The Health Science Institute: An experience in learning

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The Health Science Institute of Howard University was initiated during the summer of 1973 by students and faculty members in the Colleges of Liberal Arts and Pharmacy and Pharmacal Sciences to address one of the major problems related to the overall poor status of health-care delivery for residents of the nation’s underserved areas—the critical health manpower shortage.

The fact that the nation continues to face a crisis in the delivery of health care to all its citizens has been well documented.\textsuperscript{1-3} There are few comprehensive systems of health care delivery; existing systems are inadequate; health manpower shortages still exist; and there is an imbalance in the geographic and specialty distribution of health personnel.\textsuperscript{1}

The impact of this crisis in health care is most deeply felt by the urban and rural poor, who are often black. While the most comprehensive health care available is found in highly populated urban areas, only the most affluent members of the community have easy access to this care.\textsuperscript{1-4} Health care for the urban and rural poor is a national disgrace. Statistical data reveal that urban poverty areas have a 60 percent higher infant mortality rate than non-poverty areas, a 200 percent higher incidence of premature births, 100 percent more new cases of tuberculosis, and a 100 percent higher death rate from carcinoma of the cervix.\textsuperscript{2}

One of the major factors contributing to the poor status of health care delivery to urban and rural low income families is the inadequate number of health professionals engaged in practice in inner city and rural areas.\textsuperscript{3} There are factors which mitigate against the recruitment and enrollment of students from such backgrounds into health professional schools.

First of all, at the secondary educational level, teachers and guidance counselors often fail to encourage and motivate their students—not only the average students, but also their most capable students—toward health careers. The reason for this failure is often related to the teacher’s and counselor’s own lack of knowledge of what these professions really entail and what academic skills are requisites for successful completion of study/training. There is also a prevailing feeling that it takes outstanding “genius” and academic excellence to enter these fields. What is often overlooked is that these professions, like others, require serious commitment most of all. Hard work and long years of study are the two most necessary requisites for success in the health professions.

Associated with the prevailing feeling about what is required to pursue health careers is the belief among students, teachers and parents that science and mathematics courses are inordinately difficult. Consequently, students develop a “negative set” toward such courses and become conditioned to failure in these areas long before they reach the college level.

Another significant factor is the inability of inner city and rural secondary schools to provide the academic preparation necessary to succeed in health professional schools. Budgetary limitations and the lack of well-prepared persons do not enable these schools to hire the number and type of teachers or to purchase the necessary equipment to provide for such preparation.

It is the intent of the Health Science Institute to supplement the efforts of selected secondary schools to overcome these factors.
The Health Science Institute was designed to have impact on career development at an early stage of the student’s educational process. A holistic approach is being taken in which are involved not only students but also parents, teachers and counselors, Howard University students and professors in the health fields, hospitals, clinics, laboratories, and professional associations. By working in concert with each of these groups, the project staff provides meaningful career information and counseling, and, importantly, relates the student’s school experience to successful entry into professional education and training programs.

The Career Orientation, Education, and Counseling Project seeks to insure that each student participating achieves the following objectives:

- **Establish a Sound Foundation for Future Study and Learning**
  Students who lack adequate development in the prerequisites for pursuing undergraduate education are severely handicapped in coping with formal studies. Unless their needs can be defined and treated early they are likely to multiply into a self-perpetuating syndrome of failure.

- **Early Exposure and Orientation to the Array of Health and Health Science-Related Fields**
  Such exposure and orientation can produce fundamental change in the attitudes and behaviors of both elementary and secondary school students, which will have positive long range impact on achievement, motivation, self-confidence, and level of aspiration. These gains can mean the difference between success and failure in school and open or close the door to a health or science profession.

- **Mastering the Basic Skills in Science and Related Courses—Biology, Chemistry, Mathematics, and Reading Comprehension**
  Achievement in these areas is a minimum requirement for science and technological occupations.

The aims of the Career Education, Counseling and Academic Enrichment Program in Medical and Health Science Fields are:

1. to provide elementary, junior high, and senior high school students career orientation, motivation and counseling in health and allied health fields;
2. to assist junior high and senior high school students in developing effective techniques for study;
3. to provide substantive tutorial assistance in science, mathematics, and reading comprehension;
4. to provide exposure for select students to college level courses;
5. to assist students in the development of the health conditions and problems of the urban poor; and
6. to advise students working on special health research and demonstration problems.

- **Selection of Participants**
  The project target population includes students from D.C. area senior high schools. Students are required to submit applications for review by a committee composed of the Project Associate Directors and the Directors of the Science Departments from the major cooperating schools. All students must have demonstrated a sincere interest or motivation toward health careers or toward participating in the program. Students are required to remain with the Institute for a minimum of one year (inclusive of a summer and academic year phase). Every student who successfully completes the program receives some form of academic credit for his participation.

  The major components of the Health Science Institute activities include Instructional, Tutor-Counseling, Career Information and Education, Community Involvement, Clinical Experience, Special Research/Study Project, and Academic School Year Components.

- **Tutor-Counseling**
  The Tutor-Counseling phase is designed to insure that each student has the maximum assistance for academic problems. The student is assigned to a tutor-counselor who not only assists him in his academic areas, but will also expose and make available to him information on college and career planning.

- **Career Information and Education**
  The Career Information and Education phase is geared toward acquainting students with the various health professions. The methods used are (1) Health Professional Library Reading, (2) Field Trips, and (3) Weekly Seminars.
The Health Professional Library contains written information and audiovisual aids on health careers. Information is also available on undergraduate and graduate programs. The library facilities are available to the students on a regular basis.

Field trips are taken at least once a month to various sites of health science-related interest such as clinics, hospitals, the National Institutes of Health, the Smithsonian Institution, the Armed Forces Institute of Pathology Museum, the Environmental Protection Agency, and similar locations.

Weekly seminars are held to provide additional exposure, direction, and motivation. Speakers from various health areas provide the foundation for the type of commitment which hopefully will generate from this program. The resources of both Howard University and the community are utilized. A wide range of topics such as drugs, environmental health, community medicine, and Health Maintenance Organizations are discussed. An outgrowth of these seminars is the community involvement or education phase.

Community Involvement

The Community Involvement phase develops as students grow in maturity and understanding of the commitment we are attempting to develop. The students are asked to transmit theory of commitment into practice at an early stage. The student designs a project which involves community education in health-related problems such as hypertension, cardiovascular and venereal diseases. The focus is geared toward making the community aware of the problem and of the health resources available.

Clinical Experience

During the summer, twice a week, the high school students work with a preceptor in his field of interest (Medicine, Dentistry, Pharmacy, Nursing or Allied Health Profession). Most students are placed in clinics or with physicians or dentists in private practice.

Special Research/Study Project

During the course of the program each student works on an individual research or study project. Students are presented with problems such as the inequitable distribution of health manpower across the country, lack of adequate health care facilities for the poor, or the most common killers or diseases of minority people. They are assisted by their tutor-counselor in the development of the project.

Academic School Year Components

The Health Science Institute’s academic school year phase retains all of the summer components with the exception of the Instructional component. Arrangements are also made for students to continue their clinical experience during long vacation periods. The tutor-counseling is arranged so that students and their tutor-counselors will meet on Saturday for individualized or group reinforcement or assistance in problem areas. These weekly sessions are mandatory. A Saturday schedule would include tutor-counseling sessions and seminars or field trips as a part of the Pre-Occupational Orientation component.

Involvement of Health Science Students

Personnel are recruited from the health science colleges. Though the instructors are primarily graduate students of Medicine, Dentistry, and Pharmacy, the positions of tutor-counselors are open to all graduate and/or undergraduate students in the health sciences.

Health Career Symposia

Three Health Career Symposia are conducted for students in the District of Columbia Public School System to accomplish the following objectives:

1. To provide a vehicle by which students can gain knowledge about the various careers in the health sciences.
2. To make available information about the various community programs that are focused on the area of health for junior and senior high school students.
3. To generate community involvement focused on the needs and aspirations of youth.
4. To introduce students to the role of the health professionals.
5. To offer students counseling and guidance in determining the health career best suited for them.
6. To aid in developing positive attitudinal direction (self-esteem/ego-strengthening).

Each Health Career Symposium accommodates 200 students from grades 9-12. The symposia include speakers, films, workshops on various health professions, and information booths from health-related community programs. All the activities focus on the inferior health conditions of poor and minority people and the critical need for committed health professionals.

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Literature Cited


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