Health Professions Partnership Initiative
An RWJF National Program

SUMMARY

The Health Professions Partnership Initiative was a national program of the Robert Wood Johnson Foundation (RWJF) and the W.K. Kellogg Foundation designed to enhance the academic preparation of minority students and nurture their interest in health careers, thereby increasing minority participation in all health professions, including medicine.

Academic health centers created partnerships with local school districts, colleges and community organizations to develop strategies to achieve this goal. These included magnet high schools, Saturday academies, summer camps, mentoring relationships and teacher training programs.

The program, which ran from March 1995 through December 2005, funded 26 projects in three rounds of grantmaking. The W.K. Kellogg Foundation funded seven of them; RWJF funded 19. See Appendices 1–3 for lists of projects and contact information.

Key Results

In the Summative Report to RWJF on the Health Professions Partnership Initiative, national program staff reported that:

- The initiative's projects "contributed approximately 2,000 minority students to the pool of applicants that applied to health professions schools further along” the educational pipeline.

Assessment Conclusions

Researchers at the University of Washington School of Medicine conducted an assessment of the Health Professions Partnership Initiative to identify:

- The role of leadership in program design and implementation.
- Features of health professions schools, public schools and community organizations involved in successful health professions partnerships.
- Characteristics of the 26 partnerships.
• Commonalities among activities offered by the partnerships.
• Basic strategies to improve minority achievement.
• Issues related to partnerships led by schools of public health.

The researchers conducting the assessment concluded:

"As with all other programs sharing the goal of increasing [the number of] underrepresented minority health care practitioners, evaluation of outcomes is inherently difficult and has received inadequate attention." Assessment findings point out characteristics of schools and organizations that are associated with successful partnerships and suggest strategies and activities that appear to support the increase of underrepresented minorities in health careers. Yet, the assessment "cannot provide evidence that these partnerships will achieve their workforce goals, or even identify the best specific educational practices appropriate to their goals."

For detailed findings see Assessment Findings. For results from six profiled projects see Results.

**Funding and Management**

The RWJF Board of Trustees authorized the program in October 1994 for up to $5 million as part of a strategy to increase the number of minority physicians, nurses and other health care providers (see Context). In October 1997 the Board of Trustees authorized up to an additional $2 million.

The Association of American Medical Colleges in Washington managed the program and provided technical assistance to project staffs.

**THE PROBLEM**

The percentage of U.S. medical students who belonged to underrepresented groups (African Americans, Mexican Americans, mainland Puerto Ricans and Native Americans, including American Indians, Alaskan Natives and Native Hawaiians) grew substantially in the 1960s and 1970s.

Representation of these groups decreased through the 1980s, however, and by 1990 minority medical school representation was worse than it had been in 1975, according to Charles Terrell, EdD, the program director, and James Beaudreau at the Association of American Medical Colleges (AAMC) (*Journal of Dental Education*, 67(9): 1048–1052, 2003).

In response to this period of worsening minority underrepresentation in U.S. medical schools, the AAMC launched *Project 3000 by 2000* in November 1991. The goal of
Project 3000 by 2000 was to attain an enrollment of 3,000 underrepresented minority students in medical schools (roughly the proportion of minority individuals in these groups in the United States) by the year 2000 (from 1,584 in 1991).

To accomplish this, Project 3000 by 2000 encouraged the development of educational partnerships linking medical schools with local school systems and undergraduate colleges with large minority enrollments.

The strategy of Project 3000 by 2000 was based upon the belief that the high school/college/health professions school "pipeline" is a 12-year educational continuum during which a student's interest in and capacity for an education in medicine is enhanced or dissipated.

In a February 22, 1995, letter to the Journal of the American Medical Association (273(8): 617), Herbert Nickens, MD, director of Project 3000 by 2000, noted:

[T]he central premise of the project is that the primary cause today for the underrepresentation of minorities in medicine is the failure of our public school systems and colleges to provide an adequate academic foundation for our minority young people. Moreover, recruitment is not the problem; minority young people already have high levels of interest in medicine. In fact, committing to Project 3000 by 2000 represents something of a paradigm shift for US medical schools: they understand that they are consumers of the nation's educational system and that they must work as partners in their local community to improve educational quality.

During the project's first three years, medical schools in the program:

- Worked to improve the quality of science education in nearby school districts with high minority enrollment.
- Partnered with magnet health science high schools.
- Established articulation agreements that facilitated the progress of more minority students from one stage of the educational pipeline to the next. Articulation agreements allow a student to apply credits from coursework in one institution toward credit at another institution.

To assist this process, the AAMC:

- Sponsored technical assistance workshops.
- Published a technical assistance manual.
- Formed the National Network for Health Science Partnerships, a network of educators from all stages of health professions education.
• Encouraged educators from other health professions to join forces with medical educators and others in academic health centers to address minority underrepresentation.

**CONTEXT**

Increasing the number of minority physicians, nurses and other health care providers has been a priority of RWJF since its inception in 1972. One of its first grantees was a medical school scholarship fund for minorities, women and residents of rural areas. RWJF’s interest in minority health care providers is motivated by its commitment to improving access to health care for minority patients and improving the quality of the health care they receive.

According to RWJF program officers Jane Isaacs Lowe, PhD, and Constance M. Pechura, PhD, (in a chapter in the 2004 RWJF Anthology, Volume VII), research indicates that minority providers are more likely than majority providers to practice in low-income communities and to serve larger proportions of minority patients. In addition, minority patients are more likely to seek services from, and follow the medical advice of, minority providers.

RWJF has pursued several strategies to increase minorities in the health professions. Notable among them are:

• Long-term support to National Medical Fellowships, which provides scholarships to medical students underrepresented in medicine. See Program Results Report on ID# 018335.

• The *Summer Medical and Dental Education Program* originally authorized in 1987 as the *Minority Medical Education Program*, it provides a six-week summer residential program that strengthens the knowledge and skills of its minority participants in order to increase their chances of medical school acceptance.

Some 13,743 students participated in the program between 1989 and 2004. Some 52 percent of graduates applied to medical school and 61 percent of those were accepted; 60 percent enrolled and 21 percent graduated (1,830 students through 2004). The model was expanded to include dental students in 2005. It has been replicated in many U.S. medical schools. Also see Program Results Report on the program.

• The *Harold Amos Medical Faculty Development Program*, authorized in 1983 as the *Minority Medical Faculty Development Program*, seeks to increase the number of faculty from historically disadvantaged backgrounds who can achieve senior rank in academic medicine and who will encourage and foster the development of succeeding classes of such physicians. It provides funds for young minority medical school faculty members to pursue their research interests. See also Program Results Report on the program.
Despite the work of these programs, the number of underrepresented minority students in medical schools still fell quite short of the proportion of these minorities in the U.S. population.

A 1987 special report on RWJF’s minority medical training programs found that these programs did not reach large enough numbers of students and did not address educational disparities in public school education, a significant cause of minority underrepresentation.

**PROGRAM DESIGN**

In 1994, RWJF created the *Health Professions Partnership Initiative* national program to support academic medical centers engaged in the AAMC's *Project 3000 by 2000*. It was originally called by the AAMC's program name.

The intent of the program was to assist academic health centers in creating community partnerships that would increase the number of minority students who were prepared by their high schools and colleges to pursue careers in the health professions.

Two or more health professions schools would form partnerships with at least one school system and one college to create a comprehensive strategy to achieve this goal.

Partnerships agreed to undertake activities such as:

- Improving the curriculum and learning environment for minority students at each partner institution.
- Creating a new magnet health science high school or strengthening an existing academic program.
- Developing mentoring programs for high school and college students with health professions faculty and students.
- Administering after-school and summer enrichment programs.
- Strengthening science skills of elementary and high school teachers.

The authorization provided for five-year grants of up to $350,000 ($70,000 per year) to be matched by the academic health centers. RWJF initially planned to fund up to 14 sites and the AAMC planned to solicit funds from other sources to support an additional seven sites.

In 1996, the W.K. Kellogg Foundation joined the initiative as a funding partner with RWJF (see *The Planning Phase*). "Kellogg was interested in the same issue and was the single biggest other funder of health and health professions at a national level," noted Jane Isaacs Lowe, RWJF senior program officer. "[With their involvement] we could increase the number of sites."
Kellogg Program Director Barbara Sabol noted that both foundations "wanted to ask and answer the question on how to prepare minority students to be successful in health careers and to increase the number of minorities in these professions."

The national program office at the AAMC (see The Program) did not set benchmarks for individual projects, but allowed the projects to decide how best to design, implement and measure their activities.

An assessment of the program found that the initiative lacked a well-developed model and clear goals. As a result it was not clear what the grantee institutions were expected to do. See Assessment Findings for details on this issue.

THE PROGRAM

National Program Office

In March 1995, RWJF established a national program office at the Association of American Medical Colleges (AAMC) in Washington to manage the program and provide technical assistance to the staff of the projects.

Founded in 1876, the AAMC is the nonprofit association of U.S. medical schools, Canadian medical schools, teaching hospitals, academic and professional societies, and medical students and residents.

Herbert W. Nickens, MD, vice president of the Division of Community and Minority Programs at the AAMC, was the initial program director. Timothy Ready, PhD, also from the Division of Community and Minority Programs, was deputy program director.

Nickens died unexpectedly in March 1999 and Ready took over as interim director. Vanessa Northington Gamble, MD, PhD—physician, medical historian and expert on racial and ethnic disparities in health and health care—became national program director in January 2000. Shortly after, Ready resigned as deputy program director and Lois Colburn became deputy director.

In January 2002, Gamble resigned and was succeeded as national program director by Charles Terrell, EdD, who continued as director throughout the remainder of the program. In 2004 Ella Cleveland, who had worked at the national program office for many years, succeeded Colburn as deputy director.

To help select the institutions to run the projects and also to guide the program, RWJF appointed a national advisory committee. The 11 members included leaders from health professions education throughout the country. See Appendix 4 for a list of committee members.
The Planning Phase

AAMC program staff worked with RWJF program staff to draft and distribute the first call for proposals in March 1995. AAMC staff also conducted applicant workshops to provide information for potential grantees.

The Health Professions Partnership Initiative received 37 full project proposals. From those, the national advisory committee recommended 10 projects for first-round funding.

In February 1996, RWJF awarded five-year, $350,000 grants to the recommended projects, all of which were led by medical schools. See Appendix 1 for a list of Round I grantees.

In December 1996, the board of the W.K. Kellogg Foundation authorized $2.7 million for the Health Professions Partnership Initiative and Kellogg began partnering with RWJF. Kellogg provided funding for seven projects, an assessment of the program (see The Implementation Phase: Assessment Activities), a March 2000 evaluation summit to provide guidance on developing site-specific evaluations and other supportive activities.

In October 1997, the board of RWJF authorized an additional $2 million, calling upon schools of public health to encourage underrepresented minority high school and undergraduate students to pursue public health careers.

The addition of schools of public health as grantees proved challenging for the partnership of RWJF, Kellogg and the AAMC (whose focus was schools of medicine). See Challenges for a description of issues related to the inclusion of public health schools.

In October 1998, an additional six sites received grants, two funded by RWJF and four by Kellogg. Five were medical schools and one was a school of nursing (Kellogg grantee). See Appendix 2 for a list of Round II grantees.

In December 1999, the third and final round of grants went to 10 projects, seven funded by RWJF and three by Kellogg. Five of the RWJF grants went to schools of public health. National program staff collaborated with colleagues at the Association of Schools of Public Health in the selection and administration of the public health school grants. See Appendix 3 for a list of Round III grantees.

The Implementation Phase: National Program Office Activities

To support the grantee projects, staff at the national program office provided the following technical assistance and communications:

- Convened nine annual grantee meetings in locations throughout the country.
Starting with the fourth year, annual meetings were held jointly with the annual meetings of RWJF’s *Summer Medical and Dental Education Program*. Project staff from both programs benefited from the opportunity to share experiences and learn from each other. A total of six joint annual meetings took place between 1999 and 2004. Staff from projects in both programs whose RWJF funding had ended continued to attend the meetings.

- Conducted multiple site visits to each project.
- Offered special programs and training to staff of the projects, such as:
  - **CollegeEd**, a program developed by the College Board that provides college planning and academic preparation advice for junior high school students and their parents and teachers.
  - **Ventures Scholars**, a national membership program that links underrepresented and first-generation college-bound students interested in pursuing math- and science-based careers to information, resources and opportunities to help them pursue their career goals successfully.

- Published the *HPPI Digest*, a weekly e-newsletter of health education pipeline news, sent to more than 500 subscribers to a special listserv during the last five years of the program.

  *HPPI Digest* covered K–12 education and health education issues, scholarship and other funding information, relevant publications and new websites. (In the program's early years, the national program office sent out a quarterly newsletter in hard copy.) See the Bibliography for details.

- Published *Learning From Others: A Literature Review and How-To Guide From the Health Professions Partnership Initiative* to assist project staff and others. See the Bibliography for details.

- Coordinated and edited a special supplement issue (June 2006) of the journal *Academic Medicine*, which features case studies of eight grantee projects: six funded
by RWJF (and profiled in this report) and two funded by Kellogg. See the Bibliography for details.

The Implementation Phase: Assessment Activities

Jan D. Carline, PhD, professor, Department of Medical Education and Biomedical Informatics at the University of Washington, conducted an assessment of the Health Professions Partnership Initiative.

It analyzed the role of leadership in program design and implementation and identified the characteristics of health professions schools, public K–12 schools and community-based organizations involved in what they deemed to be “successful health professions partnerships” based on the literature review and information gathered from the interviews and site visits.

Kellogg funded the initial phases of the assessment with a grant of $150,000. RWJF supported the assessment, particularly work related to schools of public health, with a later grant of $48,904 (ID# 040308).

The assessment addressed six broad questions:

- How has leadership molded the project?
- What has been the developmental history of the project?
- What is the actual nature of the partnerships that have developed between the health professions schools, colleges and school districts?
- How have the organizations in the partnership changed as a result of the project?
- How have children and parents changed as a result of the programs?
- What issues were specific to the inclusion of schools of public health?

The researchers' final report notes “[b]y design we did not attempt to document outcomes in terms of numbers of children influenced by programs or individuals entering health careers; this type of data had not been collected by the partnerships nor the national program office.”

Carline and colleagues interviewed leaders of the sponsoring organizations (RWJF, Kellogg, AAMC and Association of Schools of Public Health) about project history and goals. They also surveyed by telephone:

- All 26 project directors about project activities, successes and barriers to accurate perceptions of the relationships between partners.
- Project directors of Round III sites about indicators they expected to use to evaluate their successes.
Public health school project directors’ about their views on the public health pipeline and particular issues related to launching this effort in a school of public health.

Researchers also visited 10 sites and directly interviewed partner organization leadership, students, teachers, counselors and family members about perceptions of project success, partnership development, and the changes and benefits of the partnerships.

The researchers’ literature review about enrichment programs to foster health professions careers informed their judgments regarding the achievement of the HPPI's program goals.

See Assessment Findings for study results.

The Implementation Phase: Individual Projects and Their Results

Six grants illustrate the range of projects funded and project activities and results:

- **University of Connecticut Health Center, Farmington, Conn.** (Grant ID# 028699, $348,254, February 1996 to August 2001, Round I.) See Appendix 5 for details.

  University of Connecticut Health Center formed the Connecticut Health Professions Partnership Initiative to develop strategies to increase the number of underrepresented minorities and disadvantaged students in Connecticut interested in and prepared for careers in medicine, dental medicine, biomedical research, nursing and other health professions.

  The partnership included, in addition to the health center:

  - University of Connecticut Schools of Medicine and Dental Medicine
  - Central Connecticut State University
  - University of Connecticut at Storrs (including the School of Nursing)
  - Wesleyan University
  - Hartford and New Britain, Conn., School Districts

  University of Connecticut Health Center specifically used RWJF funding to support the Pre-College Enrichment Program, one component of the Connecticut Health Professions Partnership Initiative.

  This program is a six-week pre-freshman summer program designed to strengthen the scientific, mathematical, communications, problem-solving and test-taking skills of incoming freshmen. The goal is to increase the retention rate of students admitted to pre-professional undergraduate programs.

  - Approximately 45 students participated each summer, 15 each at the University of Connecticut, Storrs; Central Connecticut State University; and Wesleyan University.
— The students attended courses in biological sciences, chemistry, mathematics and English/reading. They also received individual tutoring from medical and dental students at the University of Connecticut Health Center.

— Students also participated in nonacademic seminars at the health center that fostered their interaction with physicians, dentists, biomedical researchers and other health professionals.

The partnership sponsored many other activities, including a health professions magnet program for high school students and a summer research fellowship program for college students. For information on these other activities and on other funding sources, see Appendix 5.

**Key Results**

— **Over the five-year project period, a total of 254 students entered the pipeline through the Pre-College Enrichment Program and 237 of them remained in college or had graduated at the end of the period, a retention rate of 93 percent.** Retention through completion of the bachelor's degree (student cohorts from the first two years through the end) was 80 percent.

— **By the end of the five-year grant period, 35.6 percent of those who had participated in the first two years of the project had continued on a path in the health professions, through:**
  - Continuation of a baccalaureate degree program or graduate or professional education (19.5%).
  - Employment in the health professions (10.3%).
  - Application to medical school (5.7%).

— The existence of the RWJF-funded *Health Professional Partnership Initiative* facilitated the health center's development of a competitive application to a federally funded program, *Health Careers Opportunity Program*, from the *Health Resources and Services Administration*. This resulted in funding for the initiative at the University of Connecticut Health Center through 2004 and continuation of the full complement of program activities. The federal government ceased funding of the Health Careers Opportunity Program in fiscal year 2006.

  - **University of Massachusetts Medical Center, Worcester, Mass.** (Grant ID# 028702, $350,000, February 1996 to January 2001, Round I.)

Building on its ongoing commitment to increasing the number of minority students at its medical school, University of Massachusetts Medical Center created the Worcester Pipeline Collaborative.
In addition to the medical center, the collaborative was a partnership of:

— University of Massachusetts Medical School, Graduate School of Nursing and Graduate School of Biomedical Sciences
— Worcester Public Schools
— Local colleges and community colleges
— Bioresearch and biotechnology organizations

The collaborative sought to change science education through an integrated science curriculum, with the goal of increasing minority representation in the health and science professions.

A central strategy was the expansion of the Health Science Academy magnet program at a public high school in Worcester. Enrollment in this "school-within-a-school" increased from 125 before the advent of the collaborative to 328 at the end of the grant period.

For details on Health Science Academy activities and on other funding sources, see Appendix 5.

**Key Results**

— **Graduates of the Health Science Academy entered four-year colleges and other post-secondary programs at a higher rate (58.8%) than did other graduates of North High School (48.5%) where the academy was housed.** The Massachusetts Institute for Social and Economic Research at the University of Massachusetts, Amherst, conducted the analysis.

— **A higher percentage of Health Science Academy graduates (42.9%) also reported working in occupations related to their high school education in the health sciences than did non-academy graduates (25.5%).**

- **Mount Sinai School of Medicine, New York.** (Grant ID# 034520, $348,704, July 1998 to December 2006, Round II.)

Prior to the Health Professions Partnership Initiative, Mount Sinai School of Medicine successfully partnered with the Gateway to Higher Education (now the Gateway Institute for Pre-College Education) to develop and open (in 1994) the Queens Gateway to Health Sciences High School.

Established in 1986, Gateway prepares New York City public school students for college and careers in medicine, science, engineering and technology. As of 2005 Gateway was partnered with 14 New York City public high schools.

In 1997, under the Health Professions Partnership Imitative, Mount Sinai School of Medicine, in partnership with Gateway, established the Life Sciences Secondary
School, a new public school for grades 7–12 in Manhattan close to Mount Sinai. The school accepted its first students in September 1999, with enrollment focused on East Harlem and other northern Manhattan communities.

Around 2002, Mount Sinai and Gateway withdrew from their partnership at the Life Sciences Secondary School. Reasons included problems with the school's budget, recruitment and retention of faculty, a poorly renovated facility, and a school board decision to convert the school to a traditional grades 9–12 high school.

Mount Sinai and Gateway continued their partnership at the Queens Gateway to Health Sciences Secondary School, which now includes seventh and eighth grades. For more information on the Gateway Institute for Pre-College Education and its work in four New York City high schools, see "Program Offers Disadvantaged Teens a Gateway to Health and Science Careers," in the *Journal of the American Medical Association*, 302(9): 933–935, September 2, 2009.

For details about the Life Sciences Secondary School and the Queens Gateway to Health Sciences Secondary School see Appendix 5.

**Key Results**

— Although Mount Sinai and Gateway withdrew from their partnership at the Life Sciences Secondary School, the school had some success before the program ended, according to Nathan Kase, MD, project director and dean of Mount Sinai School of Medicine:

- All eighth graders who entered the school in sixth grade (with a broad spectrum of academic skills upon entry) passed the Living Environments Regents exam. Regents exams are New York State standardized high school assessment examinations.
- Some 75 percent of eighth-graders passed the ninth grade mathematics curriculum, as eighth-graders.

— The Queens Gateway to Health Sciences Secondary School is among the highest-rated schools in New York City:

- All eighth graders take the ninth-grade Living Environments Regents Course.
- Almost all (90%) of ninth-grade students met ninth-grade math standards, compared with only 30 percent of ninth-graders citywide.
- Ninety percent of graduates receive Regents diplomas, compared with 25 percent of graduates citywide. According to Project Director Kase, "graduating seniors have outstanding success in admission rates to four-year colleges and community colleges."

- **University of Illinois at Chicago.** (Grant ID# 038823, $345,607, March 2000 to February 2005, Round III.)
Under the *Health Professions Partnership Initiative*, the *Urban Health Program* of the *University of Illinois at Chicago School of Public Health* expanded its ongoing efforts to address under-representation of African Americans and Hispanics in the public health profession. The University of Illinois created the Urban Health Program to recruit, retain and graduate minority students underrepresented in the health professions.

The School of Public Health at the University of Illinois at Chicago worked with public health departments, Chicago Public Schools, community organizations and others to form the Chicago Expanded Health Professional Partnership Initiative. The partnership sponsored a wide range of activities designed to increase the number and success of applicants to graduate schools of public health. Key activities included:

- Design and teaching of a public health curriculum and public health-oriented summer programs for students in grades six through eight.
- Public Health Science/Health Careers Club and High School Summer Public Health Institute for students in grades 9–12.
- Information programs for college students interested in health careers.
- Bridges to Baccalaureate Program to strengthen academic performance.
- A Pre-Matriculation Program for disadvantaged students admitted to the university's School of Public Health.
- Public Health Science Education for Teachers Program.

For details on project activities and on other funding sources, see Appendix 5.

**Key Results**

- **In comparison with the five years before the implementation of the Health Professions Partnership Initiative, during the five years of the project:**
  
  - The number of African Americans and Hispanics applying to the School of Public Health increased from an annual average of 84 before the project to an average of 126 during the project—an increase of 50 percent.
  
  - The number of minorities enrolling in the School of Public Health increased from an average of 23 before the project to an average of 41 during the project—an increase of 78 percent.
  
  - The number of minority graduates from the School of Public Health increased from an average of 23 before the project to an average of 33 during the project—an increase of 43 percent.
— Academic achievement, as evidenced by test results, improved for students participating in partnership programs:

- The percentage of high school students from the partnership's Saturday College and summer program performing above national averages increased each of three years for mathematics (23%, 27% and 29%) and reading (15%, 19% and 21%).

- Average ACT scores for 204 high school juniors and seniors participating in programs at the University of Illinois at Chicago and at its partner Chicago State University increased by 22.9 percent.

- A cohort of 157 college students who took part in summer programs and GRE review courses increased quantitative scores by 23 percent and verbal scores by 10.3 percent.

- University of Alabama at Birmingham School of Medicine. (Grant ID# 038826, $315,487, March 2000 to December 2005, Round III.)

The University of Alabama at Birmingham School of Medicine created the Bridge to Health Care to bring together the School of Medicine, the university's undergraduate school, Birmingham Public Schools and the Birmingham Urban League to work to increase the number of minority students in health professions schools.

The Birmingham Urban League is a local organization that works to address racial and ethnic disparities in education, economics, health, civic engagement and civil rights.

Building upon the university's 10 years of activity dedicated to recruiting and retaining minorities in health care, Bridge to Health Care included four simultaneous tracks to foster student performance:

- Academic—revisions to the science and mathematics curricula for Birmingham public schools.

- Exposure—introduction to and experience with a full spectrum of health career opportunities for fifth-, seventh- and ninth-grade students and their parents, counselors and teachers.

- Personal development—training in leadership, education enrichment, information technology, job placement and interpersonal skills.

- Counseling—college preparation and pre-health career counseling.

Key activities, which focused on fifth-, seventh- and ninth-grade members of math and science clubs in eight Birmingham public schools, included:

- Preparation for a state-mandated standardized test.

- Mentoring programs.
— Summer internship programs.
— Enhanced K–12 mathematics curriculum.

For details, additional project activities and other funding sources, see Appendix 5.

**Key Results**

— By the end of the grant period the project had "accomplished 90 percent of [its] goals," according to project staff in a report to RWJF. Project staff had identified goals for each of its four tracks (academic, exposure, personal development and counseling). Examples of these goals included:

- At their high school graduation, 80 percent of target ninth-graders, 90 percent of target seventh-graders and 95 percent of target fifth-graders will meet or exceed graduation standards in mathematics and science.
- Some 25 percent of graduates will attend college in a pre-health curriculum.
- One year after project implementation, participating teachers, counselors and parents will average 75 percent on an objective test of health career opportunities and requirements.
- At the end of the first year of college, Bridge to Health Care graduates attending the University of Alabama at Birmingham in a pre-health curriculum will have a grade point average of 2.75 or higher.

- **Emory University, Atlanta, Ga.** (Grant ID# 038828, $348,076, April 2000 to December 2005, Round III.)

Under the *Health Professions Partnership Initiative*, Rollins School of Public Health at Emory University collaborated with:

– Emory's Woodruff School of Nursing, School of Medicine and Emory College (Emory's undergraduate college)
– Atlanta University Center colleges, six historically black colleges that include:
  - Clark College
  - Morehouse College
  - Morris Brown College
  - Spelman College
  - Atlanta University
  - Interdenominational Theological Center
The coalition joined with Booker T. Washington High School and its feeder middle and elementary schools, the Atlanta chapter of 100 Black Men and the Boys and Girls Club of America.

It established a Health and Human Services Academy and a Community Wellness Center at Booker T. Washington High School in Atlanta. The Health and Human Services Academy offered many enrichment and career awareness opportunities for students. Some of these were:

— Use of the Wellness Center by academy students to work as health and fitness consultants and to hold annual health fairs for students, teachers and the community.

— Workshops at Emory College to introduce students to nursing, public health and medicine.

— Professional development for teachers that included summer research, curriculum development and workshops on public health issues.

— Paid hospital work positions for 80 students.

For details on Health Science Academy activities and on other funding sources, see Appendix 5.

**Key Results**

— **As of 2006, Atlanta public schools included a total of four health academies built upon the model established by the Health and Human Services Academy at Booker T. Washington High School.** Almost every teacher in the health academies has participated in the partnership's professional development activities.

— **Twelve teachers in the Atlanta Public Schools (four of whom lead health academies) have worked with the Graduate K–12 Initiative of the National Science Foundation project in which Emory science graduate and undergraduate students team with teachers to create and implement problem-based learning units.**

— **Health and Human Services Academy students and others from Booker T. Washington High School increased their graduation rate and performance on the graduation test and SATs as a result of participating in partnership programs.**

— **Many more undergraduates who participated in partnership activities are entering public health and medical careers compared with students who did not participate in these activities.**
CHALLENGES

Affirmative Action Challenges

In 1995–96, the University of California Regents voted to prohibit the use of race and ethnicity in admissions decisions, including those for the university's health professions schools. A year later, voters passed Proposition 209, which prohibited public institutions from discriminating on the basis of race, sex or ethnicity.

Soon after, several other states had their affirmative action policies challenged. These challenges, according to a report to RWJF from national program staff, "only served to highlight the need for early intervention programs that focus on increasing the academic competitiveness of minority students."

Public School Challenges

According to RWJF Program Officer Jane Isaacs Lowe, PhD, a major accomplishment of the program was identifying "the lack of preparation in urban schools. Increasing the number of minorities [in health professions schools] would always be difficult until we addressed the public school issue." Particular challenges related to public schools included:

- Rather than funding supplementary enrichment programs (the usual intent of minority-focused grant programs), the intention of the Health Professions Partnership Initiative was to spur the creation of joint analysis, planning and implementation of a community-wide educational strategy that relied on the reorganization of existing educational resources.

  Creating partnerships was a fundamental shift from normal academic health center operation and good partnerships take time to develop. Without a planning phase and with a fairly short (five-year) timeframe, many grantees felt there was not enough time to develop true partnerships, implement the project and organize an evaluation strategy.

- During the time of the initiative, public school education was in a period of turmoil resulting from increased emphasis on school accountability for student performance. Schools were less open to outside organizations unless those organizations could show how they would contribute to student success on standardized tests. The national focus on school performance assessment also led to high turnover among both leadership and staff.

- National program office, RWJF and Kellogg staff believed that, for the Health Professions Partnership Initiative to be effective, the projects needed to target students who could realistically be expected to meet academic achievement benchmarks predictive of success at each subsequent stage of the pipeline.
The program’s focus on creating a pool of academically competitive students created tension at both the school districts and the academic health centers between working with all students and "skimming" only those performing at grade level or better.

**Challenges Related to Inclusion of Schools of Public Health**

The addition of schools of public health as *Health Professions Partnership Initiative* grantees created several challenges for national program staff and for the public health schools themselves:

- The national program staff, based at the Association of American Medical Colleges, did not know much about public health.
- At the time of the grants to schools of public health, there was no public health team at RWJF and, according to RWJF senior program officer Jane Isaacs Lowe, there was no real champion at RWJF for the public health component of the program.
- Of the 26 grants made through the *Health Professions Partnership Initiative*, only five were to schools of public health, and all were in the third round of funding. The initiative to that point had focused on medical schools primarily and it was difficult for program leadership to adapt to the different needs of the public health schools. For example, while young people are familiar with physicians, nurses and other health professionals, they know little or nothing about public health and what public health professionals do.

**Personnel Turnover**

In March 1999, Herbert W. Nickens, MD, the original national program director of the *Health Professions Partnership Initiative*, died unexpectedly at the age of 51.

He had been the driving force behind *Project 3000 by 2000* and the AAMC's commitment to increasing minority representation in the health care workforce. His death created a serious void in national leadership of the program and led to a series of personnel changes (see The Program), resulting in three different national program directors in three years and three different deputy program directors.

**RESULTS**

In the Summative Report to RWJF on the *Health Professions Partnership Initiative*, national program staff reported that the initiative's projects "contributed approximately 2,000 minority students to the pool of applicants that applied to health professions schools further along" the educational pipeline.
Researchers who conducted the assessment of the initiative reported detailed findings about:

- Program leadership
- Goals and planning
- Partnerships
- Project activities' strategies
- Issues related to schools of public health

Project staffs reported results from the six profiled projects. (See The Implementation Phase: Individual Projects and Their Results.)

**Assessment Findings**

Jan D. Carline, PhD, professor, Department of Medical Education and Biomedical Informatics at the University of Washington, conducted an assessment of the *Health Professions Partnership Initiative*.

Carline reported the assessment findings in a report to RWJF, Kellogg and AAMC and in a 2003 article in *Academic Medicine* (available online). See the Bibliography for details.

**Key findings include:**

**Overall Program Design**

- The *Health Professions Partnership Initiative* lacked a well-developed model and clear goals at the national level. Initiative leadership considered a number of different visions for the program and never developed a consistent, persuasive and enduring program model. As a result of disagreements at the leadership level it was difficult to "nail down" a solid conception of what the program was, according to former RWJF Program Officer Annie Lee Schuster who was the program's original officer, and it was not clear what grantees were expected to do. Examples included:

  — RWJF funded the national program office to manage the program and support the sites. Individual site awards went directly from RWJF to the grantees, who submitted fiscal reports directly to RWJF. Site awards from Kellogg were channeled through the national program office. This diffusion of responsibility resulted in confusion about reporting lines and responsibility for annual reports.

  — As the program progressed, the national program office advanced a model that would support a stable cohort of academically capable students through an enriched health professions high school to college and, ultimately, health professions graduate school. This was not part of the original vision of the program, which was to strengthen academic health centers' activities begun through *Project 3000 by 2000*, and not the intent of RWJF, according to Schuster.
These differences led to disputes between the national program office and RWJF about the wording of the second and third round calls for proposals.

— After Kellogg joined the initiative, it introduced an additional approach to program development with its requirement that funded partnerships include a community-based organization. The second call for proposals included this requirement but did not require supporting a cohort of capable students in a health professions high school envisioned by the national program office. Program objectives were "much less stringent" than the deputy program director at the national program office preferred.

— Confusion over the number of projects to be funded in the second round (six were funded instead of the 12 expected by the national program office) and renewal funding of first-round projects (which the national program office assured grantees would be forthcoming but which RWJF did not intend to fund) added more tension at the leadership level.

— Some members of the national advisory committee reported that program design did not include a clear, logical vision of program goals and expected outcomes. They also felt that issues raised during site visits and in other discussions were handled on an ad-hoc basis and not in the context of an overall strategic plan.

**Individual Projects**

Based on their literature review and on interviews with staff implementing the projects, the assessment team identified what they believed contributed to "successful" or well-functioning partnerships.

- **Health professions schools associated with successful partnerships had:**
  
  — Vision and a commitment to the community.

  — Ability on the part of professional school leadership and staff to listen to the needs and concerns of its partners.

  — Understanding of the different organizational structures of professional schools and public schools and the differing demands on public school teachers.

  — Prior experience in diversity programs.

- **Characteristics of public schools involved in successful partnership included:**
  
  — Strong vision and leadership, especially the commitment of the highest level of leadership.

  — Strong schools (high, middle and grade) with regard to quality, commitment and consistency of principals and teachers.
— Ongoing support of teachers through professional development activities, curriculum materials and development, and adequate compensation.

— Parent and family involvement.

• **Successful partnerships also included community organizations that:**
  
  — Were predominantly minority, with roots in the community.
  
  — Shared the vision of improving minority career achievement.
  
  — Had resources to contribute and stable leadership.

• **Characteristics of the 26 partnerships included the following:**
  
  — Most included medical schools (22) and nursing schools (21). Other professional school partners included schools of dentistry, pharmacy, allied health and social work.
  
  — The average number of professional school partners was four.
  
  — Most (78%) included the grantee' institutions undergraduate college. Twelve included a community college and four included historically black colleges or universities.
  
  — Although more than 70 percent partnered with only one school district, several partnered with multiple districts.
  
  — About 60 percent of partnerships included magnet high schools, although more than half of these schools were not district-wide, competitive schools but, rather, community schools with admission to a health science-focused curriculum based on interest.
  
  — Partnerships included two to three community organizations, on average. These varied greatly, including businesses, health departments, religious groups and others.

• **In general, partnerships offered activities as follows:**
  
  — About 33 percent of activities focused on career motivation and development.
  
  — Systems-based interventions and academic enrichment each accounted for 25 percent of activities offered.
  
  — Most sites offered academic enrichment during the school year; teacher training; and career development activities such as mentoring, shadowing and internships.
  
  — Most activities focused on the high-school level, with fewest at the college level.
The assessment identified the following basic strategies to improve minority achievement:

- Interventions must begin early. Interventions in high school and college are too late for most children.
- Interventions must be intense and sustained.
- Basic school reform is needed, interventions that change the core functioning of schools and communities, rather than focusing on individual students.
- Interventions must also address nonacademic barriers, such as social and environmental issues, that prevent capable students from progressing.
- Career information and support of individual student aspirations can be important adjuncts to systemic change efforts.
- Career information should address all health careers.

Issues identified regarding partnerships led by schools of public health included the following:

- There is no single academic pathway into public health education or set of academic credentials leading to admission. This may increase the complexity of information given to students and teachers.
- Public health does not enjoy the visibility of medicine, nursing or dentistry among students. Selling careers in public health requires additional effort.
- Schools of public health have little infrastructure to support pipeline programs. They have not historically had primary grants to develop minority or multicultural support programs.
- Faculty commitment for meaningful participation in the partnerships was lacking at schools of public health. They had little time for or interest in activities not directly supporting salary or other rewards.
- Public health schools wanted to sponsor activities to improve the health of students and their communities. National program staff believed these activities would detract from the goals of increased student achievement and interest in health careers. The schools of public health believed that students must first be interested in their own health and that of the community before they can be genuinely interested in health careers.
- Researchers concluded: “The HPPI [Health Professions Partnership Initiative] model was designed specifically to fit the nature and needs of schools of medicine conducting pipeline programs. Its design was imposed on a different institution, the school of public health, without adequate consideration of the history of this
institution in similar programs and without sufficient attention to the nature of its career pipeline and the interests of its leadership and faculty."

**Assessment Conclusions**

Researchers reported the following conclusions in a report to RWJF, Kellogg and AAMC:

- "As with all other programs sharing the goal of increasing underrepresented minority health care practitioners, evaluation of outcomes is inherently difficult and has received inadequate attention." Assessment findings point out characteristics of schools and organizations that are associated with successful partnerships and suggest strategies and activities that appear to support the increase of underrepresented minorities in health careers. Yet, the assessment "cannot provide evidence that these partnerships will achieve their workforce goals, or even identify the best specific educational practices appropriate to their goals."

**LESSONS LEARNED**

National program staff and staff from grantee projects offered lessons from their experiences with the *Health Professions Partnership Initiative*.

**Lessons About Goals, Planning and Project Sustainability**

1. **Define goals and objectives clearly and ensure that all parties agree to them.** The lack of a well-developed program model and clear expectations for grantee sites led to frustration and confusion for both the national program office and grantees. (National Program Staff, Assessment Staff)

2. **Develop a strategic plan and have it in place from the beginning of the program.** With a plan in place, national program staff can address the questions and concerns of individual projects in the context of the plan, resulting in a consistent adherence to the program model and goals. (National Program Staff, National Advisory Committee Members)

3. **Pursue multiple sources of funding to meet total funding needs.** The level of funding awarded to individual projects by the *Health Professions Partnership Initiative* was low and the initiative intended that grantee institutions would provide matching funds and seek other funding. Project staff at Emory University found that it took many grant proposals to ensure an adequate funding stream. (Project Staff, Emory University)

**Lessons About Partnerships**

4. **Specify the responsibilities of each partner institution but remain flexible enough to accommodate the unique character and needs of partners, which may not be**
clear until after the project is underway. Health professions schools, colleges and public schools all have different cultures and bring different perspectives to a partnership. During the life of the partnership these differences are likely to become clear and require compromise by the partners in order for the partnership to work successfully. (Project Director, University of Connecticut Health Center; Project Staff, University of Alabama at Birmingham)

5. **Unanticipated changes in public school priorities and structures can thwart promising partnership programs.** School budget cuts, conversion of the Manhattan school to a 9–12 program from a 7–12 program and other issues forced Mt. Sinai and Gateway to withdraw from the Life Sciences Secondary School. (Project Director, Mount Sinai School of Medicine)

6. **Find partners that are close by.** "Proximity is essential for meaningful partnerships, especially in the city." As an example, trying to partner with a college outside of Manhattan "was an illusion" for Mount Sinai School of Medicine. (Project Director, Mount Sinai School of Medicine)

7. **Simplify decision-making.** Each partner organization will have its own decision-making process and time frame. Establish a system that allows each partner to move forward without delay to handle its own responsibilities and implement its own activities. A complicated system that requires the involvement of most or all partners in order for one to move forward will significantly limit project progress, particularly when there are many partners offering many activities. (Project Staff, University of Alabama at Birmingham)

8. **Establish systems for communication among participants.** The project at Emory found that a centralized source of information—in their case, a website and a regular newsletter-helped facilitate communication among partners. (Project Staff, Emory University)

9. **Use the budget to bring visibility to the program.** Earmarking some funds for staff salaries at the partner organizations can give the program greater visibility in a partner organization's budget and annual report. (Project Staff, University of Alabama at Birmingham)

10. **Leverage a health professions school's visibility in a community to garner political support.** This was an important factor in the accomplishments of the Queens Gateway to Health Sciences High School in which the support of the Queens Borough president was critical. (Project Partners, Mount Sinai School of Medicine)

### Lessons About Pipeline Activities

11. **Start engaging students as early in the pipeline as possible.** "Ninth-grade students at or below reading and computation grade levels have exponentially greater difficulty performing, however well motivated. Cooperative partnerships beginning in
elementary grades … may be necessary.” (Project Director, Mount Sinai School of Medicine)

12. **Target focused and structured activities to small, well-defined cohorts of students.** This allows for the establishment of objective measures of success appropriate to each level addressed, with suitable timelines. In addition, the social and motivational aspects of a small, cohesive group are key factors in promoting student success. (Project Director, University of Connecticut Health Center; Assessment Staff)

13. **Consider establishing mini-schools within larger institutions, rather than new schools.** "Finding the funds to convert an available structure, let alone building a new one, is next to impossible." (Project Director, Mount Sinai School of Medicine)

14. **Balance program activities and activities that change the culture.** Use successful programs in one setting to attract the interest of partners in another to incorporate something new. Over time these efforts may change the culture. For example, the University of Alabama designed its Weekend Academy to engage both students and parents in preparation for a state-mandated academic test beginning in the third grade. The program was so successful that the school system expanded the program to other schools and then moved it into earlier grades. (Project Staff, University of Alabama at Birmingham)

15. **Simplify the set of programs offered and the sequence in which they are implemented.** The partnership sponsored by the University of Alabama at Birmingham offered a wide range of programs in multiple schools. Over time, staff found that it was best to focus on key programs they considered to be successful and not dilute partnership efforts through involvement in a large number of activities. Staff at Emory University found that implementing too many programs at once or too quickly could burden partnership resources. A sequential implementation was more successful. (Project Staff, University of Alabama at Birmingham; Project Staff, Emory University)

### Lessons About the Use of Faculty From Health Professions Schools

16. **Ensure that the school district/board of education and the teachers' union understand that recruitment and retention of high quality middle and upper school faculty-particularly in mathematics and science-is a priority.** Faculty and students [from the health professions schools] cannot shoulder the entire burden of class preparation or discipline.” (Project Director, Mount Sinai School of Medicine)

17. **Be creative in involving health science research faculty.** Most faculty members must obtain grant funding for their salaries and have limited time for nonfunded activities. Developing grant proposals that include funding for students and teachers participating in the program may be one avenue for increased faculty involvement. (Project staff, Emory University)
AFTERWARD

The national program office closed at the end of 2005 after the last project grants completed. The Health Professions Partnership Initiative has ended as a national program of RWJF.

As of December 2006, all projects profiled in this report continued, supported by institutional funds, partner contributions and government grants. (Mt. Sinai’s project ended, however, the science school within a school continued in Queens through the Gateway Institute for Pre-College Education.) Gateway operates the program at four high schools around New York City. "According to a recent survey of the 85 percent of Gateway graduates who have been tracked, about 80 percent of them have graduated from four-year colleges and 10 percent have gone on to medical school—30 times the national rate for a ninth-grade cohort," according to a September 2009 article in the Journal of the American Medical Association (JAMA, 302(9): 933–935, September 2, 2009).

In 2006 the federal Health Resources and Services Administration discontinued its Health Careers Opportunity Program, which was a financial setback for the projects at the University of Connecticut Health Center and the University of Illinois at Chicago; both projects depended on these large grants as major sources of support. Both plan to continue if they can obtain additional funding.

As of February 2007, RWJF maintains its commitment to increasing the number of minorities in the health professions by continuing to fund the Harold Amos Medical Faculty Development Program and the Summer Medical and Dental Education Program.

Prepared by: Mary B. Geisz
Reviewed by: Kelsey Menehan and Molly McKaughan
Program Officers: Annie Lea Shuster, Rosemary Gibson, Laura C. Leviton and Jane Isaacs Lowe
APPENDIX 1

Round I Projects Funded by RWJF and Managed by Medical School

Grant ID# 028699
Health Professions Partnership Initiative
University of Connecticut Health Sciences Center
Farmington, Conn.

Project Director:
Marja M. Hurley, MD
(860) 679-3483

Grant ID# 028700
Health Professions Partnership Initiative
Medical College of Georgia
Augusta, Ga.

Project Director:
Betty B. Wray, MD
(706) 721-2231

Grant ID# 028701
Health Professions Partnership Initiative
University of Louisville School of Medicine
Louisville, Ky.

Project Director:
Joel A. Kaplan, MD
(502) 852-5184

Grant ID# 028702
Health Professions Partnership Initiative
University of Massachusetts Medical Center

Project Director:
Deborah Harmon Hines, PhD
(508) 856-5712
Grant ID# 028703
Health Professions Partnership Initiative
University of Nebraska College of Medicine
Omaha, Neb.

Project Director:
David S. Carver, PhD
(402) 559-4200

Grant ID# 028704
Health Professions Partnership Initiative
University of North Carolina Chapel Hill School of Medicine
Chapel Hill, N.C.

Project Director:
Jeffrey L. Houpt, MD
(919) 966-4161

Grant ID# 028705
Health Professions Partnership Initiative
Oregon Health Sciences Foundation
Portland, Ore.

Project Director:
John W. Saultz, MD
(503) 494-6602

The next two grants are for the same project; the organization for the first grant was taken over by Drexel University.

Grant ID# 028706
Health Professions Partnership Initiative
Allegheny University of the Health Sciences

Project Director:
Leonard L. Ross, PhD
(215) 762-8860
Grant ID# 037778
**Health Professions Partnership Initiative**
Medical College of Pennsylvania/Hahnemann University (now Drexel University)

**Project Director:**
Allener Rogers, MSEd
(215) 762-1288

Grant ID# 028707
**Health Professions Partnership Initiative**
Medical University of South Carolina
Charleston, S.C.

**Project Director:**
Jean Leuner
(843) 792-2652

Grant ID# 028708
**Health Professions Partnership Initiative**
University of Wisconsin School of Medicine
Madison, Wis.

**Project Director:**
Philip M. Farrell, MD, PhD
(608) 263-4910

**APPENDIX 2**

**Round II Projects**

**Medical School Projects Funded by RWJF**

Grant ID# 034520
**Health Professions Partnership Initiative**
Mount Sinai School of Medicine
New York, N.Y.

**Project Director:**
Nathan G. Kase, MD
(212) 659-9760
Grant ID# 034521

Health Professions Partnership Initiative
University of Pittsburgh Medical Center
Pittsburgh, Pa.

Project Director:
Edgar N. Duncan, PhD
(412) 383-9774

Projects Funded by W.K. Kellogg Foundation

Medical Schools
University of Kansas Medical Center at the University of Missouri
University of Michigan School of Medicine
University of Texas Health Science Center at San Antonio

Nursing School
Western Michigan School of Nursing

APPENDIX 3

Round III Projects Managed by Schools of Medicine and Schools of Public Health

Medical Schools Funded by RWJF

Grant ID# 034521

Health Professions Partnership Initiative
University of Alabama at Birmingham School of Medicine
Birmingham, Ala.

Project Director:
William B. Deal, MD
(205) 934-9401

Grant ID# 038824

Health Professions Partnership Initiative
Yale University School of Medicine
New Haven, Conn.
Project Director:
Forrester A. Lee, MD
(203) 785-7545

Schools of Public Health Funded by RWJF

Grant ID# 038829
Health Professions Partnership Initiative
University of California, Berkeley, School of Public Health
Berkeley, Calif.

  Project Director:
  Stephen M. Shortell, PhD, MPH
  (510) 643-5346

Grant ID# 038828
Health Professions Partnership Initiative
Emory University
Atlanta, Ga.

  Project Director:
  James W. Curran, MD, MPH
  (404) 727-8720

Grant ID# 038823
Health Professions Partnership Initiative
University of Illinois at Chicago
Chicago, Ill.

  Project Director:
  Shaffeen A. Amuwo, PhD
  (312) 996-1410

Grant ID# 038827
Health Professions Partnership Initiative
University of Oklahoma Health Sciences Center
Oklahoma City, Okla.

  Project Director:
  Gary E. Raskob, PhD
  (405) 271-2232
Grant ID# 038825

Health Professions Partnership Initiative
University of South Carolina
Columbia, S.C.

Project Director:
Harris Pastides, PhD
(803) 777-5458

Projects Funded by W.K. Kellogg Foundation

Medical Schools
University of California San Francisco, Fresno Latino Center
Creighton University School of Medicine

Allied Health School
Arkansas State University College of Allied Health

APPENDIX 4

National Advisory Committee

Hattie Bessent, RN, EdD
Director
Leadership, Enhancement and Development (LEAD) Project
American Nurses Foundation
Jacksonville, Fla.

Ronald Braithwaite, PhD
Professor of Behavioral Science and Health Education
Rollins School of Public Health
Emory University
Atlanta, Ga.

Zenaido Camacho, PhD
Vice President for Student Affairs
Rice University
Houston, Texas

Lauro Cavazos, PhD
Professor
Tufts University School of Medicine
Department of Community Health
Boston, Mass.

Karine Crow, PhD, RN
Associate Professor, Nursing
Northern Arizona University
Ganado, Ariz.

Isabella Finkelstein, PhD
Professor, Biological Sciences
Clark-Atlanta University
Department of Biology
Atlanta, Ga.

Christopher Fordham, MD
Chancellor Emeritus
University of North Carolina
Chapel Hill, N.C.

Leslie Goldman, EdD
Director
Office of School Health Programs
New York Academy of Medicine
New York, N.Y.

Shirley Jackson, PhD
Retired Associate Commissioner
Hillcrest Heights, Md.
APPENDIX 5

Project Activity Detail

Following is additional information on key activities and on other funding reported by staff of the six profiled Health Professions Partnership Initiative grantee projects (alphabetical by state):

University of Alabama at Birmingham School of Medicine, Birmingham, Ala. (Grant ID# 038826)

Bridge to Health Care, the partnership initiative coordinated by the University of Alabama at Birmingham School of Medicine, focused its efforts on fifth-, seventh- and ninth-grade members of math and science clubs in eight Birmingham public schools. Key activities, in addition to the math and science clubs, included:

- Weekend Academy, a preparatory program for the state-mandated SAT-9 exam that includes seminars for parents as well as students.
- Mentor programs in which health professionals visited participating schools.
- Science programs that include:
  - Genetics, a hands-on laboratory class.
  - Science For All, a professional development course for elementary teachers.
  - BioTeach, ChemTeach and Summer Internships, summer programs for high school students.
  - Project Algebra, a standards-based, hands-on mathematics curriculum for students from grades K through 12, which includes algebra 1 in eighth-grade, calculus for all high school students and available courses beyond calculus.

During the grant period, Bridge to Health Care also received funding from:

- University of Alabama at Birmingham (matching funds and in-kind services).
- Birmingham City Schools (in-kind salary and facilities support).
- Birmingham Urban League (in-kind salary, facilities and other support).
- Howard Hughes Medical Institute ($325,000).
• National Institutes of Health (Science Education Partnership Award, $1,500,000).

**University of Connecticut Health Center, Farmington, Conn. (Grant ID# 028699, Round I)**

The University of Connecticut Health Center used its RWJF funding to support the Pre-College Enrichment Program, one component of the Connecticut Health Professions Partnership Initiative (see The Implementation Phase: Individual Projects and Their Results).

The Connecticut Health Professions Partnership Initiative also offered other educational enrichment and support activities for high school and college students that included:

• **Health Careers Discovery Program** for ninth and tenth graders comprised of a 16-week Saturday Academy during the academic year and a six-week Summer Science Camp.

• **Bulkeley High School Health Professions Center of Excellence**, a school-within-a-school magnet program that clusters students interested in health professions in classes taught by a consistent team of teachers from year to year.

• **High School Student Research Apprentice Program**, which provided a six-week summer research program at the health center for local high school students.

• **College Enrichment Program**, a six-week summer follow-up to the Pre-College Enrichment Program with more advanced courses in the biological, chemical and physical sciences.

• **Medical/Dental Preparatory Program**, a six-week summer program to facilitate entry and retention of students in professional schools through MCAT/DAT preparation, basic medical science courses and other professional development activities.

• **Summer Research Fellowship Program**, which provides a 10-week research experience in health center laboratories for college students.

• Other activities to disseminate information on careers in the health professions and help for students with making informed decisions about their professional futures.

Other sources of funding for the Connecticut Health Professions Partnership Initiative during the grant period (in addition to in-kind salary, housing and other support from the health center and from the University of Connecticut, Storrs) included:

• Health Career Opportunity Program (HCOP) grant from Bureau of Health Professions, Health Resources and Services Administration, U.S. Department of Health and Human Services ($1,875,347).

• University of Connecticut ($376,337).
• NCRR K-12 Science Education Program from National Center for Research Resources, National Institutes of Health ($230,949).

• Connecticut Career Awareness and Preparation Program from Connecticut Department of Higher Education ($195,275).

**Emory University, Atlanta, Ga. (Grant ID# 038828, Round III)**

Emory’s Health Professions Partnership Initiative centered on the establishment of a Health and Human Services Academy and a Community Wellness Center at Booker T. Washington High School in Atlanta. The Health and Human Services Academy offered many enrichment and career awareness opportunities for students, including:

• Use of the Wellness Center by Academy students to work as health and fitness consultants and to hold annual health fairs for students, teachers and the community.

• Workshops at Emory College to introduce students to nursing, public health and medicine.

• Mentoring, shadowing, internships and a Scholastic Testing Enrichment Program.

• Professional development for teachers that included summer research, curriculum development and workshops on public health issues.

• Paid hospital work positions for 80 students.

• A six-week residential summer program for 26 high school sophomores and juniors focused on biology, chemistry, mathematics, critical thinking and test-preparation skills.

• Summer enrichment programs for 400 high school students held at the Emory and Atlanta University Center campuses.

The partnership also received funding from several other sources. Key funders were:

• Howard Hughes Medical Institute and the National Science Foundation (together they provided $750,000 for undergraduate research and $900,000 for faculty workshops and curriculum development).

• Howard Hughes Medical Institute ($24,000 for a seminar program).

• Association of American Medical Colleges and Howard Hughes Medical Institute ($5,000 annually for two years for a Minority Pre-Health Conference).

Additional external support of approximately $253,700.

**University of Illinois at Chicago (Grant ID# 038823, Round III)**

The School of Public Health at the University of Illinois at Chicago partnered with public health departments, Chicago public schools, community organizations and others to form
the Chicago Expanded Health Professional Partnership Initiative. Key partnership-sponsored activities included:

- Designing and teaching a public health curriculum for students in grades six through eight. The curriculum addressed public health issues and concepts; individual, community and government roles in assuring the public's health; epidemiology; and public health career options. Public health graduate students taught the classes.

- Other activities for sixth- through eighth-graders, such as summer programs to increase academic preparedness for high school and foster interest in public health, public health week programs and public health assemblies.

- Public Health Science/Health Careers Club and High School Summer Public Health Institute for students in ninth through 12th grades.

- Saturday programs for sixth- through 12th-graders.

- Activities for college students that included recruitment at colleges (professional school visits and presentations to students interested in health careers) and the Bridges to Baccalaureate Program (a program to strengthen students' academic performance).

- A Pre-Matriculation Program for disadvantaged students admitted to the university's School of Public Health as well as support for matriculated students to increase retention.

- Public Health Science Education for Teachers Program to educate Chicago public school teachers about public health science and how it can be integrated into the science curriculum.

Other sources of funding of the Chicago Expanded Health Professions Partnership Initiative during the grant period were:

- Health Career Opportunity Program (HCOP) grant from Bureau of Health Professions, Health Resources and Services Administration, U.S. Department of Health and Human Services ($3.54 million).

- National Institutes of Health grants for Bridges to Baccalaureate ($59,067 annually).

- Institute for Diversity in Health Management ($20,015).

- Area Health Education Centers ($75,000).

- Illinois Board of Higher Education ($55,000 annually).

**University of Massachusetts Medical Center, Worcester, Mass. (Grant ID# 028702, Round I)**

- A primary effort of the Worcester Pipeline Collaborative (the Health Professions Partnership Initiative coordinated by the University of Massachusetts Medical
Center) was the expansion of the Health Science Academy at North High School in Worcester, Mass.

- *Health Science Academy* activities included mentoring, job shadowing, research internships, clinical internships, science clubs, summer camps and visiting scientist lectures.
  
  — The collaborative extended the Health Science Academy to kindergarten through sixth grade at the Roosevelt Elementary School and grades seven and eight at Worcester East Middle School.
  
  — Worcester Vocational High School was the fourth site of the Health Science Academy. The school's Health Assistant Program was the key component there.

Support for the Worcester Pipeline Collaborative during the grant period was also provided by partner organizations, including the Massachusetts Department of Education. Total non-RWJF funding for the fifth (and last) year of the grant period was $118,456.

**Mount Sinai School of Medicine, New York (Grant ID# 034520, Round II)**

Key features of Mount Sinai and Gateway's partnership at the Queens Gateway to Health Sciences Secondary School included:

- Partnership with the Queens Hospital Center, a Mount Sinai affiliate staffed by Mount Sinai faculty physicians, residents and students, which offers space for hospital-based classes and career-oriented experiences.

- A renovated and dedicated building since 1999. (Note that, as of December 2006, a new school building was rising on the campus of the Queens Hospital Center.)

- Inclusion of community-based children with a wide range of preparation entering seventh grade.

In 1997, Mount Sinai School of Medicine, in partnership with the Gateway to Higher Education, established the Life Sciences Secondary School, a new public school for grades 7–12 in Manhattan close to Mount Sinai. The school accepted its first students in September 1999, with enrollment focused on East Harlem and other northern Manhattan communities. The partnership between Mt. Sinai and Gateway dissolved in the early 2000s, but the school continued to function. Key features of the school included:

- Enrolling students in the seventh grade, instead of the ninth grade, in order to reach students earlier.

- Close interaction with basic science faculty, medical students, graduate students and hospital attending physicians at Mount Sinai. This allowed for:
— Month-long rotations at the school in which residents in medicine and pediatrics partnered with science teachers on units linking science topics to medical and health applications.

— Lectures by faculty from emergency medicine, anesthesiology, anatomy and other medical school departments.

— Weekly mentorships involving 100 students from the school and residents at the hospital during the school year and summer courses and research experiences.

— Gateway model that includes a longer school day, after-school and summer activities, and high expectations of students.

BIBLIOGRAPHY

(Current as of date of the report; as provided by the grantee organization; not verified by RWJF; items not available from RWJF.)

National Program Office Bibliography

Books


Book Chapters


Articles

Cleveland EF and Steinecke A (eds). "Lessons Learned from the Health Professions Partnership Initiative (HPPI), 1996–2005." Academic Medicine, 81(6 Suppl.), 2006. Some abstracts available online as indicated below. Full text requires fee or subscription.


● "Telling the Stories of the Health Professions Partnership Initiative," Ella Cleveland, S15–16.


● "Emory Health Professions Partnership Initiative," Pat Marsteller, Kimberly Parker, Andrea Neal and Madge Donnellan, S32–35.

● "University of California, San Francisco, Fresno Latino Center for Medical Education and Research Health Professions Pipeline Program," Katherine A. Flores and Bertha Dominguez, S36–40.

● "Mount Sinai HPPI," Morton Slater and Elisabeth Iler, S41–43.


Reports


World Wide Web Sites

www.hippi-2020.org/HPPIhome.cfm (no longer available). Health Professions Partnership Initiative website provided a description of the program, lists of grantees with contact information, downloadable copies of program publications and links to related websites. Washington: Association of American Medical Colleges and Association of Schools of Public Health.

Evaluation Bibliography

Articles


Reports


**Profiled Projects Bibliography**

*(alphabetical by state)*

**University of Alabama at Birmingham School of Medicine**

**Articles**


**Reports**

"The ABC's of Health Care Newsletter." Birmingham, AL: University of Alabama at Birmingham School of Medicine, January–February 2001.

**Grantee Websites**


**University of Connecticut Health Sciences Center**

**Articles**


**Reports**


**Emory University**

**Articles**


**University of Illinois at Chicago, School of Public Health**

**Articles**


**University of Massachusetts Medical Center**

**Articles**


**Reports**


**Grantee Websites**

www.umassmed.edu/wpc. Worcester Pipeline Collaborative section on the website of the University of Massachusetts Medical School provides a description of the collaborative and information about its different programs. Worcester, MA: University of Massachusetts Medical School.
**Mount Sinai School of Medicine**

**Articles**


**Reports**

Kase NG. *Pipeline Programs: The Role of the Dean of a Medical School*. Unpublished report.