrina storm surge, and the decades of toxic industrial discharges in the waters that flooded coastal communities and 80 percent of New Orleans. A poignant photograph showed a for sale sign, listing all the contamination, in front of a home. She told of one 55-year-old man who went back to his property to begin cleaning it up; he developed cardiomyopathy and congestive heart failure and died. She referred the group to the book, *the breach: BEARING WITNESS*, the report of the Katrina National Justice Commission, which outlines the relief, restoration, and public policy issues and the importance of preparedness. She also shared a brochure from the New Orleans Public Library that outlines the library's Black History Month activities; three Saturday workshops are included, sponsored by the REACH 2010 project, on using NLM resources to prepare people to become first responders for their families in recognizing the warning signs of a stroke and other illnesses.

Dr. Taylor described the services the SUBR School of Nursing is providing from its "Jag Mobile," a mobile health unit, at a Federal Emergency Management Agency trailer park. She expressed gratitude to the NLM for the laptop computer that enabled them to transfer their data from paper to a database. From the Jag Mobile, they are able to coordinate primary health care services, including screening providers in order to stop the incidence of people providing medical care without credentials and with no documentation. In addition to the mobile unit, SUBR has a fully staffed, nurse-managed clinic, where they collaborate with family practice doctors, pediatricians, agriculture extension services, the Louisiana Office of Public Health, and SUBR Nutrition Department faculty. The agriculture extension service provides a built-in form of outreach.

Medgar Evers College, City University of New York—Brooklyn, New York

Using NLM Online Resources to Promote Knowledge of Human Genomics and Related Minority Health Issues: An Education and Outreach Program for Students, Faculty, and Community

Dr. Doris Withers, Vice President for Assessment, Planning & Accountability, Medgar Evers College (MEC), presented an update on the MECGenEOP (Medgar Evers College Genomics Education and Outreach Program) Project, which began in 2004. The goal of the project is to

promote the mission of the college through education and dissemination of information about genomics and about the human genome and related issues that affect and are relevant to the African American community they serve, central Brooklyn. Through this project, they will promote student interest in genomic science careers, increase knowledge about the relationship of the human genome to health promotion and disease treatment/prevention, increase knowledge about ethical/legal/social issues related to genetic technologies, and increase scientific literacy about genomics and its implications. Ultimately, Dr. Withers plans to develop this initiative into a program on the MEC campus.

This year Dr. Withers has focused on developing connections in the community and finding additional funding resources. She is also working on infusing genomics education into the curriculum in various departments across campus, including biology and family health history. She is also working with the Department of Physical Sciences to develop a bioinformatics course and to assist them with using NLM resources in the environmental science degree program. Other educational materials that are being developed include the following:

- A course called Genomics and Health, to be submitted to the curriculum committee in spring 2007
- Introduction to Genomics for Biology Students
- Integrating the Family Health History course into the nursing curriculum

In winter 2005, Dr. Withers provided an education outreach seminar to the Brooklyn Chapter of the National Medical Association, and in spring 2006 she taught a community education seminar on family health history for a local sorority.

Dr. Withers has also established a partnership with a local public school, the MEC Preparatory School, which is adjacent to the MEC campus. The goal of the partnership is to develop science in the school, which is already strong in math, through promoting education about DNA sciences and developing a research initiative of genomics in the school. In November 2006, Dr. Withers conducted an all-day teacher's workshop on genomics education, which included interactive and hands-on exercises incorporating NLM's resources. The resources included the exhibition "Visible Proofs: Forensic Views of the Body," and the Profiles in Science and Genetics Home Reference areas of NLM's Web site. Future activities for the partnership include developing an interdisciplinary approach to learning activities for the curriculum and planning and holding a "National DNA Day" event in April 2007.

XI. WRAP-UP AND ACTION ITEMS

Dr. Lewis expressed his thanks to the Morehouse School of Medicine for hosting the meeting, with special thanks to Mr. Perry Riggins, Ms. Cynthia Henderson, and Ms. Joyce Streeter for handling logistics and site preparation and also to Mr. Bert Vaughan, Mr. Leon Dell, Mr. Lester Sheran, Mr. Michael Hicks, and Mr. Pat Abramson for on-site audiovisual and logistical support.

Action Items

- EnHIOP representatives were assigned to four strategic planning subcommittees based on the four broad goals of the NLM Long Range Plan.
- The strategic planning subcommittees were charged to prepare draft plans and objectives with timelines for the EnHIOP Strategic Plan that correlates with the NLM Long Range Plan.
- The strategic planning subcommittees are
 - Goal 1: Ms. Cynthia Henderson, Dr. Milton Morris, Dr. Tom Hatfield, Dr. Constance Hendricks, and Dr. PonJola Coney
 - Goal 2: Dr. Robert Copeland, Dr. Robert Anders, Ms. Kimberly Pounds, Dr. Paul Tchounwou, Mr. John Scott, and Mr. David Hurley
 - Goal 3: Dr. Daniel Wildcat, Dr. Sarah Coulter Danner, Dr. Joseph McQuirter, Dr. Ann Barbre, and Dr. Cheryl Taylor
 - Goal 4: Dr. Diógenes Herreño-Sáenz, Dr. Doris Withers, Dr. Melvin Spann, Dr. James Webster, and Dr. Richard Ochillo
- NLM/SIS staff will assist the subcommittees in setting up conference calls and other logistics to facilitate their discussions and interaction.
- The strategic planning subcommittees will present a preliminary report at the next EnHIOP meeting.

The meeting adjourned at 5 p.m.

APPENDIX A

ENVIRONMENTAL HEALTH INFORMATION OUTREACH PROGRAM

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APPENDIX B

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**ENVIRONMENTAL HEALTH INFORMATION OUTREACH PROGRAM
EnHIOP PROJECTS 2006**

Diné College, Division of Math, Science and Technology—Shiprock, New Mexico

Gas and Oil Well Drilling Impacts on Human Health in Ante, Red Mesa, and Montezuma Creek, Utah

This project will compare the current self-reporting of health symptoms to a previous study conducted by the Navajo Division of Health in 1998 and determine if self-reported health symptoms change in relationship with distance from oil and gas production facilities. This project is being conducted through Diné College, Shiprock Campus, in collaboration with the University of New Mexico. In prior support, 125 initial surveys were collected and will be used to correlate, using GIS (geographic information systems) technology, the levels of VOCs (volatile organic compounds) and H₂S with surveyed home locations. Activities will include the development of community education and outreach on the dangers of oil/gas exposure and ways to decrease risks and promote community empowerment, and will provide input for a remedial program.

Diné College, Center for Diné Studies—Shiprock, New Mexico

Navajo Ethno-Medical Encyclopedia (NEME) Project

This project ensures the efforts are continued to complete the *Navajo Ethno-Medical Encyclopedia* (NEME), envisioned as a 10-volume compendium and repository of traditional Navajo Indian medical and healing knowledge. Ten volumes have already been sketched in outline form. Diné students who can read and type the Navajo language will retype the old typewritten transcriptions into electronic files for permanent, accessible, and transferable storage, using the modern Navajo Microsoft Word font. Their efforts will make it more readily and immediately available for incorporation into the ongoing work of the NEME, as other efforts will continue on researching new material and on codifying and incorporating the material from the early years of the project into modern computer word processing programs.

Charles R. Drew University of Medicine & Science, Dept. of Oral and Maxillofacial Surgery—Los Angeles, California

Environmental and Toxicological Information Outreach

This project is designed to increase the awareness of NLM online resources related to the use of toxicological, environmental, occupational, and hazardous materials/waste at Drew University. Approximately 300 individuals will be trained on how to retrieve scientific literature searches, toxicological profiles on hazardous chemicals that cause health and environmental effects, specific information about the possible effects of exposure to chemicals and biological agents, and information on common toxic substances encountered in everyday life. This project is built on the success of and inroads paved by the 2005 Small Grant Award and will be evaluated based on the number of participants and the proportional increase in interest in the use of NLM Web-

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based resources. This information will be obtained through personal interviews and questionnaires completed by workshop participants.

Florida A&M University, College of Pharmacy—Tallahassee, Florida

Using NLM Online Resources to Develop a Model Health Literacy Program for Minority and Disadvantaged Communities

This project will show how the access to and the use of NLM's online resources can contribute significantly to the improvement of the health status of individuals and the entire community in which they reside. We will work with the Community Outreach and Service Learning (COSL) program of the College of Pharmacy and utilize pharmacy students to conduct workshops on providing health information and information access training at two sites in Tallahassee, Florida. Phase One of the project involved designing a workshop on health literacy, developing the formal agreements with the two targeted sites, acquisition of the hardware and agreement, and conducting training sessions on utilization. The project will now focus on Phase Two (2006–2007), which will involve selecting random patients/patrons to follow relative to their utilization of the resources provided to them and the utility thereof. Since the COSL program requires pharmacy students to conduct a volunteer service project, this program has received tentative approval for inclusion to meet the academic requirement. Approval by the university's Institutional Review Board is required and will be secured as part of Phase Two. This phase will require approximately 12 months.

Howard University, College of Medicine, Department of Pharmacology—Washington, D.C.

Healthy Homes/Healthy Bodies

This project will focus on using NLM's consumer health databases (MedlinePlus®, Tox Town®, Household Products Database, etc.) to provide the much needed educational information resources to parents to maintain a healthy and safe environment for their children. Once parents are aware of the potential dangers presented within and out of the home, environmental steps can be taken to prevent or reduce exposure to toxicants. In addition, this project will supplement the information provided by schools, parents, and communities by creating a series of day-long interactive workshops for parents and young children to jointly learn about the importance of a healthy diet and healthy eating options. Parent participation is key, so that the lessons learned will continue to be reinforced in the home. The target audience includes children ages 5–8 years old and their parents. These free workshops will include 14 children and their parents with experts from the medical community, including nonprofit organizations with a mission to educate about healthy living.

Jackson State University—Jackson, Mississippi

A Pre-Symposium Workshop on the Use of NLM Web-Based Resources for Biomedical and Environmental Health Research

The goal of this project is to organize a pre-symposium workshop on the use of the National Library of Medicine's Web-based resources for environmental health and biomedical sciences research and education. This workshop will be implemented as part of the Fourth International Symposium on Recent Advances in Environmental Health Research that Jackson State University (JSU) will host in 2007. The target audience will include the symposium's participants (professional scientists, faculty, and students) from JSU as well as other institutions of higher learning at the local, national, and/or international levels. It is anticipated that the implementation of this project will provide an excellent opportunity to participants to strengthen their environmental health and biomedical research capabilities, based on the new knowledge on critical health-related information gained from the workshop.

Medgar Evers College, CUNY, School of Science, Health & Technology—Brooklyn, New York

Using NLM Online Resources to Promote Genetics and Human Genomics Education and Knowledge of Minority Urban High School Students

The goal of this project is to develop instructional materials to be used by high school students to promote knowledge about the emerging findings in genetic and DNA sciences and to promote knowledge of the issues and impact of the Human Genome Project, incorporating the Web-based resources of the National Library of Medicine. This project is designed to augment the educational community outreach objective of the Medgar Evers College Genome Education and Outreach Program in the School of Science, Health and Technology. The target audience will be the teachers and students at the Middle College High School at Medgar Evers College located in Brooklyn, NY. An important outcome of this project is to educate and disseminate information about 21st century genetics and about human genomics and related issues that affect and are relevant to the African American community—the community of the college, its public school partners, and the lay public. Genetics and genomics education of high school students are important for promoting student interest to pursue related science careers and promoting scientific literacy (genetic citizenship) among the population in general.

Meharry Medical College/School of Medicine—Nashville, Tennessee

Building Health Literacy Network Capacity Among Local Community Churches in Nashville/Davidson County, Tennessee

This project will implement a faith-based network in health literacy for Nashville/Davidson County that will reach a total of 400 members within this network. This project proposes to develop a faith-based health literacy network by expanding the use of computerized health information technology and opportunities to two additional churches during this project year. Ten sessions using a computer to access health information will be provided. Members of the selected churches are experiencing health problems associated with health disparities in

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incidences of hypertension, cardiovascular diseases, diabetes, cancer, and intentional and unintentional injury. In addition to working with the adults of these churches, special attention will be given to empower teens and adolescents with access to health information and health technology. Built on the foundation from the 2005 EnHIOP award, this proposed activity will link four faith-based churches together in developing a faith-based health literacy network around health education and patient safety, as well as creating a collaboration consisting of public libraries located in South Nashville/Davidson County, with Meharry Medical College Science Library working with faith-based organizations.

Oglala Lakota College, Department of Nursing—Pine Ridge, South Dakota

Taking Charge—Living Wisely: Iksabeya a'unpi, Phase III

The goal of this project is to continue to build on the activities of the first two phases enabling the Oglala Lakota people to identify healthy lifestyles and behavior changes through exercise, eating a balanced diet, and understanding toxic chemicals and hazards in their environment. Additional activities in this phase include emphasizing the importance of oral hygiene at the Head Start Centers through developing DVDs and computer games for teaching children about oral hygiene and the importance of diet and fitness. Age-appropriate DVDs will also be made for adult students. Records will be kept on dental caries in the children at the Head Start Centers and on weight and use of fitness equipment for the college students.

Southern University A&M College, School of Nursing, Office of Research—Baton Rouge, Louisiana

Addressing the Environmental Health Needs of Displaced Katrina Evacuees Living in a Trailer Park Using the NLM Environmental Health Information Outreach Program

The overall purpose of this project is to empower the Katrina evacuees living in Renaissance Village (trailer park) with environmental health information by using NLM's environmental health information databases and resources. The School of Nursing at Southern University Agricultural and Mechanical College has adopted the Renaissance Village by using its Family Health Care Center's Mobile Health Unit (Jag Mobile) to provide health screenings, primary health care services, and referral services. Activities for this project will include determining the most critical environmental health issues for residents of Renaissance Village by reviewing data that has been collected by the Jag Mobile, developing tutorials for the trainers and those living in Renaissance Village to be administered on site at the Village, and conducting an environmental health fair. The health fair will be the culminating event of the project and will be the result of a collaborative effort between Southern University A&M College and community businesses, political leaders, churches, public service organizations, and the citizens of East Baton Rouge Parish.

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EnHIOP Projects 2006

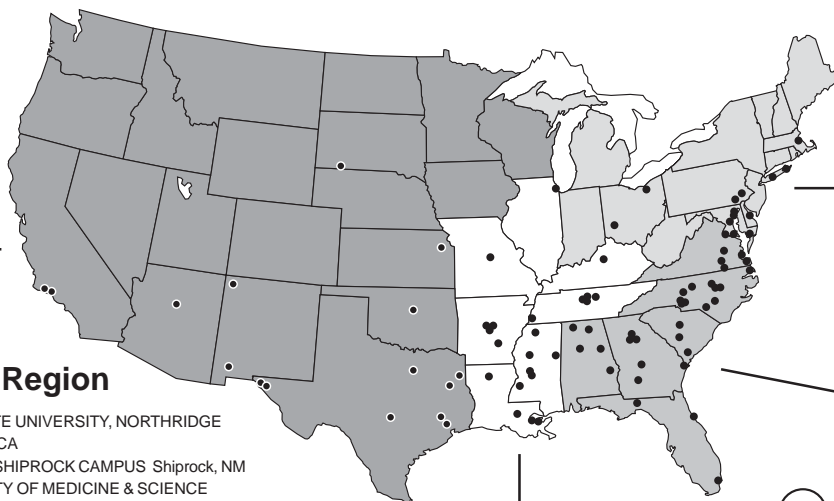
University of Puerto Rico, Department of Pharmacology and Toxicology, School of Medicine—San Juan, Puerto Rico

UPR-Medical Sciences Campus: Outreach Project in Environmental Health Information—2006

The goal of this project is to help to reduce environmental health disparities through information access to groups and communities of Puerto Rico. Project activities will include training students in the biology and premedical programs how to effectively use NLM resources. Graduate students admitted to the programs in pharmacy, nursing, and basic sciences (microbiology, anatomy, pharmacology and toxicology, biochemistry); faculty of the Medical Sciences Campus will also be trained. Efforts will be made to train middle and high school teachers, middle and high school students, and school librarians in using NLM's resources and other environmental databases. Plans are to design and provide conferences and workshops to the target groups. Opportunities will be made to provide training and practice in searching each of the NLM's databases that are pertinent for the target groups (i.e., PubMed®, MedlinePlus®, PubMed Central®, TOXLINE®, ChemIDplus®, Haz-Map, Household Products Database, Hazardous Substances Data Bank®, Toxics Release Inventory, LactMed, Tox Town®, and ClinicalTrials.gov). The conferences and workshops will be offered in Spanish and the handouts edited in Spanish.

HBCUs, HSIs, and Tribal Colleges Environmental Information Outreach

Participating Colleges and Universities



Northeastern Region

BOWIE STATE UNIVERSITY Bowie, MD
 CENTRAL STATE UNIVERSITY Wilberforce, OH
 CHEYNEY UNIVERSITY Cheyney, PA
 COPPIN STATE COLLEGE Baltimore, MD
 DELAWARE STATE UNIVERSITY Dover, DE
 HOWARD UNIVERSITY Washington, DC
 LINCOLN UNIVERSITY Lincoln University, PA
 MEDGAR EVERS COLLEGE-CUNY Brooklyn, NY
 MORGAN STATE UNIVERSITY Baltimore, MD
 NOTRE DAME COLLEGE Cleveland, OH
 ROXBURY COMMUNITY COLLEGE Roxbury, MA
 UNIVERSITY OF MARYLAND, EASTERN SHORE
 Princess Anne, MD
 UNIVERSITY OF THE DISTRICT OF COLUMBIA
 Washington, DC

Southeastern Region

ALABAMA A&M UNIVERSITY Normal, AL
 ALBANY STATE COLLEGE Albany, GA
 ALLEN UNIVERSITY Columbia, SC
 BARBER-SCOTIA COLLEGE Concord, NC
 BENEDICT COLLEGE Columbia, SC
 BENNETT COLLEGE Greensboro, NC
 BETHUNE-COOKMAN COLLEGE Daytona Beach, FL
 CLAFLIN UNIVERSITY Orangeburg, SC
 CLARK ATLANTA UNIVERSITY Atlanta, GA
 ELIZABETH CITY STATE UNIVERSITY Elizabeth City, NC
 FLORIDA A&M UNIVERSITY Tallahassee, FL
 FLORIDA MEMORIAL COLLEGE Miami, FL
 FORT VALLEY STATE COLLEGE Fort Valley, GA
 GADSDEN STATE COMMUNITY COLLEGE Gadsden, AL
 HAMPTON UNIVERSITY Hampton, VA
 INTERDENOMINATIONAL THEOLOGICAL CENTER
 Atlanta, GA
 JOHNSON C. SMITH UNIVERSITY Charlotte, NC
 LAWSON STATE COMMUNITY COLLEGE Birmingham, AL
 LIVINGSTONE COLLEGE Salisbury, NC
 MILES COLLEGE Birmingham, AL
 MOREHOUSE SCHOOL OF MEDICINE Atlanta, GA
 MORRIS BROWN COLLEGE Atlanta, GA
 NORFOLK STATE UNIVERSITY Norfolk, VA
 NORTH CAROLINA A&T STATE UNIVERSITY Greensboro, NC
 NORTH CAROLINA CENTRAL UNIVERSITY Durham, NC
 OAKWOOD COLLEGE Huntsville, AL
 PAINE COLLEGE Augusta, GA
 PEMBROKE STATE UNIVERSITY Pembroke, NC
 SAINT AUGUSTINE'S COLLEGE Raleigh, NC
 SAINT PAUL'S COLLEGE Lawrenceville, VA
 SAVANNAH STATE UNIVERSITY Savannah, GA
 SHAW UNIVERSITY Raleigh, NC
 SOUTH CAROLINA STATE UNIVERSITY Orangeburg, SC
 SPELLMAN COLLEGE Atlanta, GA
 TALLADEGA COLLEGE Talladega, AL
 TUSKEGEE UNIVERSITY Tuskegee, AL
 VIRGINIA STATE UNIVERSITY Petersburg, VA
 VIRGINIA UNION UNIVERSITY Richmond, VA
 WINSTON-SALEM STATE UNIVERSITY Winston-Salem, NC

Western Region

CALIFORNIA STATE UNIVERSITY, NORTHRIIDGE
 Northridge, CA
 DINÉ COLLEGE, SHIPROCK CAMPUS Shiprock, NM
 DREW UNIVERSITY OF MEDICINE & SCIENCE
 Los Angeles, CA
 HASKELL INDIAN NATIONS UNIVERSITY Lawrence, KS
 HUSTON-TILLOTSON COLLEGE Austin, TX
 JARVIS CHRISTIAN COLLEGE Hawkins, TX
 LANGSTON UNIVERSITY Langston, OK
 NEW MEXICO STATE UNIVERSITY Las Cruces, NM
 NORTHERN ARIZONA UNIVERSITY Flagstaff, AZ
 OGLALA LAKOTA COLLEGE Pine Ridge, SD
 PAUL QUINN COLLEGE Dallas, TX
 PRAIRIE VIEW A&M UNIVERSITY Prairie View, TX
 TEXAS SOUTHERN UNIVERSITY Houston, TX
 TEXAS WOMAN'S COLLEGE Denton, TX
 UNIVERSITY OF TEXAS AT EL PASO El Paso, TX
 WILEY COLLEGE Marshall, TX

Lower Mississippi Delta Region

ALCORN STATE UNIVERSITY Lorman, MS
 ARKANSAS BAPTIST COLLEGE Little Rock, AR
 BLUEFIELD STATE COLLEGE Bluefield, WV
 CHICAGO STATE UNIVERSITY Chicago, IL
 DILLARD UNIVERSITY New Orleans, LA
 FISK UNIVERSITY Nashville, TN
 GRAMBLING STATE UNIVERSITY Grambling, LA
 JACKSON STATE UNIVERSITY Jackson, MS
 KENTUCKY STATE UNIVERSITY Frankfort, KY
 LANE COLLEGE Jackson, TN
 LEMOYNE-OWEN COLLEGE Memphis, TN
 LINCOLN UNIVERSITY Jefferson City, MO
 MARY HOLMES COLLEGE West Point, MS
 MEHARRY MEDICAL COLLEGE Nashville, TN
 MISSISSIPPI VALLEY STATE UNIVERSITY Itta Bena, MS
 PHILANDER SMITH COLLEGE Little Rock, AR
 RUST COLLEGE Holly Springs, MS
 SHORTER COLLEGE North Little Rock, AR
 SOUTHERN UNIVERSITY SYSTEM Baton Rouge, LA
 TENNESSEE STATE UNIVERSITY Nashville, TN
 TOUGALOO COLLEGE Tougaloo, MS
 UNIVERSITY OF ARKANSAS AT PINE BLUFF Pine Bluff, AR
 XAVIER UNIVERSITY New Orleans, LA

Caribbean Region

CATHOLIC UNIVERSITY OF PUERTO RICO Ponce, PR
 INTER-AMERICAN UNIVERSITY OF PUERTO RICO San Juan, PR
 PONCE SCHOOL OF MEDICINE Ponce, PR
 UNIVERSIDAD DEL TURABO SUAGM Gurabo, PR
 UNIVERSITY OF PUERTO RICO MEDICAL SCHOOL San Juan, PR
 UNIVERSITY OF THE SACRED HEART San Juan, PR
 UNIVERSITY OF THE VIRGIN ISLANDS St. Thomas, VI

TRAINING • FREE INTERNET ACCESS • USER SUPPORT

As part of its outreach efforts, the Specialized Information Services Division of the National Library of Medicine (NLM), in partnership with the Oak Ridge Institute for Science and Education (ORISE), developed and designed a training program to strengthen the capacity of Historically Black Colleges and Universities (HBCUs), Hispanic-serving institutions, and tribal colleges and universities to train medical and other health professionals in the use of toxicological, environmental, occupational, and hazardous waste information resources developed at NLM. This training also benefits the economically disadvantaged and underserved communities surrounding these institutions.

Health professionals at colleges and universities throughout the country are taught how to navigate the Internet maze to find quality critical health information quickly. Many of those trained have facilitated similar training at their respective schools for students, faculty/staff, community leaders, and other health professionals. Participants are trained to access and utilize the NLM's Toxicology and Environmental Health Information Program (TEHIP) databases on the Internet to address problems and concerns about the impact of environmental hazards. Training includes accessing these databases through the TOXNET Web Interface (<http://toxnet.nlm.nih.gov>) and searching other relevant Internet resources.

For additional information about this outreach program, contact one of the individuals listed below:

**NATIONAL LIBRARY OF MEDICINE/
 NATIONAL INSTITUTES OF HEALTH**
 Gale Dutcher
 (301) 496-5082

**OAK RIDGE ASSOCIATED UNIVERSITIES/
 OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION**
 Rose Foster
 (865) 576-9342