

The Student Health Opportunities Program at the Mount Sinai School of Medicine

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PROGRAMS DESIGNED TO INTRODUCE health and the health occupations to high school students are not new, but the numerical impact of these efforts has been negligible. Throughout the 1960s various hospitals reported programs for high school students (1-4), but the minor importance of the health occupations in secondary school curriculums is apparent from the fact that in 1966 only 0.08 percent of the nation's high school students were enrolled in health vocational training programs (5).

More recently, health has been a vehicle for the teaching of science at the secondary level (6), and a few programs provide academic credit for small numbers of carefully selected students with outstanding academic records (2). Since 1971, some programs have emerged that are directed specifically to minority group students (7). Furthermore, at least eight medical schools are currently sponsoring high school programs of varying size and scope, most of which are also aimed at minority students (8,9).

Student Health Opportunities Program

The Student Health Opportunities Program (SHOP) at the Mount Sinai School of Medicine was funded in October 1969 by the Ernest and Mary Hayward Weir Foundation, and the first students were recruited in spring 1970. (Supplemental funds have been provided by the New York City Board of Education and the Neighbor-

hood Youth Corps.) The initial 6-month period was devoted to hiring staff and to carrying out a series of informal research projects from which basic policies of the program were developed.

The high school selected for SHOP is the second largest in Manhattan. Its enrollment of 5,400 is twice its intended capacity. Ninety-six percent of its students are black or Puerto Rican. Teachers are in short supply, and this problem is eased only slightly by the expedient of operating on a double or even triple session basis.

The school graduates fewer than 300 students each year—a dropout rate of about 70 percent over a 4-year period, which is in line with data available for all New York City high schools, where only about 50 percent of the blacks and Puerto Ricans who complete the first half of their junior year ever graduate (10). The average daily class attendance is about 50 percent, and the rate of academic failure is extremely high.

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Photographs supplied by Gerald Jacobson, Visual Health Laboratory, Department of Community Medicine, Mount Sinai School of Medicine.

Policy decisions. The first decision was to work with a single high school having a predominantly minority student body. It was our hope that working with one school would permit a concentration of resources in a manner that would benefit the school, as well as educate personnel of the medical school in the problems of secondary education.

The second decision was to exclude academically outstanding students from the program. The true abilities of many students are poorly reflected in their grades, and we believe that such students can derive much benefit from educational assistance outside of the school.

Because grades were considered an inadequate criterion for acceptance into SHOP and because the school's overcrowded condition precluded a reliable recommendation from school officials, the third policy decision was to use self-selection as the basis for admission. The initial requirement is only an expression of interest in the program by the student. The student is then interviewed by a SHOP counselor who is familiar with the school and by the SHOP director. Since the number of applicants always exceeds the number of available places in SHOP, the interview is decisive. The interviews are subjective, and a history of past or current drug use or an outstanding academic record are the only objective criteria for exclusion.

A fourth policy decision dictated that SHOP's obligation is to its students rather than to the "new careers" movement. The existing job market

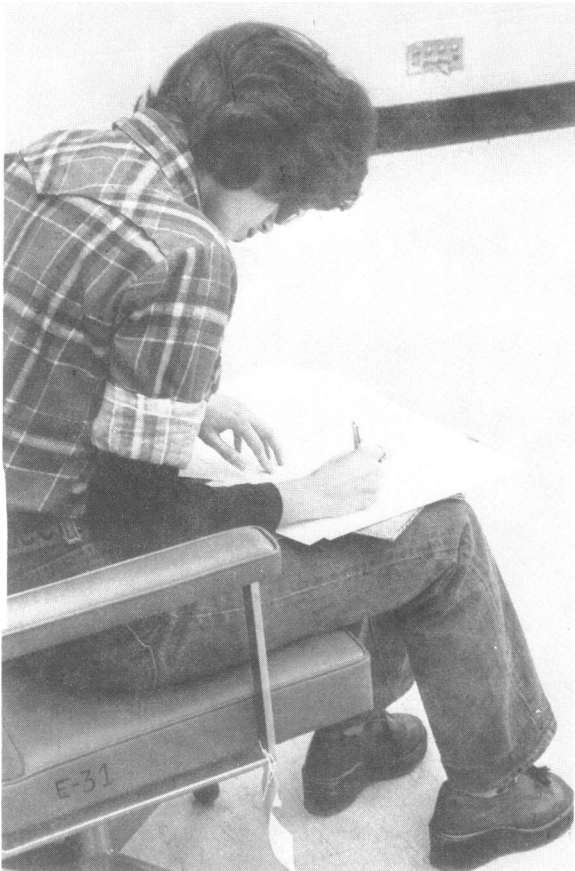
is the overriding consideration here. SHOP is not geared to provide health workers for the nation's ghettos.

The fifth decision was to always have 100 or more students in the program, in order to be influential in the large high school. A large student body necessitates a broad range of experience to appeal to differing interests. Thus SHOP has been persistently general rather than specific. It provides a "health smorgasbord" so that the individual student can consume whatever satisfies his interests and abilities.

Finally, it was decided that SHOP must be a year-round continuous program that provides academic credit for the student from the high school and that articulates with college. The need for a continuous program was apparent when the academic deficits of the students became known, and the desirability of academic credit is obvious. Fortunately, articulation is greatly simplified by the open admissions policy of the City University of New York, which guarantees admission to any graduate of a city high school regardless of grades or rank in class. This policy allows continuing academic enrichment or reinforcement, and thus it eases SHOP's task of interesting students in health careers and using this interest as a mechanism for getting students through high school.

Objectives of SHOP. The objectives of the program are implied in the preceding policies. They can be summed up as follows:

1. To develop the student's interest in health



and health careers and to use this interest as a motivational tool to help the student complete high school.

2. To provide whatever academic assistance and counseling the student may require to make his interest realistic, and to enable the student to realize his maximum level of achievement consistent with his interest and ability.

3. To develop a cooperative health-high school relationship through which the school can become an appropriate academic base for health careers and the school itself can be generally strengthened and improved.

Major Components of SHOP

The first component of the program is an academic counseling service. Its major objectives are to inform students of the requirements for graduation from high school, to assist students with plotting program strategy for graduation, and to develop a continual evaluation of academic achievement based on the student's day-to-day performance in his various classes. The counselor confers periodically with the teachers so that they

can better understand the student and his problems.

A second component is a center for academic services, located in a remodeled abandoned tavern, to give the students a place to study and to meet. The center provides tutorial services, a study skills bank with programmed learning materials, a student newsletter to improve communications skills, and a clearinghouse for information on health professions and college. It also houses a small reference library to assist students with the completion of term papers and other academic requirements.

Recordkeeping is a third component of the program. Early in the program it became necessary for the staff to locate students' records, to correct these records to reflect the most recent work of the students, and to analyze the records in an effort to insure correct course programming. Additionally, the corrected record was essential for compilation of an accurate academic profile of each student. The work required for recordkeeping alone consumes an inordinate amount of staff time. Nevertheless, it is a necessary chore which permits the staff to become the student's advocate and to represent his interests when difficulties arise concerning the accuracy of a particular record.

A prime role of SHOP is that of ombudsman for the student. This role is perhaps the most effective single aspect of the program, for the importance of an institutional backup for the student cannot be overemphasized. The concern for and intervention in student problems by an interested third party gives credence and security to members of the program and produces an esprit de corps that is noticed by other students in the school. As a result, despite the negligible amount of advertising concerning the program, applications far exceeding the program's capacity are regularly received from students in the target school as well as from other high schools in the city.

Placement of students in health-related experiences is a fourth major component of the program. A great deal of effort was expended by the staff to obtain interesting and educational placements in the Mount Sinai Hospital and the School of Medicine. Students are also placed in the community to work, for example, with a private medical group in Harlem or the East Harlem Health Center, a district office of the New York City Health Department. All students are evaluated periodically by their placement supervisors, and in turn the students evaluate their placements. The

students' evaluations produce important information about the relevance of particular placements and feedback on the interest shown by supervisors and other personnel in sharing experiences and expertise.

The students are rotated through the placements. Placements are not jobs per se, nor are they intended for specific training. Rather, they are for exposure to the various aspects of the health field. The following are placements made from September 1970 to June 1972 (a total of 226 students were rotated through 179 placements at Mount Sinai).

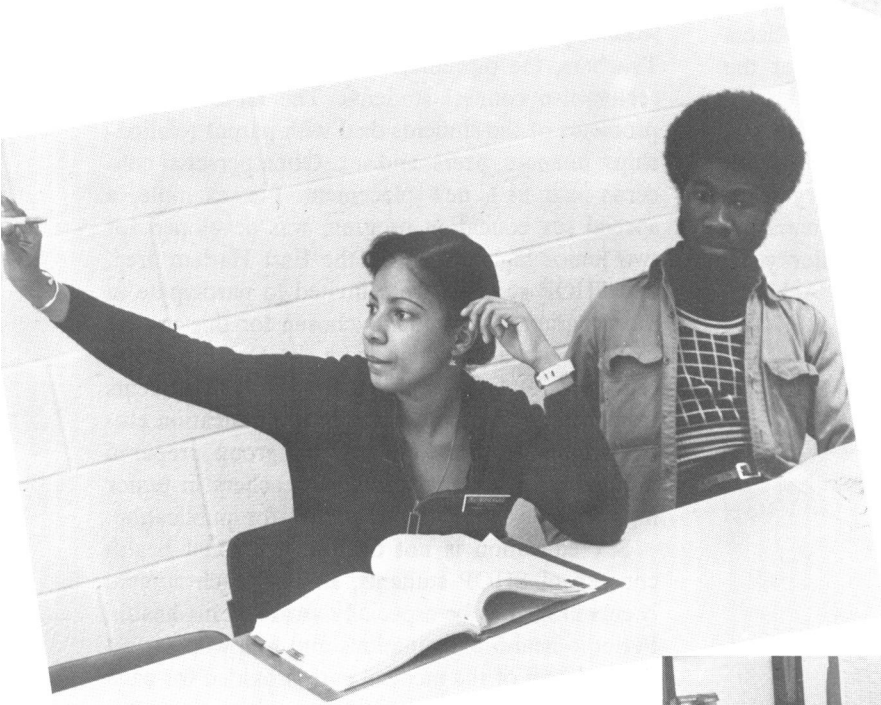
<i>Location</i>	<i>Number placements</i>
Mount Sinai:	
Anatomy	2
Anesthesiology	7
Biochemistry	6
Biophysics Research Institute	2
Chemistry	4
Communications	9

Dental clinic	11
Dietary (food service)	9
Electrocardiography	3
Electroencephalography	1
Electron microscopy	1
Genetics	3
Inhalation therapy	8
Clinical microscopy	1
Nursing	41
Ophthalmology	5
Oral surgery	1
Orthopedics	9
Pathology	2
Pharmacy	2
Pharmacology	7
Radiology	25
Rehabilitation medicine	2
Sex education program	18

Other health facilities:	
Circle Medical Group	5
Lexington Family Center	12
New York City Health Department	29
New York Medical College	1
Special education projects:	
Health core curriculum	62
Communications workshop	9
English as a second language	5







College guidance and admission is a fifth component of the program. College catalogs and applications are available to the students, and assistance with completion of the college applications and applications for the scholastic aptitude test, with fee waiver, is offered at the skills center. A part-time college counselor is employed to help seniors and juniors in selecting the schools best suited to their interests and abilities. Information concerning scholarships is readily available, and in some instances students are taken to various college campuses or college admissions officers are invited to meet with SHOP students at the study skills center.

The sixth component consists of extensive and continuous testing of the students by the SHOP staff. Examinations, such as the Preliminary Scholastic Aptitude Test in reading and mathematics, are given to students entering their junior year. Students are also given the Metropolitan Achieve-

ment Tests, used by the New York City Board of Education, for reading levels and language art skills. The intent is to clearly define the strengths or weaknesses of each student in order to meet his academic needs effectively. As an adjunct to the program, a special summer program in reading and mathematics provides academic enrichment.

The seventh component of the program deals with personal counseling services for the students. Four counselors, one man full-time and three women part-time, are available for these services. Teachers, the placement coordinator, and the director also counsel students. The most common problems of the students deal with parent relationships, finances, peers, and sex. Often personal concerns lead to a new placement. For example, a special sex education program was developed for two junior high schools in the East Harlem area, and SHOP students were invited to participate in the program. The students chosen for this project worked with a physician from the Department of Obstetrics and Gynecology, five medical students from Mount Sinai, and two health education students from Hunter College. This group prepared a manual on sex education for teachers in junior high schools, which is scheduled for publication.

Sex education is not the only personal health concern of SHOP students. Indeed, each student is encouraged to be especially aware of his health. Periodic health examinations and followup are an integral part of the medical care provided for each student.

SHOP Staff

The shop staff and their duties are as follows:

The principal investigator has the primary responsibility for the program. In addition to general participation, he is the liaison between SHOP and the Mount Sinai Medical Center. He and the director are responsible for basic SHOP policy.

The director has overall responsibility for the operational aspects of SHOP. He is in charge of the development and educational aspects of the program and is directly responsible to the principal investigator. (The current director has 17 years of experience in teaching and educational administration.)

The placement coordinator is responsible for placing students in the hospital and other health-related areas. He supervises the rotation of students in placements and collects log reports of





student activities at placements. He also opens new areas of opportunities for work experience for students.

The career guidance counselor assists with counseling and interviewing students, maintains contact with teachers and parents of SHOP students, and assists with tutoring at the study skills center. He is also in charge of stipends from the Neighborhood Youth Corps, job time cards, and attendance records.

The nurse-health coordinator is responsible for college counseling and followup, assisting with the tutoring program at the study skills center, and coordinating curriculum development for SHOP. She also coordinates orientation at Mount Sinai and the medical technology course at the high school and assists with the development of the health curriculum.

The teachers are in charge of the tutorial program and educational services at the study skills center. They assist with the development of curriculum

materials and services and have overall responsibility for records of SHOP students.

The tutor-counselors assist with the tutoring at the study skills center, assist with maintenance of records for the Neighborhood Youth Corps, and assist with the supervision of students at placements.

Health Core Curriculum

The major educational innovation of the program has been the development of the health core curriculum entitled "Health in Contemporary Society." This curriculum was developed through the cooperative efforts of faculty in the various departments of the Mount Sinai School of Medicine. It was field-tested during the summer of 1971 as part of a residential enrichment program for 65 SHOP students at Marist College in Poughkeepsie, N.Y.

The curriculum itself is a multidisciplinary approach to the study of health and health care in contemporary communities. The aim of the cur-

riculum as a whole is twofold: (a) to develop a health advocacy role for our students by exposing them to community health problems and how medical science is attempting to solve these problems (an introduction to the concepts of epidemiology and preventive medicine are regarded as necessary components of the study of health) and (b) to develop verbal reading and mathematics skills by using the broad subject of health as the vehicle for learning.

All students and staff participate in the core course. The course is organized around a team approach. The team consists of a medical specialist from the Mount Sinai School of Medicine, a nonphysician health resource person, and six secondary school teachers—trained in the various liberal arts—who coordinate academic-skill laboratory groups of 10 to 12 students each.

The first unit of the curriculum deals with the question, "What is health?" The students discuss the classification of diseases, giving examples of each and defining the differences between chronic and infectious diseases. Discussions on the crisis in health services include the matching of contemporary health needs with existing services, the

critical shortages of medical personnel, and the rising costs of health care. Determinants of health such as genetics, nutrition, poverty, population pressure, and iatrogenic disease conclude the first unit.

Unit two covers maternal and infant care and includes pregnancy and prenatal care and problems such as erythroblastosis and rubella. Significant factors related to pregnancy, such as maternal age and socioeconomic status, are also studied. The second half of the unit deals with causes of infant mortality and the distinction between congenital and hereditary diseases.

Unit three investigates childhood and adolescent health care. Communicable diseases of children, such as mumps, measles, and chicken pox, are discussed in detail. Adolescent health care includes study of teenage problems—drugs, obesity, acne, and general physical and emotional development. Also included are mental health as it relates to adolescence and the responsibility of the community, school, and government in promoting and providing health care.

Unit four covers the medical problems of adults. Prevalent diseases, such as tuberculosis, cancer,



alcoholism, drug addiction, and heart disease, are explored.

In the fifth and final unit the preceding units are summarized, and the students are requested to propose what they think would be a comprehensive health care delivery system for east Harlem. Here the students use all their academic and artistic talents in proposing improvements and innovations in health practices in their community, based on their observations, their studies, and their experience in their placements.

The first group of students in the program suggested action covering many areas of health service, such as construction of a new hospital in south Bronx with certain design features that emphasize pediatric and emergency care. Much of their interest centered around pediatrics, adolescents, and emergency units, which are, of course, those areas of a hospital with which young people have the most contact. Constructive criticism of hospitals, health departments, school health programs, and various governmental agencies were covered in reports and position papers prepared by the students.

Discussion

Evaluation of the Student Health Opportunities Program will be the subject of later publications. After 2 years of operation, however, SHOP has been largely successful in meeting its principal objective of getting youngsters through high school. Dropouts from SHOP have averaged less than 5 percent during the 2 years, and none of the students have withdrawn from school. The percentage of academic courses failed by SHOP students has dropped steadily with continuing exposure to the program. All 20 SHOP seniors in the class of 1971 graduated from high school, and 18 went on to college with plans to pursue a health career.

The program is now entering its third year. The experiences gained in developing resources for health education have been tested and tried in an effort to prove the original objectives—to make health career goals realistic ones through educational and practice stimuli.

Our next step is to expand the idea in an effort to meet the needs and aspirations of even larger numbers of students. Formalized collaboration with the board of education and the Mount Sinai School of Medicine will, it is hoped, exert a significant impact on the educational system as well as on the health industry.



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