A Pilot Program
Training Students to Obtain Throat Cultures
in a University Setting

A Project submitted in partial satisfaction
of the requirements for the degree of
Master of Public Health

by
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May, 1975
This Project of Carolyn Simpson is approved:

California State University, Northridge
May, 1975
ACKNOWLEDGEMENTS

"A single gentle rain makes the grass many shades greener."

Henry David Thoreau

As the rain has nourished and provided the fuel for the growth and enrichment of the grass, so have many respected people done the same for me.

The completion of my graduate project and the attainment of a Masters degree in Public Health was not an individual effort on my part, rather it was a combination of the influences, the support, and the reinforcements extended to me throughout my pursuit of this degree. The guidance, the motivation, the direction, and the energies from others, coupled with a personal incentive, are the responsible agents in my achievement.

This paper is dedicated to my parents, the two most unselfish and inspiring people, who have given support to me throughout my undergraduate and graduate careers. Sincere appreciation for the personal assistance given in time and energy is extended to Eileen Nebel Levine, M.P.H., Ronna Vener, M.P.H., Dr. Karl Ullis, and to my three very favorite professors and respected advisors Wally Alkhateeb, Dr. Lennin Glass and Dr. Tony Alcocer. Further recognition and acknowledgements are extended to the U.C.L.A. Student Health Service staff, and to the five U.C.L.A. Student Health Advocates who graciously participated in the study, and made this pilot project possible, Leslie Brown, Brian Budenholzer, Michael Jedlicka, Elliot Kurtizky, and Maria Magara.
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ABSTRACT

A PILOT PROGRAM
TRAINING STUDENTS TO OBTAIN THROAT CULTURES
IN A UNIVERSITY SETTING

by
Carolyn Simpson
Master of Public Health
May 1975

A training program was designed to expand the role of a University Student Health Advocate by offering a medical service to residents living on campus in university dormitories. The pilot training program involved five students, a doctor, a health educator, medical laboratory staff, medical staff, and the author. Students were trained to obtain throat cultures from potential strep throat carriers. This was an attempt to reduce unnecessary clinic visits to Student Health Service on campus. The major goals of the training were prevention and early detection of strep throat. Furthermore, by training a pilot group of Student Health Advocates, students in the dormitories had as a convenience the availability of qualified Health Advocates offering this service as needed, without having to go to the Student Health Service on campus.

The methodology utilized in the training program was a combination of lecture-discussion meetings and field experiences in the Primary Clinic at the U.C.L.A. Student Health Service. Taking throat cultures on peers was practiced. Diagrams and illustrations on the
anatomy of the throat were viewed. Students participated in taking a pretest and a posttest. Coupled with this, the students had access to a "fact packet" containing a compilation of procedures, explanations, and information pertaining to upper respiratory infection problems and a method of how to obtain throat cultures. Doctors and nurses on the medical staff at the University were available to answer any medical questions the students might have had relating to taking a throat culture, or questions in reference to any nonspecific types of medical inquiry.

This additional and piloted component to the Student Health Advocate program at the University of California, Los Angeles ran for one school quarter, Fall 1974; September-December. Two study dorms housed the five trained Advocates, while the remaining three University dorms served as control dorms, not having Advocates available to take throat cultures. Comparisons were made with the numbers and results of throat cultures taken by the medical laboratory staff of the University and those taken by the Advocates. In addition, treatment for minor medical upper respiratory infection complaints seen at Student Health Service were compared to similar upper respiratory infection complaints that were cared for by the Student Health Advocate's services.

The major goal of this project was prevention and early detection of strep throat. Secondary goals were saving of time and the reduction of unneeded clinic visits to Student Health Service. This was achieved by training students to obtain throat cultures, while offering dorm residents both a convenience and a medical service. This
project represented health care being taken out of its traditional setting, by training a selected group of students to perform a medical task outside of a hospital/clinic environment. Furthermore, it enriched the role of health education by promoting preventive medicine and extending a clinical service. When students' sore throat complaints were cared for by the trained Health Advocates explanations and education relating to sore throats and strep throats were offered. Communications between the medical profession and the student community were enhanced because teamwork was initiated and practiced.
CHAPTER 1
INTRODUCTION

The concept of utilizing non-professionals specially trained as health aides or paramedics has only recently been introduced into universities and communities. There are still barriers to the full functioning of these individuals and their roles, but a number of pilot projects in rural communities, urban health centers, and on college campuses throughout the United States have continued to show that trained non-professional health personnel can be of great value in filling the void between "home-remedy" medicine and relatively expensive clinic and hospital care. By addressing themselves to comparatively minor health complaints and to preventive measures through health education, these trained personnel have been very effective. (8)

At the University of Nebraska, a Health Aides program for college students has been implemented. A selected group of students was trained in methods of first aid, general health information, making referrals, dispensing over the counter drugs, and preventive measures through health education. The major health complaints of students seen by these trained health aides were for upper respiratory infections, minor injuries, and emotional problems. The basic objectives of the Nebraska Health Aides program were: 1) to screen out minor problems, 2) to provide efficient handling of severe problems by referring patients to the proper health care resources, 3) and prevent illness or injury through the encouragement of health maintenance and environmental health and safety programs. Evidence was gathered to
support the conclusion that Health Aides were able to screen out many problems at a local level, and thereby reduce clinic and hospital visits. (18)

Not only is the utilization of Health Aides beneficial, but a university health center, where there exists a captive audience of university students, easily becomes a prime housing office for the dissemination of health education. At the university, health tips and health knowledge may be delivered in a loosely structured format to a large number of people. Also, trained health counselors may discuss minor health problems in an informal way and Health Aides may be available to give first aide and care for minor health needs. Peer counselors may provide health tips and disseminate information. These trained health people could feasibly contribute to preventive medicine at the college level. (25)

At the University of California, Los Angeles, a Student Health Advocate program has been implemented. The goals in setting up this kind of health aide program were basically threefold: 1) first, to extend preventive and therapeutic services to the student community thus improving the delivery of health care to University of California, Los Angeles students, 2) second, by improving the delivery of health care and through preventive programs and education, the health status of the student community would be enhanced and 3) the Student Health Advocates themselves would experience personal growth and become more responsible and knowledgeable community members. The training and utilization of the Student Health Advocate was to be more than just a means of improving the health of communities of students. The health
knowledge and individual responsibilities of the Advocates themselves was to be improved. (19)

For the Fall quarter, September-December 1974, a component to the already ongoing program was added. Five Advocates were to be trained to obtain throat cultures in University dormitories. The major goal of this training was to be the reduction of unnecessary visits to the Student Health Service on campus. Trained Advocates living in the University dormitories were able to care for residents having minor health complaints. Through an educational program, they were to be trained to obtain throat cultures from students who might have strep throat. The Advocates also would be prepared to explain factors relative to sore throats and strep throats to all the residents who came to them with complaints of sore throats. Diagrams and illustrations of the anatomy of the throat were to be used by the Advocates while offering explanations and education to the students. If a throat culture was taken by the Advocate, the Advocate was to have access to outlined procedures to use in explaining to the student. After the culture was obtained and taken to Student Health Service, the student was to be informed whether the culture was positive or negative. If the culture was positive, a referral was to be made to Student Health Service where the student was to be treated. If the culture was negative, the Advocate was to be able to care for the student by offering him throat lozenges, chloresceptic spray, aspirin, or whatever nonprescription medication the Advocate had available to offer the residents. The Advocate would have a posted list of all available medications that could be offered to the residents. After
a student was seen by the Advocate, the student was given listed medication that he had requested. If a referral to Student Health Service was made by the Advocate, the student was to be treated at Student Health Service. If the Health Advocate was to perform these tasks in an effective manner, training would be needed. The purpose of this project is to describe the training program that was developed and implemented for the Health Advocates. In addition, the work of the Health Advocates was studied, and the results reported in this project.

Definition of Terms:

S. H. A. - Student Health Advocate; a trained nonprofessional student living in University housing, who offers care to the residents for minor health complaints.

U.C.L.A. - University of California, Los Angeles

U.S.C. - University of Southern California

Study Dorm - Experimental dorm.

Cared for - Indicates that a trained Advocate saw, screened or handled a minor health problem of a resident in the dormitory. Student Health Advocates are not legally able to diagnose or treat another student.

Referred - A student seen by a Student Health Advocate where the student seemed to need clinical care, or when a throat culture obtained was positive. In both cases the student seen by the Advocate was sent to Student Health Service on campus for treatment.

Westwood - A Los Angeles community in which is the campus of the University of California, Los Angeles.
Limitations of Project:

1. Sample size was small.
2. Nonrandom selection of Student Health Advocates to be trained.
3. Length of program; one quarter, September-December 1974.
4. Season of program; Fall.
5. No statistical analysis.
6. Conclusion related to a small sample size only.

Upon evaluating the pilot project, the effectiveness of the Health Advocates was examined in several parameters: changes in student's knowledge, attitudes, and health behavior was assessed in groups that were served by the Student Health Advocates, and compared to similar control groups not served by Student Health Advocates. In addition, changes which occurred at the Student Health Service itself were recorded. These changes included the number of students referred by the Advocates, the Advocate's ability to supervise routine after-care and the number of revisits made to the Student Health Service.
CHAPTER II
REVIEW OF LITERATURE

On the college campus today, a very new and exciting merger is taking place. Because students are demanding and desiring a more active role in the planning and workings of their campus community, and because of the great need for expansion within the medical profession, there has been greater emphasis placed on the training and utilization of allied health personnel. Therefore, more students than ever before are both pursuing and being allowed to become greatly involved with professional health personnel in the planning, implementing and delivering of health care services. (18)

To help meet the projections of future needs in the health care delivery system, it has been suggested that former military corpsmen in the United States might be added to the already increasing workers in the allied health field. Recommendations also have been made to utilize the services of nurse practitioners, physician assistants, mental health paraprofessionals, and family health workers in an attempt to narrow the gap between relatively expensive clinic visits, and long waits in the understaffed facilities. (4)

In the past couple years, there has been a proliferation of hot-lines, crisis intervention facilities, referral services, drop-in facilities, and health services related to and specifically catering to youth. No longer does there appear to be a stigma or stereotype attached to the student who requests birth control pills, is treated for venereal disease, wants to become involved in counseling, or comes
to the Student Health Service for an abortion referral. Today, even more than ever before, a real strain is being placed on the medical professionals to provide more care, better care, and to satisfy the health needs of all people. As a result of these kinds of demands, peer counselors, health paramedics, and allied health personnel are being trained to serve communities of people throughout the country. (8)

At the University of North Carolina, a student group was formed to help better meet the needs of the students in the area of human sexuality. The primary emphasis was on information, education, and referral, but the service also offered students an opportunity to discuss their feelings relating to human sexuality and sexual expression. The peer-oriented service was staffed with thirty-two members, both male and female, and was open Monday through Friday, 11 A.M. to 5 P.M., and from 7 P.M. to 10 P.M. on Monday and Thursday. It was felt by both the students involved with this service, and the staff, that the professional services and the campus resources available to students increased. Also, the peer program created an interest for many students to pursue careers in the health field, as well as in counseling, psychology, and social work. The University of North Carolina is proud of this successful program, and feels it will stand as a model for other programs similar to it that might be initiated in the future. (1)

Ohio State University has developed a venereal disease education program in an attempt to reduce the prevalence and widespread increase of venereal disease. Two hundred students from the College of
Pharmacy and Medicine, Medical Technology, and Allied Medicine, plus the staff and faculty from the University Health Service, have combined their efforts towards prevention through education. The program has successfully shown that the team approach and the recruiting of students from different health related fields is both a valuable and workable combination. The program's objectives have been centered around campus-wide publicity, education and screening, disseminating of information, blood sampling, and treatment. All of these allied health personnel successfully reached thousands of University students and were strongly supported by the student body, staff, and faculty.

The University of Nebraska has benefited from and utilized Health Aides since 1957. These aides were trained in first-aid, information referrals and resources, and preventive measures of health education. The majority of complaints heard from students were for upper respiratory infection problems and minor injuries. The aides also served students with abdominal complaints, headaches, and emotional problems. It was the goal of the Health Aide program to contribute to the already existing services at Student Health, and to be able to 1) screen out minor problems, 2) make referrals to those students who have more severe complaints, and 3) practice preventive medicine through an attempt to encourage and utilize health maintenance programs, environmental health, and safety education. Determination was made after reviewing the program that the Health Aides living on campus were and could be trained effectively to care for minor medical problems. In this way clinic loads could be reduced and
referrals made to the Student Health Service when needed. By establishing a ratio of one Student Health Aide per every fifty University students, services available to these students were increased and it was found that students did utilize the great availability of these services. (19)

At the University of Florida, a peer counseling program has been implemented in the dormitories. The purpose behind the planning of the program was to create a residence community in the dormitory through students working with other students. The student volunteers were screened, and then began their work the following quarter. In the Fall, the volunteer was to work with other students during University orientation, and also enroll in a training program. The Resident Assistant aspect of this program dealt primarily with administration and counseling in the dorms. Together, the student volunteer and the Resident Assistant formed a peer counseling team, aiding and serving the residents of the dorms. The team has been able to form strong and lasting relationships with other students while at the same time the students have liked and profited by talking with these peer counselors because of the trust within the relationship. There was both a need and a demand for these kinds of programs plus the unparalleled benefits of students working with other students to build a living community where sharing, trust and learning takes place daily. (24)

In the City of Boston, a selected group of twenty workers, ages 18-54, was chosen to participate in one of three neighborhood comprehensive health care centers which were developed by the Model.
Cities Administration, the City of Boston, and Northeastern University. Major emphasis in training these twenty workers to be Family Health Workers was placed on education rather than vocation. The outlined role of the Family Health Worker was to act as a liaison between the medical programs of the health centers and the community to be served. The workers were trained to assist the community as practical nurses, as laboratory and x-ray assistants, as social work aides, as health counselors, as health advocates, and lastly, as home health aides in the community. The training and educating of these workers took place over a two year period, through outlined courses taken for credit at Northeastern University. The program proved to be very unique in that it provided an extensive education for these trainees, as opposed to a strictly trade or vocational directed education. This allowed the participants career advancement through established educational channels. The program served as another example of the feasibility of training lay persons in doing specific kinds of health related tasks. The trainees had no previous medical experience, and many came into the program with only a minimal educational background. Through these kinds of programs, utilizing trained allied health personnel, the enormous burden placed upon the medical professions has been lessened. Only with more health aides assisting the medical professions, can more people be served, costs and waiting time reduced and more services made available. (4)

The emergence of another allied health profession is that of a Family Planning Specialist. The training lasts from twelve to twenty-four weeks and the trainees are instructed in specific gynecological
procedures, such as the insertion of an I.U.D., the fitting of a diaphragm and the giving of explanations of various birth control methods. The accuracy and efficiency of these trainees was determined to be 90% or greater. The trainees had no prior medical training and by the end of their course work were able to function in a similar capacity as a Registered Nurse, a Vocational Nurse, and/or a Medical Assistant. Furthermore, as an outreach component, an 500% increase was found in clinic visits during the first year of employing these paramedics. Upon interviewing patients at the family planning clinic, out of 10,582 interviewed, 43.8% preferred the trained Family Planning Specialist to see them, 55.6% had no preference, and a surprising 0.6% requested they see a medical doctor. (12)

At the University of Colorado Medical Center a new program has been developed which prepares students not previously trained in the medical field to give primary care, to make a diagnosis and to treat patients. This is all done through a three-year program offered at the University which emphasizes two years of basic sciences and a year of internship. The classroom studies stress primarily practical application rather than theory and laboratory work. Upon completion of this program, which trains persons to become Child Health Associates, the health professional will be able to care for children with respiratory ailments, minor injuries, communicable disease, gastrointestinal problems, allergies, skin problems and problems associated with growth and development. During the internship, the students work with approximately 2,000 youngsters in an ambulatory setting where treatment and diagnosing is done along with a strong emphasis
in preventive pediatrics. If the students do not have a B.A. upon entering the program, they receive one after the second year and an M.A. after their internship, which also includes the submission of a written thesis. To become certified as a Child Health Associate the students must pass an examination given by the Colorado State Board of Medical Examiners. In addition to the certified Child Health Associate, the Pediatric Nurse Practitioner is the only other allied health personnel who can provide services to children. The result of this allied health profession has been the delivery of more and better health services to more patients. (22)

An outgrowth of the Health Aide Program at the University of Nebraska has been the Crisis Health Aide Program. The program was mainly designed to help an individual resolve a crisis and if possible, to function more effectively than he did prior to the crisis. The goals of the program were basically four: 1) to help students in or during a crisis situation, 2) to separate and define immediate problems from other problems, 3) to discuss solutions and alternatives, 4) and to offer referrals.

The Crisis Health Aide Program has successfully been operating since April 1971, and has a paid staff working under the supervision of the mental health staff of the University. Most of the problems the aides dealt with were emotionally related, but they did talk about interpersonal relationships, medical problems, illnesses, birth control, venereal disease, pregnancy, and drug-related problems. The University students have accepted this program and have felt very comfortable being able to talk to a peer about problems that they
At the University of Southern California, a self-help cold clinic has been established in an attempt to meet better the needs of the students and to reduce the utilization time of the physician. Approximately eighty-five students have been screened daily in the walk-in clinic, almost half being seen for upper respiratory infection problems, specifically for colds. Because of the large number of students complaining of colds, U.S.C. decided to develop a self-help cold clinic that would enable the Student Health Service to offer an effective alternative for the treatment of this minor and common ailment which would eliminate the consumption of M. D. time and still allow the student to be treated along with offering him a health education program. The clinic was serviced by the students of the Students Health Advisory Committee, the staff at the Student Health Service, a pharmacist, a nurse practitioner, the physician director and a fourth year medical student from the University of California, Los Angeles.

The clinic was designed for students to go to numbered stations. At each stop, there was a fact and question sheet that dealt with specific symptoms of a cold. After the student had gone to all the stations, read and answered the outlined questions, he was supposed to be able to decide whether in fact he should be seen by a doctor. If he decided the cold clinic met his needs, medications were given to him; if he decided to see a doctor, an appointment was made. Coupled with this, at each station, educational materials relating to upper respiratory infection problems and the common cold were offered.
To assist the clinic and the students, volunteers from the University were recruited and trained, thereby become qualified to answer questions, aid in filling out forms and to help in dispensing medication to the students.

The clinic also provided a follow up service. After going to the various stations and before leaving, the student was told to return in 2-3 days if the symptoms persisted. In addition, ten days later, a questionnaire was mailed to each student who was seen in the clinic. The questionnaire was used in the evaluation of the clinic.

After a five month period, the clinic has met its intended goals, namely, to offer an effective alternative medical service without having to use M.D.'s time, and to offer an educational program relating to colds and other upper respiratory infection problems. (10)

A trend within many of the allied health programs indicated that they have all attained success and recognition because of the health services rendered and their concern for serving people. In many of the University programs, the students both accepted and easily related to their peers as allied health persons. Many of the implemented programs also have served to bridge the gap that many times exists between lay persons and the professional medical people. The programs have in many cases extended more services to their communities and more people have had access to them. Many of the health advocate programs have also served the immediate needs of persons who might not have otherwise sought out medical care for minor problems. A major complaint of patients has always been the red tape procedures prior to seeing a doctor. The advocate programs have minimized most of the
red tape. (26)

Minkowski, a physician affiliated with the Los Angeles County Health Department, has suggested that the combination of "impersonal, costly health care, offered at the convenience of the providers, are some of the arguments raised by young people against the medical establishment." (14) Because of the de-emphasis of professional status within the allied health programs, better communication with patients has resulted, along with new and creative ways of disseminating health information. For these reasons allied health programs have been successful.

For many students, the transition from high school to college, from living at home to living on campus, has been a time of uncertainty, restlessness, and decision-making. (5) A questionnaire distributed to 1,497 students at University of California, Los Angeles, between September 24-28, 1973, revealed that there were real health problems on the campus. The top ten problems existing on the U.C.L.A. campus were ranked by the U.C.L.A. students as follows:

1. Emotional health 6. Respiratory problems
2. Drug use 7. Sexual adjustment
4. Venereal disease 9. Health information
5. Loneliness 10. Smoking (20)

From this baseline data, coupled with the samplings from Student Health Service staff at the University of California, Los Angeles, a Student Health Advocate program was developed.

The responsibility of training, coordinating, supervising and
screening the Student Health Advocate was jointly held by the Student Health Service Health Educator and the Student Director. A steering committee to coordinate the activities of the Student Health Advocate within the community and campus was established to oversee student policy and to maintain administrative liaison. A committee of medical professionals and a medical advisory committee helped to review the training programs and procedures that were being outlined for the Student Health Advocate Program.

After screening potential students for the Student Health Advocate Program, nineteen were chosen and a distribution was outlined: two Advocates lived in Sproul Hall, ten Advocates in Dykstra Hall, two in the Co-op, one in a sorority, one in a fraternity, two in married students housing, and one in an apartment dwelling. A budget was developed by the Program Task Force which allowed for seventeen undergraduate Student Health Advocates, two graduate Student Health Advocates and one student program director to be given tuition stipends for their work and participation in the program. (19)

Students were then trained for their new role as Student Health Advocates in a public health course offered through the University. The Advocates became familiar with basic first aid techniques and procedures, nutrition, the services available through Student Health, contraception and birth control and aspects of mental health. They also were instructed in the identifying of certain symptoms, diagnoses, treatments and prevention of common illnesses. The course was taught by a combination of professionals; namely, the health educator, doctors on the University of California, Los Angeles medical staff,
people from the Los Angeles County Health Department, and representatives from voluntary health agencies throughout the county.

Part of the assignment involved with being a Student Health Advocate was the initiating and presenting of health education programs in the Advocate's living facility. The program could be an individual effort or a group effort. Some of the Student Health Advocates used the programs not only as a means to disseminate information pertaining to health but also as a social gathering. A fraternity and a sorority jointly presented a program on venereal disease and sexuality and advertised the program as a "mixer." Attendance was maximum and the program was praised as a success both socially and academically. Another very creative and enlightening program was in the Married Students' Housing. The Student Health Advocate in this living group devised a "Women's Consciousness Raising Group" for the purpose of bringing many young married wives together who shared similar problems. Many of these women had husbands who spent most of the day at school and the evenings studying, thus leaving the women with too much free time for themselves and too little time to be with their husbands. Consequently, this program served as a magnet to draw these women together who were experiencing similar kinds of adjustments and emotional problems. In the dorms, a wide variety of programs were being presented. On one weekend there was a venereal disease film festival while at other times programs on nutrition, dental care, family planning, rape and self-defense, breast self-examination, drugs and smoking were implemented. The Student Health Advocate maintained specific scheduled office hours in his living facility to make himself
available to the residents.

After recording and tabulating the kinds of complaints most often heard by the Student Health Advocates, it was decided that more attention should be given to the detection and prevention of upper respiratory infections. Because of this evident need, an additional component was incorporated into the Student Health Advocate Program which would address itself specifically to such health problems as colds, congestion, coughs, earaches, flu, detection of strep throat, rheumy noses, sore throats and swollen glands. This addition was to be a pilot study of five selected Student Health Advocates to be trained in the anatomy and physiology of the throat, upper respiratory problems and the obtaining of a throat culture for the detection and/or prevention of strep throat.
CHAPTER III.
DESCRIPTION OF PILOT STUDY GROUP AND TARGET GROUP

The Student Health Advocate program at the University of California, Los Angeles, began in the Winter quarter of 1973. A large percentage of the Student Health Advocates were from the physical sciences and were generally pre-nursing or pre-medical students interested in field experiences and medical exposure prior to the pursuit of their careers. Having a major in the sciences was not a prerequisite nor a qualification to become an Advocate. The important characteristics desired from the applicants were an interest in health and health education, a desire to help others, sensitivity, imagination, decision-making ability and availability of themselves to serve students' needs. (27) The health advocate training program designed to cover a multitude of skills was conducted during the Winter quarter as a section of a four unit Public Health course in the School of Public Health at U.C.L.A.

The five pilot Student Health Advocates chosen to participate in the throat culture component of the Student Health Advocate program were pre-medical and pre-nursing students. The Student Health Advocates ranged from nineteen to twenty-one years of age, all either Sophomores or Juniors at the University of California, Los Angeles. The five Advocates lived in two of the five university dormitories, either Dykstra Hall or Sproul Hall. The two Advocates from Sproul Hall were housed in the second and sixth floors. The three Student Health Advocates from Dykstra Hall were housed on the second, seventh,
and ninth floors.

Westwood is a very expensive community for student housing. In addition, many students do not have cars. Because of the convenience and cost of University housing, many U.C.L.A. students decide to live in the University dormitories. After consulting the University Housing Office, the University Assignment Office, and the five Assistant Deans from each dormitory on campus, a profile was developed on residents living in campus dormitories, on dorm size and the cost estimation for living in the dorms. For the Fall quarter of 1974, a total of 3,573 paying residents were housed in the five dormitories. This number does not include the Resident Assistants nor the Assistant Deans living in the dorms. Out of this total, there were approximately 1,927 male and 1,646 female residents. A further breakdown revealed the resident's year in school and sex. (See Table 1) Of the five dorms, Hedrick Hall and Reiber Hall were the largest, Sproul and Dykstra housing the next largest number of students, while Hershey Hall, the only graduate dorm, housed the fewest number of students. (See Table 2)

The tables revealed that most of the students who lived in the four largest dorms were underclassmen, while the graduate dorm housed only graduates except for a small percentage of undergraduate females. Students may request to live on coed floors or floors with just men or just women.

The study dorms with Student Health Advocates living in the halls, were Sproul Hall and Dykstra Hall. The control dorms were Hedrick, Reiber and Hershey Hall where Student Health Advocates have never, as
of yet, been available to the residents. During the time that the trained Student Health Advocates were available to obtain throat cultures and care for students with sore throats, all slips from Student Health Service were kept and tabulated for students living in any one of the five dorms who came to the Student Health Service for the complaint of a sore throat. The follow up consisted of looking at the student's chart to see if the student was treated for a sore throat, or if the student was sent to the laboratory for a throat culture. If the student was sent to the medical laboratory, the number of positive and the number of negative cultures obtained for possible strep were computed.

The number of students treated for a sore throat was compared to the number of students the Advocates saw for sore throats, while the number of positive and/or negative cultures obtained for strep were looked at both in the control and the study groups. By examining these figures, the number of unnecessary visits to the clinics were determined and the number of positive and negatives obtained from the students seen in the clinic were compared to the number of positives and negatives obtained by the Student Health Advocates. Furthermore, the students complaining of sore throats from all five dorms revealed the prevalence and incidence of students with sore throats in each particular dorm. All of these figures are discussed in the following chapter.
### TABLE 1

Breakdown of Total Residents in all Dorms Based on Year in School and Sex Distribution

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MALE</th>
<th>FEMALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>696</td>
<td>629</td>
</tr>
<tr>
<td>Sophomore</td>
<td>511</td>
<td>522</td>
</tr>
<tr>
<td>Junior</td>
<td>348</td>
<td>260</td>
</tr>
<tr>
<td>Senior</td>
<td>170</td>
<td>93</td>
</tr>
<tr>
<td>Graduate</td>
<td>202</td>
<td>142</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>1,927</td>
<td>1,646</td>
</tr>
</tbody>
</table>

### TABLE 2

Occupancy of University Dormitories, Fall 1974, Sept.-Dec.

<table>
<thead>
<tr>
<th>DORMITORY</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hedrick Hall</td>
<td>824</td>
</tr>
<tr>
<td>Reiber Hall</td>
<td>824</td>
</tr>
<tr>
<td>Sproul Hall</td>
<td>812</td>
</tr>
<tr>
<td>Dykstra Hall</td>
<td>790</td>
</tr>
<tr>
<td>Hershey Hall</td>
<td>323</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3,573</td>
</tr>
</tbody>
</table>
CHAPTER IV
MATERIALS AND METHODS

The over-all objective of this graduate project was to develop a training program for Student Health Advocates that would enable these students to obtain throat cultures in their housing facility on the University of California, Los Angeles campus. The training was planned, organized and implemented around the concept that students could be taught to obtain throat cultures for the prevention and early detection of strep throat. The study was planned, developed, implemented and evaluated to learn if by obtaining throat cultures as a part of the ongoing Student Health Advocate Program on campus, strep throats could be diagnosed sooner and unneeded hospital and/or clinic visits reduced.

An article published in World Medical Reports reviewed a program developed at the Columbia Hospital in Maryland, which stated that "strep throats are diagnosed sooner and unneeded office visits curtailed when parents obtain throat cultures at home." More than 1,000 parents were trained in this program. Each parent was given a supply of culture tubes, swabs, laboratory slips and instruction sheets. After the culture was obtained, it was taken to the laboratory by the parent and the parent was notified the next day if the culture was positive, in which case an appointment with the doctor was made. Because of the success and the uniqueness of the program, along with the need at U.C.L.A. for this kind of program, a study was put into the planning stages. (See Appendix 1)
Prior to the actual training and start of the program, medical staff members at U.C.L.A. were notified, informed, asked and consulted about procedures and plans for the program. A letter was sent to Dr. Maurice Osborne, Director of Student Health Service at U.C.L.A. outlining the proposed program. (Appendix 2) The staff in the medical laboratory were notified and consulted. Feedback was obtained pertaining to cost, time, and the additional lab work required with students involved in obtaining throat cultures. Dr. Karl Ullis, on staff in the Student Health Center at U.C.L.A. and a strong advocate of preventive medicine, offered his service in teaching the selected students how, when, where and why to obtain throat cultures. The health educator on the staff, Eileen Nebel Levine, M.P.H., offered materials, time, support and backing for this project. The nursing staff offered support also, and considered the training to be beneficial because it had the potential to alleviate this task for them. Coupled with all this willingness and backing from the staff, Dr. Sheldon Greenfield, affiliated with the U.C.L.A. School of Medicine and School of Public Health, presented reference materials dealing specifically with upper respiratory infection problems in an ambulatory care setting. While this support was manifest at U.C.L.A., Dr. Harvey Katz, who is affiliated with the Columbia Medical Hospital in Maryland, and who is also Chief of Pediatric Services there, had responded to a letter sent to him by this author. (See Appendix 3) He sent guidelines and materials from the training program in Maryland to be used as references for the possible establishment of a similar program at U.C.L.A. With this positive reinforcement, support and
available staff, the program was approved and scheduled to begin in the Fall quarter of 1974.

The first step of the project was the selection of the student participants. A decision was made that the five trained Student Health Advocates living in the University dormitories would be the subjects trained to participate in the program if they were willing.

The specific objectives of the training program were threefold:
1) By training a pilot group of Student Health Advocates, students would have as a convenience needed throat cultures taken at their housing facility.
2) Time would be saved, and unneeded clinic visits reduced by training a Student Health Advocate to do a throat culture.
3) Prevention and early detection of sore throat would be increased.

The objectives pertaining specifically to the students being trained were outlined for them as part of an "Information Packet" of materials given to them prior to the training. Those objectives were as follows: (Appendix 4)

Upon completion of being trained how to obtain a throat culture, the student will be able to:

1) Identify and describe the anatomy and physiology of the throat.
2) Examine and culture the throat.
3) Recognize the symptoms of a sore throat.
4) Describe the associated symptoms of a sore throat.
5) Know the different kinds of throat infections, i.e. bacterial, viral, allergic.
6) Know the differences between the need to do a throat culture or not.

7) Know how to fill out laboratory slips and put the cultured swabs into Stuarts Media.

8) Make a referral to the student if his culture is positive.

9) Aid the student with his services if the culture is negative.

INTRODUCTION TO THE TRAINING PROGRAM

The training program was planned so that the selected group of students could actively participate in discussions, in role-playing and could contribute their own ideas and feelings during any part of the training. The teaching component was structured so that the five students would be involved in various activities, namely;

1) A lecture-discussion on anatomy and physiology of the throat.

2) Field experience; actual participation in the primary clinic at the University of California, Los Angeles Student Health Service in order to observe throats being examined.

3) The understanding and viewing of diagrams and illustrations of the throat.

4) Practicing the steps and procedures of throat culturing on each other.

5) Going to the laboratory to see results of cultured throats that were either positive or negative.

6) Participate in taking pre and post tests prior to and upon completion of the training. (Appendix 5)

Before Dr. Ullis began actual instruction in anatomy and physiology of the throat, a broad pretest was administered to the students so
that the doctor and the author would have some kind of baseline data prior to the implementation of the program. The questions involved areas of physical science, public health measures and personal questions demanding subjective answers. After the students completed the test, a pretest answer sheet was given out so that they could receive immediate feedback.

THE TEACHING SESSIONS

On October 1, 1974, Dr. Ullis, the author and the five students met for the first session of instruction. Supplies had been furnished by U.C.L.A. Student Health Service, a room for instruction had been selected at one of the dormitories and the five students assembled to learn this new procedure. The session covered a multitude of topics, including: the purposes of the program, why treat strep, anatomy of the head, neck, and throat, diagrams, role-playing demonstrations, areas of the throat to swab, infection and key indications of possible strep throats. After the lecture part of this session was completed, the students examined each other's throats to get a good idea of different throats, areas to look at, indicators of infection and a feeling for the proper procedure in obtaining a throat culture.

October 6 was the second training session. More materials were distributed to the students, procedures were emphasized and guidelines for working with the medical laboratory were outlined. During this meeting, obtaining a throat culture was practiced. The week prior to this meeting, the five students had examined many of their friends' throats to familiarize themselves with the anatomy of the throat.
Dr. Ullis covered areas differentiating between gonorrhea of the throat and possible strep, procedures in the initial assessment of deciding whether to do a culture or not, causes of sore throats, mononucleosis and the criteria for doing a throat culture. At the meeting the doctor also gave the students lists of various symptoms. During this session, the students individually made a decision as to how they would judge each case; why or why not they would obtain a throat culture. A discussion was held after input from all the students was heard and together the students learned why a certain group of symptoms would require a culture and why other symptoms might require only such medication as throat lozenges, Cepacol spray, and/or aspirin.

The next week the students spent in the clinics observing throats. This was the field observation section of the educational training. Any students who came to the Advocates during the week requesting throat lozenges for sore throats were given the lozenges and at the same time given a throat examination. After the students had a firm grasp of the procedures involved with throat cultures, they were given the necessary materials and were then qualified to offer this service.

**STUDENT HEALTH ADVOCATE RESPONSIBILITIES**

Along with the "Information Packet" given to the five students which included explanations of the anatomy of the throat, definitions pertaining to sore throat, diagrams, steps in diagnosing a sore throat and when to take a throat culture, they were also given a form to fill
out when seeing a student with a sore throat complaint. (Appendix 6)
The form included the student's name, age, sex, date, specific com-
plaint and a list of possible symptoms the Advocate would ask the stu-
dent. At the end of the form, space was available for a written com-
ment by the Student Health Advocate as to how he cared for the stu-
dent. The Student Health Advocate signed each form and logs were
kept for the entire quarter by each Advocate.

An outlined procedure was devised in coordination with the medi-
cal laboratory staff. Special triplicate lab slips were ordered for
the Student Health Advocate, so that Student Health, the medical lab
and the Advocates could keep a record of cultures taken.

The mechanics of taking the throat culture and obtaining results
were as follows:

1) The Student Health Advocate will take the cultured swab to
   the lab.

2) Forty-eight hours later the Student Health Advocate will pick
   up results, obtaining the "white" section of the triplicate
   lab slip.

3) If the culture is positive, the Student Health Advocate will
   make a referral, if negative, the Student Health Advocate may
   aid the student at his housing facility.

In order to eliminate the positive cultured student having to
wait in line at Student Health, a priority system was established with
Student Health so that a student cultured as having strep throat could
be seen immediately. This was an added incentive for the positive
strep throat student who was cultured by an Advocate and referred to
Student Health Service to seek treatment. If, in fact, the student did have strep, he would be treated immediately and the time spent waiting to be seen would be eliminated.

A special box was set aside in the medical laboratory where the Student Health Advocate could pick up the results of the culture. The lab also implemented a "star system," whereby when a Student Health Advocate submitted a culture, on the attached lab slip, the Advocate would paste a colored star on the slip to differentiate it from the cultures of the medical lab staff. This was a double precaution to keep together all the slips submitted by the Advocates.

If at any time during the quarter, the Student Health Advocates felt unsure about any part of the program, they were encouraged to call Dr. Ullis who did the throat culture instruction, the author, or the health educator. In this way the student always had backing and support and was not left to feel as if he had assumed the responsibility of doctor. If after a call, the Advocate still felt uneasy or confused he was advised to consult with Dr. Ullis or to observe more throats through the primary clinic in Student Health.

Throughout the quarter, the author and the students kept in close contact with each other. The author adopted the role as liaison between the medical staff and the Advocates while maintaining communications throughout the quarter with all persons involved.

At the end of the quarter a posttest was administered to the five Advocates. Added to this was a "pilot evaluation" form, which allowed for subjective input from each of the five students. (Appendix 7) After all the data and records were collected, the author obtained
feedback from all medical personnel involved to ascertain their feelings on the program during the quarter. All opinions were considered when deciding whether to extend the training program to new Student Health Advocates during the Winter quarter, 1975.
CHAPTER V
EVALUATION AND RESULTS

Evaluating a program and implementing a follow-up are the most important aspects involved in determining the success, the future and the recommendations of a program. Most health education programs are set up and designed to meet the immediate needs of a target group but seldom are the programs seriously evaluated and examined. Essentially, after the health education materials have been disseminated the program has ended and no criteria established to look at the success or failure of the program. The following excerpt from Congresswoman Dwyer's "Report to the People" captures the lack of evaluation in many social programs:

"It is becoming increasingly clear that much of our investment in such areas as education, health, poverty, jobs, housing, urban development, transportation and the like is not returning adequate dividends in terms of results. We no longer have the time nor the money to fritter away on non-essentials which won't produce the needed visible impact on problems." (9)

In attempting to assess properly this project both formative and summative evaluation will be examined. Formative evaluation is the information that was fed into the program during its early development to help improve it, while the latter, summative evaluation, is the feedback collected upon the completion of the program. (29) Coupled with these two techniques of evaluation the author will look at the program both from subjective data and objective data accumulated.
A look at the objective data as related to the goals of the program will aid in evaluating the effectiveness and success or failure of what was originally expected and outlined for the program. The first objective was as follows:

1. "By training a pilot group of Student Health Advocates, students will have as a convenience, needed throat cultures taken at their housing facility." The data revealed that out of a total of 123 students seen for complaints of a sore throat, 14 throat cultures were taken in the dormitory (see Table B) as opposed to the students going to the Student Health Service to have the culture taken.

The second objective reads:

2. "Time will be saved, and unneeded visits reduced by training a Student Health Advocate to do a throat culture." The findings in the study groups indicate that out of a total of 123 students seen for sore throat complaints, 14 throat cultures were taken by the Student Health Advocates, 102 students were cared for by the Advocates who administered throat lozenges, Coricidin-D, Chloraseptic Spray, and/or aspirin, depending upon the student's symptoms, and 7 students were referred to Student Health Service. These findings indicate that Student Health Service reduced its patient load by 114 students, because the Advocates were able to serve the students' needs, thereby leaving Student Health Service to see 7 referred students, and two positive cultured students, rather than a total of 123 students.
The third objective states:

3. "Prevention and early detection of strep will be increased."

Because of the availability of the Student Health Advocates, 123 students chose to see them for complaints of a sore throat. It cannot be ascertained whether, in fact, if the Student Health Advocates were not available, would the students have gone untreated and/or unseen. The 102 students cared for by the Advocates did not have to go to the Student Health Service on campus. The service the Advocates administered proved to be adequate. The twelve students who had negative throat cultures taken by the Advocates were also cared for by the Advocates after the result of the throat culture was obtained. The two students who had positive throat cultures taken by the Advocates were referred to and treated at Student Health Service after these results were obtained. Of the seven students referred to Student Health Service by the Student Health Advocates, one was found to have strep and one was found to have mononucleosis. The other five did not have follow-up records available for being treated at Student Health Service. This indicates that these five students did not go to Student Health Service, were treated by private physicians or went untreated. (See Table 3)
### TABLE 3

**STUDY DORMS: ALL STUDENTS SEEN BY STUDENT HEALTH ADVOCATES FOR SORE THROAT COMPLAINT**

<table>
<thead>
<tr>
<th>DORMITORY</th>
<th>SORE THROAT COMPLAINT: SEEN &amp; CARED FOR BY STUDENT HEALTH ADVOCATE</th>
<th>CULTURES OBTAINED BY STUDENT HEALTH ADVOCATE POS.</th>
<th>NEG. (Cared for by S.H.A.)</th>
<th>REFERRALS TO STUDENT HEALTH SERVICE</th>
<th># OF STUDENTS SEEN BY S.H.A.s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sproul</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Sproul</td>
<td>22</td>
<td>2</td>
<td>1</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Dykstra</td>
<td>37</td>
<td>3</td>
<td>1 Mono.</td>
<td>1 Strep</td>
<td>42</td>
</tr>
<tr>
<td>Dykstra</td>
<td>20</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>Dykstra</td>
<td>20</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>TOTALS</td>
<td>102</td>
<td>2</td>
<td>12</td>
<td>7</td>
<td>123</td>
</tr>
</tbody>
</table>
The control dorms not having Advocates available either for general services or for taking throat cultures were Hedrick Hall, Reiber Hall and Hershey Hall. Service request slips were obtained daily from Student Health Service for any student coming to the clinic with a sore throat complaint. This included slips from the three control dorms and slips from the two study dorms, Dykstra Hall and Sproul Hall. Table #4 illustrates the numbers of all students from all the dorms coming to Student Health Service for sore throats, Fall quarter, 1974.

TABLE 4
STUDENTS FROM 5 DORMS SEEN AT STUDENT HEALTH SERVICE FOR SORE THROAT COMPLAINTS

<table>
<thead>
<tr>
<th>DORMITORY</th>
<th>Treated Sore Throat Complaint Seen in Clinic</th>
<th>CULTURED</th>
<th>TOTALS: # OF STUDENTS SEEN AT S.H.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pos.</td>
<td>Neg.</td>
</tr>
<tr>
<td>DYKSTRA</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(Study)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPROUL</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(Study)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEDRICK</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>(Control)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REIBER</td>
<td>9</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>(Control)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HERSHEY</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>(Control)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>26</td>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>
Table 4 reveals that a total of twenty-one students from the control dorms were seen and treated for sore throats at Student Health Service while eight negative cultured students were also seen and treated for sore throats from the three control dorms. From these control dorms, one positive strep was found out of a total of nine cultures taken. A look at the figures from the two study dorms Dykstra and Sproul Halls, revealed that five students were seen for sore throats, five students with negative cultures also were cared for and two out of a total of seven cultures taken were found to be positive. These findings might indicate that if the three control dorms had Student Health Advocates in them, possibly the 39 students treated by Student Health Service, (includes treated ones and negative cultured ones) could have been cared for by the services offered by the Student Health Advocates. In the study dorms, the findings revealed ten students treated by Student Health Services for sore throats and two students treated for positive cultures. In comparing the number of cultures taken by the Student Health Advocates and the medical laboratory at Student Health Service for possible strep, the Advocates had two positives out of fourteen cultures taken, while the medical lab had three positives out of thirteen cultures taken. This indicated that judgment in terms of when and how to take a culture for strep was very similar for both groups. Furthermore, one of the students seen by a Student Health Advocate, referred to Student Health Service, was one of the positive cultures accounted for in the positive culture findings of the medical laboratory.

Of notable interest when looking at the students' charts, was the
similar medication offered at Student Health Service for sore throat complaints, and what was offered by the Student Health Advocates. In both groups, the medication for sore throat was generally a combination of Coricidin-D, 2G/DM expectorant-antitussive cough medicine, Cepacol lozenges and Chlorasceptic spray administered. Fluids and rest also were advised. Only for the positive cultured students were either ethromycin or penicillin administered at the Student Health Service. The Student Health Advocates were not legally able to dispense these prescription drugs.

Fourteen additional students seen in Student Health Service from all five dorms for sore throat complaints during the Fall quarter, 1974, had to be excluded from this study for various reasons. Table #5 reveals the distribution in the dorms and the breakdown of reasons why these people had to be excluded from final totals.
### TABLE 5

**STUDENTS SEEN IN STUDENT HEALTH SERVICE FOR SORE THROAT COMPLAINTS, BUT EXCLUDED FROM THE STUDY**

<table>
<thead>
<tr>
<th>DORMITORY</th>
<th>Student did not have a chart with Student Hlth.Serv.</th>
<th>Student's chart unavailable</th>
<th>i.e.: no such name, didn't see</th>
<th>OTHER: wait to be seen</th>
<th>TOTALS At S.H.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPROUL (Study)</td>
<td></td>
<td>4</td>
<td>2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>DYKSTRA (Study)</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>REIBER (Control)</td>
<td></td>
<td>2</td>
<td>1</td>
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<td>HERSHEY (Control)</td>
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<td>6</td>
<td>5</td>
<td>14</td>
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</table>
Another method in examining data would be to examine the results of the pretest and the posttest. The effectiveness of the training and the change in the Student Health Advocates knowledge level was revealed by these findings. Each question of the pretest was analyzed individually to assess better the areas of weakness and the areas of strength. (Appendix 5) Based on these findings certain additions and deletions were made within the program. Table 6 represents the results of the pretest elucidating the responses made to each question separately.
TABLE 6
RESULTS OF PRETEST,
EACH QUESTION TABULATED INDIVIDUALLY

<table>
<thead>
<tr>
<th>Question Number</th>
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<tr>
<td>Mean Response</td>
<td>44%</td>
<td>33%</td>
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The posttest administered at the end of the school quarter revealed the change in knowledge. (Appendix 5) Though the posttest was not the same as the pretest, all significant areas relating to the training program and the knowledge needed to obtain a throat culture was included in the test. The findings clearly indicated the students' increase in knowledge over the quarter and illustrated impressive change as compared to the beginning of the program when the pre-test was given. Table 7 summarizes the results of the posttest. Each question was tabulated individually.

**TABLE 7**

**RESULTS OF POSTTEST**

<table>
<thead>
<tr>
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<tr>
<td>Mean Response</td>
<td>93.33%</td>
<td>6.66%</td>
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</table>
A look at the subjective or clinical feedback obtained will help in gaining greater insight into the feelings and ideas of those persons who were directly involved with the project. Attached to the post-test which was administered to the five Advocates was a "pilot evaluation" form which allowed the author to gather input. The form also enabled the Advocates to express any ideas, likes or dislikes, and comment on what they felt was important or unimportant aspects of the program. The Appendix contains the nine questions that were asked on the "Pilot evaluation" form. (Appendix 7)

The general consensus to question #1 was that of being able to offer University residents a medical service long with offering a valuable learning experience for the Advocate. Question #2 was summarized by feelings of the "information packet" being helpful and adequate, but the actual training sessions where throat cultures were taken were more instrumental in terms of learning how to take a culture. The diagrams were useful but colored diagrams might have been more helpful in identifying specific parts of the throat. Question #3, Advocates felt the academic sections of the training sessions were adequate but suggested that more throats be available to observe prior to the Advocates taking the cultures by themselves in the dorms. Question #4 -- Advocates felt comfortable about taking the cultures because the training sessions had allowed them to obtain cultures from one another's throats. Question #5 -- All the Advocates were accepted and respected by their peers. Generally, most of the students from whom cultures were taken by the Advocates were greatly impressed with the ability of the Advocates while at the same time the Advocates felt
satisfaction in being able to provide an extremely convenient diagnostic test for the students. Question #6 -- The five Student Health Advocates were already interested in health related fields. The experience of being able to take throat cultures served as an enlightening and new field experience for them. Question #7 -- Advocates felt that if arrangements could be made and that if time were available more observations of different sore throats seen in Student Health Service might be helpful. Question #8 -- Advocates felt that by being able to take throat cultures greater services were extended to the students. The Advocates increased their knowledge and gained greater insight into working with people in the medical field. Question #9 -- All the Advocates felt the program was beneficial and that it should be extended to the new Advocates not yet trained to take throat cultures.

Feedback from the medical staff at U.C.L.A. also was obtained. Oral questions were asked of the participants which also allowed for suggestions in terms of changes in the program. The judgments expressed revealed an interest and strong support from the medical staff for the program. The Health Educator was enthusiastic about the program because of the extension of the Student Health Advocate's role, the learning experiences involved in the training and because a program like this had never involved students at U.C.L.A. Dr. Ullis who did the teaching part of the program offered support and guidance throughout the entire duration of the program. Dr. Ullis answered all medical questions the Advocates asked. The doctor met with all concerned whenever a meeting was scheduled (never a cancellation), and
related well to working with young students involved in a pilot experimental program. Furthermore, the doctor offered suggestions and support to the author. The medical lab staff cooperated with the program and added to the program by placing colored stars on all the slips submitted by the Student Health Advocates. This differentiated them from the cultures taken by the medical lab staff. The medical staff showed cultures that had been taken and placed in agar plates to illustrate the differences in test results. Dr. Osborne, Director of Student Health Service, approved the program from the start and has supported the extension of the training to all participating Student Health Advocates. Lastly, the target group, the dorm residents, all accepted and trusted the Advocates and recognized their ability and skill in obtaining throat cultures. The addition of the throat culture component to the Student Health Advocate program allowed for more services to be made available along with placing greater emphasis on health prevention and health education.

In both the objective and subjective data, the training program received support from everyone involved.
CHAPTER VI.
CONCLUSIONS AND RECOMMENDATIONS

A didactic health education program has real potential for reducing morbidity within a community and easing the demands placed on costly health resources. In terms of preventive and educational medicine, health education is, and can be, potentially one of the most valuable means of controlling the waste of human and material resources. (17)

If successfully utilized, health education may be the model for the initiation of action to bring about change. Health education represents the total process whereby health-related behavior is changed through planned influence-attempts and may even be considered to include in its area of concerns the unplanned influences. But, health education is only as effective and as sound as the total program of which it is a part. Only through well planned, controlled, evaluated and educational programs can one discover if social behavior is being effectively altered. (28)

In this project, certain limitations should be examined in order to assess fully and evaluate the stability and effectiveness of the program. Of major significance was the sample size. Not only was the pilot study a small sample but both the selected group of pilot Advocates in the study and the target population, and the University students, were not randomly chosen. The University student body was already available to participate in the study while the five Advocates in the study were individually selected to participate in the project.
The five Advocates were trained successfully, yet at the same time, took on the responsibility to offer their service to over 1,600 students in two dormitories. Had it been possible to work with a larger pilot group more students might have been reached. However, training a larger group might not have been as effective. The program was accepted and supported by those who participated in it. The target group was a student community made up of friends, roommates and students who interacted with each other daily. There was the advantage of trust among peers already present coupled with the esteemed reputations of the Student Health Advocates, thus making the additional service of being able to take throat cultures that much more respected.

Another limitation to the study was the time factor. The project ran for one quarter, September-December, 1974. If the study had been established for a longer period of time, more data would have been collected. Too, the Advocates would have been available to take throat cultures in the Winter months.

The setting for this pilot study was ideal, though not randomly selected. The most attractive aspect of the study was the transfer of health care out of its traditional setting. Rather than there being only the providers and the consumers, liaisons were established in an attempt to bridge the existing gap between the student community and the medical staff. In this effort, trained students were available to serve their community while at the same time reducing the number of unnecessary visits to Student Health Service on campus. In this respect, the behavior change component of health education was geared
towards the students adopting a new attitude in terms of health prevention and a decision-making process in determining when to act medically.

The incomparable college career years are unique in one's life. During this growth stage certain lifestyles and values are developed and practiced which usually remain with the student for the remainder of his life. Consequently, college is a most important time to impress students. Relating to health, college is a critical stage in terms of developing good health behavior and health habits. By introducing health education and preventive medicine to this particular target group, enhancement of the quality of life and maintenance of health can be both nurtured and promoted. It is during college years that traditional roles for both health education and medicine can be structured to meet the needs of the students while at the same time offering them the optimum amount of care with the greatest number of services available.

Recommendations for altering the program were obtained from the five pilot Advocates, U.C.L.A. Student Health Service, the student community and considerations made by the author. The five pilot Advocates would have enjoyed more time in general clinic viewing throats of students who were being seen at Student Health Service. Though the Advocates had the opportunity to see each others throats and the throats of friends and neighbors in the dorms, viewing more potential strep throats would have been helpful in terms of deciding if a throat culture was advisable. Related to this suggestion was the idea of providing colored throat diagrams rather than black and white
diagrams, so that the students would be better able to understand and see what a potential strep throat would look like,

Participation in this project has allowed the author to understand more fully what comprehensive health service means in terms of working cooperatively with a medical team. The necessity of "going through channels" and involving anyone who might possibly be a part of the program is of utmost importance. Only by working together as a unit can goals be successfully attained and relationships among colleagues maximized.

This project allowed for new and creative implications for health education. By training students to offer a service, the sometime reputation of health education being primarily a profession of film showing and pamphlet dissemination was changed. By offering real clinical assessments and a medical service, health education took on a new dimension. Coupled with the throat culture service was the screening process, the dispensing of medication and referrals made if needed. Therefore, the role of health education became suited to meet the needs of the patient along with an educational and a medical service being made available. Furthermore, communications between students and health professionals were enhanced by training non-medical people to assist the health professional. This training actually served a dual purpose: firstly, it offered a medical service in a nontraditional setting, and secondly, it promoted health education and preventive medicine. In summary, by training a pilot group of five Advocates to obtain throat cultures in their respective housing facilities, an effective alternative for a minor medical problem was
offered. Students did not have to use the medical doctor's time or have to go to Student Health Service on campus. Furthermore, the training offered the students an educational program.

In conclusion the author is able to state that the training of Advocates at the University of California, Los Angeles to take throat cultures in their respective housing facilities has been approved for all the Student Health Advocates. Because of this project, the extension of the training to all the Advocates is being made available to promote further communications between students and health staff and to encourage the practice of public health and preventive medicine. By extending this service to a greater number of students, unnecessary visits to Student Health Service will continue to be reduced, and strep throat will be detected, prevented and treated at an earlier stage.


27. Student Health Advocate Application, U.C.L.A. Student Health.


APPENDIX 1

ARTICLE PUBLISHED IN WORLD MEDICAL REPORTS
Parentally Obtained Strep Throat Cultures Curtail Visits to MD

World Medical Reports

BALTIMORE — Strep throats are diagnosed sooner and unneeded office visits are curtailed when parents obtain throat cultures at home, Dr. Harvey P. Katz said at a pediatrics seminar presented by The John Hopkins University School of Medicine.

A home culture program used in Columbia for nearly 5 years has also helped parents appreciate the fact that antibiotics are not effective against viral infections, said Dr. Katz, chief of the pediatric service of the Columbia (Md.) Medical Plan.

More than 1,000 parents have been trained by Columbia's pediatric health assistants to obtain throat cultures. It takes 10 minutes of individual instruction to train each parent adequately.

Each trained parent is given a supply of culture tubes, swabs, laboratory slips, and an instruction sheet to take home. After she swabs a suspicious-looking throat, she drops the tube off at the Columbia Medical Laboratory. If the culture is positive, she is telephoned the next day and given an appointment for an office visit. If the culture is negative, she is not called.

The results of cultures taken by mothers agreed with the results of cultures done on the same children by nurses 136 out of 137 times in a study done before the program began on a regular

(Continued on page 65)
Parents Obtain Culture for Strep, Avert Visit to MD

(Continued from page 1)

oasis, Dr. Katz said.

Each parent who brings in a child with a sore throat is invited to participate in the home culture program.

All but about 5% of the parents invited to participate in the program have agreed to do so.

Because the Columbia Health Plan is a prepaid group practice, there is an economic incentive to initiate home culture.

However, the real payoff is in improved care, he said.

The system could be used in private practice, although it particularly suits the Columbia Plan, which is striving for better health education and greater parent participation in health care among its homogeneous, middle-class population, Dr. Katz said.

The Columbia Health Plan is the only medical plan that has been developed concurrently with the city it serves. The founder of the 14,000-acre community, James Rouse, asked health care planners at The Johns Hopkins University to help develop a health plan before the community was built.

Columbia, located in the suburban corridor between Baltimore and Washington, D.C., opened 7 years ago and now has 30,000 residents; 16,000 are served by the health plan.

The plan began 5 years ago under the joint sponsorship of the Connecticut General Life Insurance Co. and The Johns Hopkins University School of Medicine. Its primary care center was recently moved to Columbia Hospital.

Since the plan opened, the pediatrics staff has increased from one to four full-time pediatricians, a ratio of 1 per 2,500 patients. There is also a full-time child psychiatrist, the physician said.

Subspecialty Interests

Nurse-practitioners and pediatric assistants handle much of the routine patient care, freeing pediatricians for a problem-oriented role.

Each pediatrician also develops special competence in the subspecialty areas which interest him, such as learning disabilities, he said.

Dr. Katz said physicians in the Plan attempt to achieve a balance of care, education, and research.
APPENDIX 2

LETTER SENT TO DIRECTOR OF STUDENT HEALTH SERVICES
June 27, 1974

To: Dr. Osborne
From: Carolyn Simpson
Re: Throat cultures and the Student Health Advocate Program

The purpose of this letter is to better inform you on the addition of Student Health Advocates being trained to give throat cultures in their housing facility as part of the Advocate program. The idea to add this component to the program was based on the success rates of the Columbia Medical Plan who trained parents to give throat cultures to their children. It was found that as a result of this training, strep throats were diagnosed sooner and unneeded office visits were curtailed. Consequently, a pilot program will be set up to train a selected group of Health Advocates to give throat cultures.

The criteria of this additional component will include a total analysis and investigation of throat cultures: what are the causes of strep throat, symptoms, prevention, and the differentiation between who needs a throat culture, and who needs immediate attention. The objectives of adding the training of students to give throat cultures are basically twofold:
1) strep throats will be diagnosed sooner
2) unneeded hospital and/or clinic visits reduced

The people involved with this component will be Dr. Ullis who will do the training and teaching, head nurses who will receive the cultures, the lab, the preceptors, the Health Educator, and the selected Health Advocates. A tentative step-by-step procedure has been developed as a part of the student training in administering throat cultures:

1) History of strep throat
2) Examination of throat and neck
3) Culturing the throat
4) Filling out lab slips and putting the swabs into the media
5) Taking the swab to the lab
6) 48 hours later get results of culture
7) If positive, have student come in for treatment; If negative, student does not require antibiotics

It is hoped that with the implementing of this expanded role to the Student Health Advocate, that the payoff will be improved health care both at the preventive level and the treatment level.
APPENDIX 3

LETTER FROM HARVEY P. KATZ, M.D.
July 1, 1974

Ms. Carolyn Simpson
15013½ Dickens Street
Sherman Oaks, CA 91403

Dear Ms. Simpson:

Thank you for your letter. I am enclosing a reprint of the full study and a copy of our handouts to families.

Good luck and let me know if I can help further.

Very sincerely,

[Signature]

Harvey P. Katz, M.D.
Chief, Pediatric Service

Enclosures

HPK:cad
APPENDIX 4

TRAINING PACKAGE
The Training Program, Teaching Component: The S.H.A. involved in this pilot study, will participate in the following:

1. A lecture-discussion on anatomy and physiology of the throat
2. Field experience; participating in primary clinic in order to observe throats being examined
3. The understanding and viewing of diagrams and illustrations of the throat
4. Practicing the steps and procedures of throat culturing on each other
5. Going to the laboratory to see results of cultured throats that were either positive or negative
6. Participate in taking a pre and post test prior to and upon completion of the training

Mechanics of S.H.A. involvement with obtaining throat cultures:

A. Laboratory slip, three copies:
   1. A copy for the student's chart
   2. A copy for the laboratory
   3. A copy (white) for the S.H.A.

B. Laboratory slip information
   1. Student's name and initial on slip, along with his birth date, and unit number
   2. The S.H.A. will write his/her name slip on the slip

C. Procedure
   1. S.H.A. will take cultured swab to laboratory
   2. 48 hours later S.H.A. will pick up results, obtaining the white lab slip copy
   3. If culture is positive, student will make a referral; if negative, S.H.A. may aid student at his housing facility

Note: To obtain the student's unit number, arrangements will be made with the Director of Health Records, so that the S.H.A. will be able to obtain this information without any problem.
STREP THROAT (Bacterial pharyngitis, tonsillitis)

Bacteria, unlike viruses, are independent organisms, microscopic in size, that do not depend on living cells to grow and reproduce. Most bacteria are nonpathogenic, but some cause disease in man. Bacteria that normally reside in the body often prevent pathogenic types from living there, too.

The bacterium, beta hemolytic streptococcus, group A, causes sore throats. It is estimated that at least 5% of the people in any community carry group A streptococci; after infection, an individual may be a carrier for several months. Infection occurs when the bacteria enter the body, usually through the lymphoid tissue of the throat. Whether or not they can gain entrance depends on the immune status of the host and the quantity and virulence of the invading organisms. Recent or simultaneous acute viral respiratory illness may increase one’s chances of infection. Pharyngitis and tonsillitis caused by group A streptococci are usually self-limiting, the acute phase ending after 5 to 7 days.

Clinical appearance and diagnosis: After a 3 to 7 day incubation period, these symptoms usually develop: fever (102-104) and chills; headache; acutely sore throat, aggravated by swallowing. The throat is red with areas of yellow or white exudate. The lymph nodes at the angle of the jaw are often enlarged and tender. A throat culture is necessary to demonstrate the presence of beta hemolytic streptococcus.

Complications: Sinusitis, otitis media, and pneumonia may be early complications. Because an untreated streptococcal infection may eventually cause rheumatic fever or glomerulonephritis, antibiotics should be started within 7 to 10 days of the onset of symptoms.

Treatment: Beta hemolytic strep is sensitive to (killed by) penicillin and erythromycin, the latter being given if the patient is allergic to penicillin. The same palliation used for cold symptoms may relieve the pain of strep throat and tonsillitis.

Exudate: Exudate, patches of pus in the tonsillar crypts, is usually present in strep infections and less often in viral infections. Exudate must be distinguished from post nasal drip seen as streaks of mucous behind the uvula.

Temperature 100 or greater: Students with sore throat, tender neck nodes and fever greater than 100 are treated for presumed strep throat before the culture result is available. The student will be treated with antibiotics only if all three are present.
THROAT WORKUP

Observation of the throat:

The student should sit erect, with his head tilted back slightly. For a view of the pharynx, it may be necessary to depress the tongue with a tongue blade. You may instruct the student how to lower the back of the tongue by having him make the sound "ah".

Observe the uvula, posterior pharynx, and tonsils, if present. Abnormal findings include unusual redness, and exudate. Ulcers about the lips or in the mouth are most often due to viruses.

The Throat Culture:

Because the diagnosis of a beta hemolytic streptococcal infection cannot be made without a laboratory report, all students with sore throats may receive throat cultures. Warn the student that you will touch the back and sides of his throat. If he gags easily, it may help to instruct him to "pant like a dog" during the procedure. The tongue blade may help to depress the tongue. If exudate is present on the posterior pharynx, touch the tip of the applicator to it; if no exudate is visible, apply the tip to the back of the pharyngeal cavity and the tonsils. When you have obtained the culture, carefully place it in the container, making sure not to let the sample come in contact with the edge of the container and thus become contaminated.
THE RESPIRATORY SYSTEM

This chart of the RESPIRATORY SYSTEM shows the apparatus for breathing. Breathing is the process by which oxygen in the air is brought into the lungs and into close contact with the blood, which absorbs it and carries it to all parts of the body. At the same time the blood gives up waste matter (carbon dioxide), which is carried out of the lungs with the air breathed out.

1. The SINUSES (Frontal, Maxillary, and Sphenoidal) are hollow spaces in the bones of the head. Small openings connect them to the nasal cavity. The functions they serve are not clearly understood, but include helping to regulate the temperature and humidity of air breathed in, as well as to lighten the bone structure of the head and to give resonance to the voice.

2. The NASAL CAVITY (nose) is the preferred entrance for outside air into the Respiratory System. The hairs that line the inside wall are part of the air-cleansing system.

3. Air also enters through the ORAL CAVITY (mouth), especially in people who have a mouth-breathing habit or whose nasal passages may be temporarily obstructed, as by a cold.

4. The ADENOIDs are overgrown lymph tissue at the top of the throat. When they interfere with breathing, they are generally removed. The lymph system, consisting of nodes (knots of cells) and connecting vessels, carries fluid throughout the body. This system helps to resist body infection by filtering out foreign matter, including germs, and producing cells (lymphocytes) to fight them.

5. The TONSILS are lymph nodes in the wall of the pharynx that often become infected. They are an unimportant part of the germ-fighting system of the body. When infected, they are generally removed.

6. The PHARYNX (throat) collects incoming air from the nose and mouth and passes it downward to the trachea (windpipe).

7. The EPIGLOTTIS is a flap of tissue that guards the entrance to the trachea, closing when anything is swallowed that should go into the esophagus and stomach.

8. The LARYNX (voice box) contains the vocal cords. It is the place where moving air being breathed in and out creates voice sounds.

9. The ESOPHAGUS is the passage leading from mouth and throat to the stomach.

10. The TRACHEA (windpipe) is the passage leading from the pharynx to the lungs.

11. The LYMPH NODES of the lungs are found against the walls of the bronchial tubes and trachea.

12. The RIBS are bones supporting and protecting the chest cavity. They move to a limited degree, helping the lungs to expand and contract.

13. The trachea divides into the two main BRONCHI (tubes), one for each lung, which subdivide into the lobar bronchi—three on the right and two on the left. These, in turn, subdivide further.

14. The right lung is divided into three LOBES, or sections. Each lobe is like a balloon filled with sponge-like lung tissue. Air moves in and out through one opening—a branch of the bronchus.

15. The left lung is divided into two LOBES.

16. The PLEURA are the two membranes, actually one continuous one folded on itself, that surround each lobe of the lungs and separate the lungs from the chest wall.

17. The bronchial tubes are lined with CILIA (like very small hairs) that have a wave-like motion. This motion carries MUCUS (sticky phlegm or liquid) upward and out into the throat, where it is either coughed up or swallowed. The mucus catches and holds much of the dust, germs, and other unwanted matter that has invaded the lungs and thus gets rid of it.

18. The DIAPHRAGM is the strong wall of muscle that separates the chest cavity from the abdominal cavity. By moving downward, it creates suction to draw in air and expand the lungs.

19. The smallest subdivisions of the bronchi are called BRONCHIOLES, at the end of which are the alveoli (plural of alveolus).

20. The ALVEOLI are the very small air sacs that are the destination of air breathed in. The CAPILLARIES are blood vessels that are imbedded in the walls of the alveoli. Blood passes through the capillaries, brought to them by the PULMONARY ARTERY and taken away by the PULMONARY VEIN. While in the capillaries the blood discharges carbon dioxide into the alveoli and takes up oxygen from the air in the alveoli.

A Christmas Seal service of YOUR LUNG ASSOCIATION

Published by AMERICAN LUNG ASSOCIATION,
formerly National Tuberculosis and Respiratory Disease Association
POSTERIOR NASI

FRONTAL SINUS

SPHENOID SINUS

SOFT PALATE

NASO PHARYNX

HARD PALATE

TONGUE

UVULA

PHARYNX

LARYNX

BONE

MUSCLE

EPIGLOTTIS

TRACHEA

ESOPHAGUS
LIP
HARD PALATE
SOFT PALATE
PHARYNGOPALATINE ARCH
GLOSSOPALATINE ARCH
UVULA
PALATINE TONSIL
TONGUE

Figure 6
The shaded areas indicate the areas of the throat, to swab with the Culturette.
DIAGNOSING STREP THROATS

Streptococcal respiratory infections (strep throats) are caused by a bacterial organism called Streptococcus. Strep throats occur most commonly in children, but adults may also become infected. Strep throats are acquired by close contact with an infected person. They occur year round but are most frequent in the winter and spring.

SYMPTOMS

The most common symptoms of strep throat include any one or more of the following: significant sore throat, fever and swollen glands in the neck. Other symptoms may also appear, but these are not as helpful in diagnosing sore throats caused by Streptococcus from sore throats due to other agents. These less reliable symptoms are: pain on swallowing, hoarseness, slightly sore, scratchy throat, listlessness, headache, chills and vomiting. In children under three years of age, symptoms may be non-specific and complaints not as easily elicited. Therefore, home cultures are not recommended for infants and young children.

WHEN TO TAKE A THROAT CULTURE

A throat culture should be taken in any of the following circumstances:

(1) You or a fellow student has definitely been exposed to someone with a strep throat infection and become ill.

(2) You or a fellow student have persisting symptoms of a possible strep throat infection (See above for symptoms).

(3) Whenever specified by your doctor or allied health workers.
TREATMENT OF STREP THROATS

If you or a student has been found to have a strep throat, your doctor will prescribe the appropriate antibiotic drug for you. Treatment is always for exactly ten days. It is most important that you continue your medication for the prescribed length of treatment since the symptoms of strep throat may disappear before the infection has actually cleared up. Serious complications (such as rheumatic fever and nephritis) may follow an untreated or improperly treated strep throat infection. Faithfully following this advice will safeguard your health and the health of your students.
APPENDIX 5

PRETEST, POSTTEST, ANSWER SHEETS
PRETEST

Instructions: Please answer all of the following questions. Circle your year in school, your sex, and indicate your age.

Year: Frosh, Soph, Jr, Sr, Grad

Sex: F M

Age:

1. Anatomically, the respiratory system is comprised of six major parts. List them.

2. T F Nasal mucous production causes particles and bacteria to drain from the nose.

3. T F In the winter time, when people spend much of their time in heated rooms with low humidity, the mucosa become dry, thus, the normal flushing mechanism does not operate and infection is more likely.

4. The sinuses, four pair of mucous membrane-lined cavities in the skull, have the same functions as the nose. What are these functions?

5. What is the purpose, and/or function of the pharynx (throat)?

6. T F The throat is approximately five inches long, and extends from the base of the skull to the esophagus.

7. T F Below the pharynx lies a cartilaginous structure, the larynx.

8. What are the two important functions of the larynx?
9. T F The trachea, about four inches long, imbedded with a series of cartilaginous C-shaped rings, is the lower passage by which air travels to the lungs.

10. Branching from the base of the trachea, and similar to it in structure, are the two___________. At the very end of this system are the _________ _______.

11. T F The bacterium, beta hemolytic streptococcus, group A, causes sore throat.

12. After a three to seven day incubation period, symptoms of strep throat usually occur, they are:

13. List some of the associated symptoms of a strep throat.

14. List the three kinds of infections that could cause a sore throat.

15. T F An untreated streptococcal infection could eventually lead to rheumatic fever or glomerulonephritis.

16. T F Beta hemolytic strep is treated with an antibiotic.

17. T F Penicillin is usually prescribed for strep, but if a student is allergic to it, erythromycin may be used.

18. T F The diagnosis of a beta hemolytic streptococcal infection can be made without a throat culture being obtained.

19. If a strep throat is not indicated after a culture has been taken, a student may be treated with what kinds of drugs and health education that you as a Student Health Advocate may offer.
20. State the two major objectives of the pilot throat culture addition to the S. H. A. program.
1. The respiratory system is comprised of, in descending order anatomically, the nose (and sinuses), the pharynx, the larynx, the trachea, the bronchi and the lungs.

2. True Nasal mucous production causes particles and bacteria to drain from the nose.

3. True In winter, when people spend much of their time in heated rooms, with low humidity, the mucosa become dry, the normal flushing mechanism does not operate and infection is more likely.

4. The sinuses, four pairs of mucous membrane-lined cavities in the skull, have the same function as the nose: they warm and moisten air.

5. The pharynx, or throat, serves as a passageway for air and food.

6. The throat is approximately five inches long and extends from the base of the skull to the esophagus. Into this passageway open; the auditory tubes, the posterior nares, the mouth, and the openings to the larynx and the esophagus.

7. Below the pharynx lies a cartilaginous structure, the larynx.

8. Two important functions of the larynx are: 1) a piece of laryngeal cartilage called the epiglottis closes over the larynx during swallowing, keeping food and liquids out of the windpipe. 2) The larynx contains the vocal chords, fibrous bands that cross its interior and vibrate when air is passed through them producing the vocal sounds.

9. The trachea is the lower passage by which air travels to the lungs. It is a tube of smooth muscle, about four inches long, imbedded with a series of cartilaginous C-shaped rings.

10. Branching from the base of the trachea, and similar to it in structure, are the two bronchi. At the very end of the system of bronchioles are the alveolar sacs (air sacs).

11. The bacterium, beta hemolytic streptococcus, group A, causes sore throat.

12. After a three to seven day incubation period, these symptoms usually develop: fever (102-104) and chills; headache; acutely sore throat, aggravated by swallowing. The throat is red with areas of yellow or white exudate, the lymph nodes at the angle of the jaw are often enlarged and tender.
13. Some of the associated symptoms might be: cough, headache, chills, inflamed eyes, diarrhea, achy body, and hoarseness.

14. The three kinds of infections that could cause a sore throat are bacterial, viral, and allergic.

15. Sinusitis, otitis media, and pneumonia may be early complications, but an untreated streptococcal infection could eventually lead to rheumatic fever or glomerulonephritis.

16. Beta hemolytic strep is treated with an antibiotic and should be started within seven to ten days of the onset of symptoms.

17. Beta hemolytic strep is sensitive to penicillin and erythromycin, the latter being given if the patient is allergic to penicillin.

18. Because the diagnosis of a beta hemolytic streptococcal infection cannot be made without a laboratory report, all students with sore throats, symptomatic of strep, receive throat cultures.

19. Treatment for various viruses, plus other factors, include: aspirin, tylenol, fluids, throat lozenges, decongestants, antihistamines, and bed rest. Treatment will depend upon student's complaints and symptoms.

20. The objectives of adding the training of S.H.A. to give throat cultures are twofold: 1) strep throats will be diagnosed sooner, 2) unneeded hospital and/or clinic visits reduced.

Bibliography:

POSTTEST

Instructions: Please answer all of the following questions. Circle your year in school, your sex, and indicate your age.

Year: Frosh, Soph, Jr, Sr, Grad
Sex: F M
Age:

1. List the six major anatomical parts of the respiratory system.

2. Describe the major symptoms of a strep throat.

3. Name two antibiotics that might be prescribed for strep throat.

4. Discuss briefly what might happen if a streptococcal infection is left untreated.

5. List the possible treatments that may be obtained from a S.H.A. for a student that does not have strep, but does have a virus.

6. State the two major objectives of the pilot throat culture addition to the S.H.A. program.
1. The six major anatomical parts of the respiratory system are the nose (and sinuses), the pharynx, the larynx, the trachea, the bronchi, and the lungs.

2. After a three to seven day incubation period, these symptoms usually develop: fever (102-104) and chills; headache; acutely sore throat, aggravated by swallowing. The throat is red with areas of yellow or white exudate, the lymph nodes at the angle of the jaw are often enlarged and tender.

3. Beta hemolytic strep is sensitive to penicillin and erythromycin.

4. Sinusitis, otitis media, and pneumonia may be early complications, but an untreated streptococcal infection could eventually lead to rheumatic fever or glomerulonephritis.

5. Treatment for various viruses, that may be obtained from a S.H.A. include: aspirin, tylenol, throat lozenges, decongestants, mild antihistamines, with the health tip of drinking fluids and getting rest.

6. The two major objectives of adding the training of S.H.A. to be able to obtain throat cultures are: 1) strep throats will be diagnosed sooner and 2) unneeded hospital and/or clinic visits reduced.
APPENDIX 6

FORMS STUDENTS FILLED OUT
<table>
<thead>
<tr>
<th>Subjective</th>
<th>Objective</th>
</tr>
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<tbody>
<tr>
<td>Sore throat: duration</td>
<td>Temperature</td>
</tr>
<tr>
<td>Cough: duration</td>
<td></td>
</tr>
<tr>
<td>production, substantial or increased</td>
<td></td>
</tr>
<tr>
<td>chest pain even when not coughing</td>
<td></td>
</tr>
<tr>
<td>Runny/stuffy nose: duration</td>
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</tr>
<tr>
<td>more than 3 times a year</td>
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<td>tearing with stuffy nose</td>
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<td>attacks of sneezing with stuffy nose</td>
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<tr>
<td>allergy in parents or siblings (not self)</td>
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<tr>
<td>Ear ache: duration</td>
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<tr>
<td>with discharge</td>
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</tr>
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<td>with hearing impairment</td>
<td></td>
</tr>
<tr>
<td>pain even when not swallowing</td>
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</tr>
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<td>Hoarseness (by observation): duration</td>
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<tr>
<td>New skin rash</td>
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<tr>
<td>Headaches</td>
<td></td>
</tr>
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<td>severe (restrict normal activities)</td>
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</tr>
<tr>
<td>Ache all over</td>
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<tr>
<td>History of rheumatic fever</td>
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<tr>
<td>Exposure to strep in past week</td>
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<tr>
<td>History of penicillin reaction</td>
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<tr>
<td>Return visit for same complaint</td>
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</tr>
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<td>Taking anything for chief complaint</td>
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</tr>
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<td>does it work</td>
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</tr>
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<td>Tender sinuses</td>
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<td>Tender neck nodes</td>
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</table>
STUDENT HEALTH ADVOCATE PROGRAM

UCLA

STUDENT RECORD

Health Advocate

Name
House
Dorm
Room #
Date

CHIEF COMPLAINT

HISTORY OF PRESENT ILLNESS
(Symptoms, etc.)

OTHER RELATED HISTORY
(Allergies, family history, drugs, etc.)

FINDINGS

ASSESSMENT

PLAN

EN/1c
APPENDIX 7

PILOT EVALUATION FORM
PILOT EVALUATION

1. How did you feel about being a part of this pilot study? Pros Cons

2. Do you feel that the fact packet was adequate information on throat culturing? Problems? Additions? Deletions?

3. Were there enough training sessions for your needs? Comments.

4. Did you feel comfortable and/or competent about obtaining throat cultures after the training sessions? Why? Why not?

5. How were you received from your peers in your dorm? Problems encountered? Rewards (satisfactions)?
6. Do you think your experience as a trained S.H.A. with the additional skill of being able to obtain a throat culture, influenced your goals in the medical and/or public health fields? Have your plans been swayed or changed as a result of your field experiences as a S.H.A.?


7. If new advocates were to be trained to obtain throat cultures, how would you change, add to, or delete from the training you received? Comments.


8. Do you feel you have benefited as a result of participating in this pilot study? If yes, in what ways and why. If no, why not?


9. Any subjective comments pertaining to the throat culture component of the S.H.A. program welcomed--positive and negative comments will be appreciated.


Please include your home address and city and phone number in case I must get in touch with you. Thank you all for your participation and cooperation.

P.S. All of your names will appear in my thesis dedication!

Home address __________________________
City __________________________
Phone Number __________________________