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AUTHOR	Maddahian, Ebrahim
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ABSTRACT

The Medical-Counseling, Organizing, and Recruiting (Med-COR) program is a project sponsored jointly by the University of California School of Medicine and the Los Angeles Unified School District. The program, which was organized to serve 4 inner city schools, has expanded to serve 42 middle schools and 34 high schools. The Med-COR program's major goals are to improve student academic performance and study skills, familiarize students with various health-related fields to increase the number of minorities employed in the medical field, and encourage the successful completion of postsecondary education. A 5-year longitudinal and cross-sectional evaluation is being conducted as a retrospective study of current 12th graders enrolled in Med-COR (n=108 in 2000-2001) and a prospective study of 8th graders entering Med-COR in Fall 2001. This report presents findings from the retrospective study. Almost 91% of the student respondents stated that they have a college plan, and a large majority (83%) had already applied to a college. No significant differences in educational outcomes were found for Med-COR program students and nonselected applicants, possibly because sample students from both groups were high ability students. More than half the respondents planned to continue their educations in medical and health-related fields, and about half indicated that they benefited from Med-COR presentations on a variety of topics. Data collected from the students and the program's learning facilitators indicate that the program is meeting its objectives, but some recommendations are made for program improvement, especially with regard to the use of staff time. Three appendixes list participating schools, provide student survey results, and contain learning facilitator survey data. (Contains 5 figures, 10 tables, and 5 references.) (SLD)

A LONGITUDINAL EVALUATION OF THE MED-COR PROGRAM'S EFFORTS TO IMPROVE MINORITY STUDENTS' POSTSECONDARY EDUCATIONAL OPPORTUNITIES AND HEALTH CAREER PARTICIPATION

PART A: RETROSPECTIVE STUDY

Ebrahim Maddahian, PhD

Program Evaluation and Research Branch
Los Angeles Unified School District

Planning, Assessment and Research Division Publication No. 110

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Doris McClain	Office Coordinator
Frances Felix	Secretary
Theresa Valdez Reyna	Program Specialist
Alice Young Singleton	Program Specialist
Bill Smith	Program Consultant
Robert Corpus	Program Assistant
Pricilla Gardner	Program Assistant
Arturo Nevarez	Program Assistant
Francisco Rodriguez	Program Assistant
Delmy Hernandez	Office Staff
Leticia Calleros	Office Staff

EXCUTIVE SUMMARY

Introduction

The Medical-Counseling, Organizing, and Recruiting (Med-COR) Program is a jointly sponsored project by the University of Southern California (USC) School of Medicine and the Los Angeles Unified School District. This program was first organized in 1970 to serve four inner-city schools, and has expanded to serve 42 middle schools and 34 high schools to date. The Med-COR Program's major goals are to improve student academic performance and study skills, familiarize students with various health-related fields to increase the number of minorities employed in the medical field, and encourage successful completion of postsecondary education.

The proposed study is a five-year longitudinal and cross-sectional evaluation that consists of two cohorts of students, corresponding to two separate studies—a retrospective study of current 12 graders enrolled in the Med-COR Program and a prospective study of 8 graders entering the program in the fall of 2001. The main purpose of this study is to evaluate the impact of the Med-COR Program upon student 1) school performance, 2) college enrollment and participation, 3) and health career participation. The study intends to answer the following research questions:

1. What are the specific objectives of the major program components? How does the Med-COR program function? What are the current program activities? What types of specific services are provided?

2. To what extent is program effectiveness supervised and monitored? What set of criteria are used to monitor progress?

3. How are program participants selected? Is there a significant difference between the initial achievement level of those who are accepted and those who are not?

4. How much time did students spend receiving instruction from tutors (learning facilitators)? How much time did they spend on other component activities? How do they judge the impact and usefulness of each program component? What are the opinions of Med-COR Program students about each component of the program?

5. How are program facilitators/tutors recruited, trained, and evaluated? What type of services do they offer? What are the opinions of the facilitators about the Med-COR Program procedures and activities, training and evaluation?

6. What effect does participation in the Med-COR program have on student school performance, college participation and health career participation?

7. What aspects of the Med-COR program are related to intended outcomes? What intervening variables impact on the effectiveness of the Med-COR program?

Findings

The major results from the retrospective study are as follows:

Program

1. The Med-COR program carefully monitors the progress of the students that successfully complete the program. Student academic progress is monitored through grade point average scores, Scholastic Aptitude Test scores, and successful completion of the program.

2. The primary selection criterion for the Med-COR program is student's interest in medical and health careers. There is no absolute grade point average requirement for student admission into the program, however, since the Med-COR program is an academic outreach program and not a remedial program, applicants with inadequate math and English basic skills are generally not admitted. Based on the Spring 1996 California Tests of Basic Skills score data, there are significant differences between those who were accepted and those who were not. Many high ability applicants were also not selected because their primary career interest was not in the health and medical profession.

Students

1. Almost all (91%) of the respondents stated that they have a college plan, and a large majority (83%) reported that they have already applied to a college or university to continue their education. (According to a report provided by the

Independent Analysis Unit, the rate of college admission for all LAUSD high school graduates is about 48%.)

2. When a matched sample of non-selected Med-COR program applicants was compared with Med-COR Program students, no significant differences were found between the two groups on student outcomes. One of the possible explanations for these findings is that sample students from both groups are high ability students and there is not that much room to improve their academic outcomes. A second explanation is that a large number of students from the comparison group participated in similar programs such as Young Black Scholars, A Better Chance, and Upward Bound. We did not have the opportunity to interview all members of the comparison group, but an interview with a limited number of comparison group students supports that explanation.

3. More than half (55%) of respondents plan to continue their education in medical and health related fields, and almost one-fifth (19%) are interested in teaching positions.

4. More than half of the students received one-on-one tutorial instruction. Students rated the quality of individual tutorial instruction better than average.

5. About half of the respondents indicated that they benefited from Med-COR presentations on a variety of topics such as SAT preparation, career information, laboratory experiments, and network development.

6. About one-fourth of the Med-COR students participated in the Summer Work Study component, averaging 295 hours of work in a variety of different medical institutions.

7. Close to half of the students reported that they benefited from the counseling services related to issues such as university entrance requirements, university application procedures, and available financial resources for university students.

8. More than half of the students were exposed to experiences in which scientific inquiry took place such as laboratory experiments in biology and chemistry.

Learning Facilitators

1. About one-half of the learning facilitators (tutors) have at least one-year of college education.

2. More than half are science major undergraduate or graduate students.

3. About two-thirds of the learning facilitators provide a daily log of their activities to their immediate supervisors.

4. About one-third of the learning facilitators expressed a need for support in subject areas and instructional issues, student discipline, and clarification of the Med-COR instructional processes and procedures.

5. Currently there is no formal evaluation for the performance of learning facilitators. Some of them reported being informally evaluated by students or through observation.

6. Almost all of the learning facilitators who were in the program for more than a year stated that they received training during orientation. Due to high rate of turnover, the other half of learning facilitators who were hired during the program will receive training during the next year orientation.

7. Learning facilitators reported spending about half of their daily time engaged in individual tutoring or group presentations.

8. Other non-instructional activities reported by learning facilitators include taking attendance, participating in grade level meetings and group assemblies, setting up the classroom environment, and presenting daily announcements.

9. Learning facilitators believe that the Med-COR Program has been most successful in motivating students, improving their chances to attend a postsecondary educational institution, promoting group unity, and enhancing students' self-esteem and self-confidence. They believe that the Med-COR program has also been successful in providing networking opportunities, exploring career options, and introducing professionals from medical and health-related fields.

Recommendations for Med-COR Program

Based on the data collected from students and learning facilitators, the Med-COR program is meeting its objectives; however, to improve the quality of this program we propose the following changes:

- Med-COR is a complex and diverse program. We suggest either hiring more staff or limiting the number of activities to those which have a direct impact on the successful continuation of participants' postsecondary education such as Saturday academic tutorials, group presentations, study skill workshops, SAT preparation, summer work-study, university application guidelines, and an explanation of career opportunities and their academic requirements.

- Routine tasks such as setting up classroom environments should be given to non-academic staff thereby allowing time for the learning facilitators to engage in more meaningful instructional activities such as preparing lesson plans or providing more one-on-one instruction.

- Summer work-study opportunities are well received and should be supported and enhanced. Students who participated in summer work-study appreciated the learning experience and the opportunity to get first-hand experience in medical and health-related professions.

- A student needs assessment is crucial at the beginning of the year to align the program objectives to the students' individual needs. In addition, the program-monitoring process should be tied to student needs and program objectives. Program activities need to be reviewed on an ongoing basis.

- The high turnover rate of learning facilitators is troublesome. Increasing the hourly rate for learning facilitators and creating a promotional ladder with higher pay for those who stay in the program may significantly decrease the turnover rate. Another option is to request that the district provide additional training and financial support for these individuals as potential future teachers.

- Med-COR is a successful program designed for students who are interested in medical and health science professions. There are many other bright students interested in other professions who deserve the type of support and assistance provided by the Med-COR program. This requires development of new but similar programs with different emphases and foci to include other high ability minority students with different career interests.

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EXCUTIVE SUMMARY

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A Longitudinal Evaluation of the Med-COR Program's Efforts to Improve Minority Students' Postsecondary Educational Opportunities and Health Career Participation
Part A: Retrospective Study

Introduction

Overview

College participation is an important indicator of progress in education for minority students. Educational and social research, however, indicates a wide gap between White and Asian students' and other ethnic students' enrollment and participation in higher education (Carter & Wilson, 1994). The under-representation of minority students in medical education and consequently, in health careers is particularly daunting. For instance, the 1990 Census shows that while Blacks are 12% and Hispanics 9% of the nation's population, they compromise only 3% and 4% of the country's physicians, respectively (Cureton-Russell, 1991). The situation has prompted some institutions and a number of states to expand access to higher education for minority students. Despite these efforts, only small pockets of success can be identified (Carter & Wilson, 1989). This further emphasizes the need for outreach programs such as Med-COR to provide opportunities for Black and Hispanic minorities to pursue careers in medical professions.

There are many factors contributing to unequal opportunities for minority students in higher education, and especially in medical education. According to the research findings, family income is one of the major contributing factors (e.g., Carter & Wilson, 1989; 1994). Studies on minorities in higher education have found that students from low-income families are less likely to enroll in college compared to students from high-income families. Other factors

that play a major role in minority students' low college participation rates include poor basic skills in reading, mathematics and science; single-parent families; limited English proficiency; low levels of parental involvement; and sibling dropout. Many poor and minority students do not live in environments that provide support to make up for any deficiencies that might exist in their schools. In contrast, students from most middle and upper class homes have supportive, literate, learning environments to supplement and enrich school instruction (Adams, 1990). Therefore, external support from schools or institutions is of paramount importance for poor and minority students or any other students from less advantaged backgrounds.

One of the important factors that determine medical school acceptance is a strong mathematics and science background, which requires applicants to have extensive training in mathematics and science in high school and college. Minority students have historically demonstrated weak skills in these areas. Any efforts to provide opportunities for minority and disadvantaged students to pursue higher education, particularly medical education, therefore, should focus on improving students' skills in mathematics and science and provide relevant training necessary for their future success.

The Los Angeles Unified School District (LAUSD)'s Medical-Counseling, Organizing, and Recruiting (Med-COR) program represents such an effort to help students improve their academic skills so that they will be better prepared for college, particularly for pursuing health careers. This study examines whether the Med-COR program is meeting its goals from a longitudinal perspective. In the sections that follow, a brief description of the program is presented first, followed by the rationale for the current study, the research questions, and the limitations of previous evaluations of the Med-COR Program.

Med-COR Program Description

Med-COR is a jointly sponsored program by the University of Southern California (USC) School of Medicine and the LAUSD Student Integration Services. This program was organized in 1970 as an academic enrichment and tutoring program. Initially it served four inner-city high schools and has since expanded to 42 middle schools and 34 high schools (see Appendix A). The program is aimed at Hispanic, Black, Asian, and other non-Anglo students interested in health careers. There is no absolute grade point average requirement, but applicants with inadequate math and English basic academic skills are generally not accepted. The program recruits students at the eighth grade level from 42 middle schools. There are currently 1,060 students in the program. Table 1 presents the number of students in the Med-COR program for the last four years.

Table 1.
Number of Students in Med-COR Program by Grade and Year

Grade	1997-1998	1998-1999	1999-2000	2000-2001
8th	188	199	301	265
9th	261	199	258	300
10th	184	208	159	220
11th	178	149	167	167
12th	121	141	132	108
Total	932	896	1,017	1,060

The major goals of the Med-COR program are to: (1) improve students' academic performance and study skills, to better prepare them for a successful postsecondary education; (2) acquaint middle and high school students with various health related careers and their prerequisites; and (3) enhance students self-esteem through positive group identification and interaction. These goals are consistent with the Los Angeles Unified School District's intent to

help minority students increase their level of academic achievement, improve their self-esteem, and enhance their access to postsecondary educational opportunities.

Med-COR Program Components

The major components of the Med-COR program are: Saturday tutorial, summer work-study, Scholastic Aptitude Test (SAT) preparation, family core unit, counseling services, community services, and exposure to science and scientific inquiries. A detailed description of each component is provided in the following section of this chapter.

Saturday Academic Tutorial Component Every Saturday during the school year, participating students are bussed from their home schools to the main campus of the University of Southern California, where they are provided with academic enrichment in mathematics (algebra through calculus), science (biology, chemistry, and physics), English, study skills, and laboratory experiences. This component of the Med-COR program is designed to:

- Present formal lectures on English, mathematics, science, and study skills.
- Provide students with individual tutoring designed to help students apply the concepts they learned and complete the homework assigned in their regular classes.
- Provide opportunities for students to collaborate with each other in developing projects based on their own interests.
- Offer opportunities for students to attend symposia on various issues facing the health care delivery system that are presented by medical students, practicing health professionals (doctors, dentists, pharmacists, nurses, etc.), and medical school faculty.
- Motivate students to pursue careers in health and medical professions.

Summer Work-Study Component For six weeks each summer, some of the Med-COR students take part in a work-study program at Unit 1 of the Los Angeles County/University of

Southern California Medical Center, King/Drew Medical Center or Northridge Hospital. This experience is designed to introduce students to the health care system and to increase their interest in pursuing a health career by exposing them to various health care environments.

To be eligible for summer work students must meet certain criteria: have a grade point average of 3.0 or higher, have a good Med-COR Program attendance record, and be at least 15 years of age. All eligible students are ranked based on the criteria listed. During summer selected students receive intensive training by a registered nurse that includes topics such as taking patient's vital signs, hospital routines and procedures, and basic patient care.

Scholastic Aptitude Test (SAT) Preparatory Component The Med-COR Program has developed a comprehensive five-year Scholastic Aptitude Test (SAT) Preparatory component to raise students' average total score to at least 1100 by the last year of high school. The SAT is a major contributing factor in students' college acceptance. Hence, during summer break, in addition to the work experience, Med-COR participants also receive instruction on test taking skills in pre-SAT and SAT preparation courses.

Family Core Unit Component The Family Core Unit is a critical element of the Med-COR Program. This component is designed to involve the student's family in the Med-COR program as a support group. Parents of participating students meet once a month. It is hoped that, as they become more familiar with the program and come to understand what the students are experiencing, they will provide more encouragement and support to their children. Volunteer parents along with the program staff organize workshops, and invite guest lecturers to discuss topics and issues that educate and empower parents to better assist their children in achieving their educational and professional goals.

Parent participation is required in one of the five committees: hospitality committee, program committee, fund raising committee, communication committee, and transportation committee.

Counseling Services Component Students are provided with career, academic, and personal counseling and are given help on job application techniques. Students especially receive help in understanding the higher education application process and financial aid opportunities available to them.

Exposure to Science and Scientific Inquiries Component Med-COR program students are exposed to a variety of scientific laboratory experiences including oceanography, space science, biology, and chemistry. In addition, they observe research activities at the USC School of Medicine and the Kenneth Norris Comprehensive Cancer Center. Med-COR program students are encouraged to organize and participate in community service activities. Every Med-COR student is required to volunteer in a community health facility before graduation.

Previous Med-COR Studies and Their Limitations

Past evaluations have shown that the Med-COR program is successful in helping students enroll in advanced educational programs, perform successfully in the required mathematics and science courses, and pursue professional health careers. There were, however, several limitations in previous evaluation studies:

1. The design of previous studies did not include a matched comparison group of non-participating students.

2. Although previous evaluations were conducted annually, there was no longitudinal analysis of student outcomes so that we could analyze the long-term effectiveness of the program.
3. Previous studies did not attempt to link specific components with student outcomes to examine which aspects of the program are effective and which aspects need improvement (Prospective Study).

In order to address the first limitation cited above, we included a sample of students who were interested in participating in this program and who took the required tests (mathematics and English), but who were not selected. We matched these two groups of students based on student academic achievement. Including a comparison group provides the opportunity to compare the achievement of the Med-COR program students with similar students who did not receive services provided by the program.

To address other limitations of prior studies, this study includes a longitudinal aspect. The longitudinal design of this study will provide opportunities to examine the long-term impact of the program on student outcomes. As students advance grade levels, we examine their course taking behavior, their achievement outcomes and their progress toward college acceptance and enrollment. In addition, data will be collected on some of the program components to examine the impact of these specific components individually and collectively on students' educational outcomes. This will provide us with the possibility of being able to identify critical elements and to provide important feedback for program staff to refine and improve the quality of their program.

The following section of this document will provide information on research questions and methods used for the evaluation of the Med-COR Program. It includes a description of the Med-COR program activities, as well as the results of our structured interviews with program students and learning facilitators. Student outcome data as measured by standardized tests such as Stanford 9, Scholastic Aptitude Test (SAT), and teacher marks will also be included in later chapters. Our conclusions and recommendations will be presented in the last chapter of this evaluation report. The linkage between student outcome measures and program activities will be examined in the prospective study of this program.

Research Questions

The overarching objective of the proposed study is to investigate the impact of the Med-COR program upon student (1) school performance, (2) college enrollment and participation, and (3) health career participation. The study intends to answer the following specific research questions:

1. What are the specific objectives of the major program components? How does the Med-COR program function? What are the current program activities? What types of specific services are provided?

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6. What effect does participation in the Med-COR program have on student school performance, college participation and health career participation?

7. What aspects of the Med-COR program are related to intended outcomes? What intervening variables impact the effectiveness of the Med-COR program? (Prospective Study)

Methods

Study Design

The proposed study will be a five-year longitudinal and cross-sectional evaluation that consists of two cohorts of students, corresponding to two studies—a retrospective study of current 12th grade Med-COR program students and a prospective study of new 8th grade students. Cohort One consists of students who were accepted into the Med-COR Program in 1996, and graduated from the Med-COR program in the spring of 2001. Cohort Two consists of students who entered the Med-COR program in the fall of 2001. The retrospective study will trace Cohort One students back four years starting in Spring 2001. The prospective study will follow Cohort Two students for the next five years starting in Fall 2001. This feature of a longitudinal design with two different cohorts will provide us with information on student high school performance, college enrollment, persistence, degrees obtained and career participation. Information of this kind will enable us to evaluate to what extent the Med-COR program meets its goals.

Another key aspect of this design is that it matches the two Med-COR Program cohorts with comparison groups of Med-COR non-selected applicants who are similar in terms of academic achievement. Comparing students' academic achievement in the Med-COR group with the comparison group will provide evidence regarding the effectiveness of the Med-COR program by eliminating confounding factors such as the regular instruction received by both sets of groups.

Sampling procedures

Students who were graduates of the Med-COR program in the spring of 2001 will be automatically included in Cohort One of the retrospective study. Students in Cohort One of the comparison group are selected from Med-COR applicants who took the required 1996 Med-COR entrance exams but were not admitted into the Med-COR program. Students who are entering the Med-COR program in the fall of 2001 will be included in the prospective study of this evaluation. Comparison group students will be chosen from non-selected Med-COR applicants using background data and academic achievement as matching variables.

Data collection and instruments

Data collection activities included focus groups with program staff, the completion of an interactive survey with students and program learning facilitators, and inspection of archival data. The interactive survey is a combination of a structured interview and a self-administered questionnaire. This approach provided an interactive environment in which participants were allowed to discuss each of the survey questions with the researchers in a group setting and then

write their detailed answers to that question individually. This approach was used to collect data on students' background, the length of time students participated in the Med-COR program, and student perceptions of parent involvement, student career interests, and other program related issues.

Information on student academic progress was obtained from the Los Angeles Unified School District's Student Information System (SIS). Variables of interest included student scores on the Stanford 9 battery of tests, college preparation test scores as measured by SAT, course taking patterns and grades (teacher marks), UC/CSU eligibility, Advanced Placement (AP) courses taken, AP results, college admission, ethnicity, and gender.

Data analysis

Both qualitative and quantitative data were used to answer study research questions. The analytical procedures included mainly basic and descriptive statistics about the program activities and participants' background data. Students and learning facilitators' responses were summarized and presented in tabular form. T-test analyses were used to compare Med-COR Program and non-Med-COR students' outcomes. The use of more advanced analysis techniques was precluded by the small number of participants.

Program Activities

This section of the report includes detailed descriptions of the Med-COR program activities pertinent to each component of the program. Findings are based on the results of the focus group and face-to-face interviews with program staff and the review of the Med-COR program's archival documents to provide answers to the following research questions:

> *What are the specific objectives of each program component? How does the Med-COR program function? What are the current program activities? What types of specific services are provided?*

Saturday Academic Tutorial Component

The Saturday Academic Tutorial is a major component of the Med-COR program. The Med-COR Program hires learning facilitators to provide instructional and non-instructional services. The learning facilitators are college students recruited from local universities. According to a Med-COR Program document titled "*Protocol for Learning Facilitators,*" the Saturday Academic Tutorial is the essence of this program designed to assist students with mathematics, science, and English classes taken at their home school. Program specialists provide immediate supervision of learning facilitators.

Students are grouped into clusters of 15 to 20 according to their home school schedules. There are three learning facilitators assigned to each cluster. Facilitators are required to prepare lesson plans to help students with their classroom assignments and more. Students who need individual attention are provided with one-on-one tutoring. There is a resource room where students can receive individualized assistance on a particular subject matter.

Due to space limitation, the Med-COR students are divided into two groups. Students in the first group (grades 10 through 12) participate in a morning schedule and students in the second group (grades 8 and 9) take part in an afternoon schedule. Table 2 represents a typical Saturday program.

Table 2.
A Typical Plan of the Med-COR Saturday Tutorial Component

Morning Schedule (Grades 10–12)		Afternoon Schedule (Grades 8 and 9)	
Time	Task	Time	Task
8:00 am	Med-COR Staff arrive		
8:50 am	High school students arrive	11:50 am	Middle school students arrive
9:00 am	General Assembly/Grade Meeting	12:00 pm	Rap/Grade Meeting
10:00 am	Tutoring and assistance with homework	1:00 pm	Tutoring and assistance with homework
10:30 am	English Enrichment Lessons	1:30 pm	Math Enrichment Lessons
11:00 am	Math Enrichment Lessons	2:00 pm	Science Enrichment Lessons
11:40 am	Break	2:30 pm	English Enrichment Lessons
12:10 pm	Science Enrichment Lessons	3:00 pm	Middle school students depart
1:00 pm	High school students depart		

The protocol is designed to ensure a positive educational experience for both students and learning facilitators/tutors. Saturday tutoring takes place between 9:00 a.m. and 3:00 p.m. beginning in the fall semester. However, learning facilitators are expected to be available between 8:00 a.m. and 4:00 p.m. They are expected to keep accurate student attendance records for their classroom. The Saturday tutorial starts on the first Saturday in October and ends on the last Saturday in May, adding up to 25 days of instruction. The learning facilitators classrrom duties include:

- Setting the proper environment
- Giving presentations
- Leading discussions

- Scoring exams
- Providing one-on-one tutoring
- Completing individual student evaluations
- Keeping accurate attendance records
- Disseminating announcements
- Administering tests
- Setting up and putting away materials

In addition to the classroom duties, learning facilitators are also expected to participate in the Learning Center. The other duties of learning facilitators include:

- Attending rap sessions, General Assemblies, and Grade Meeting assistance
- Assisting students in a small group or on a one-on-one basis

Rap sessions, General Assemblies and Grade Meetings provide motivational, informational, and counseling opportunities designed for the middle school and high school student population. The objectives of these meetings are:

- To develop a sense of group unity among students
- To provide networking opportunities
- To provide exposure to a broad range of career opportunities in medical and health related fields
- To develop students' interpersonal skills
- To improve students' self image and to increase students' self esteem
- To expose students to role models in the medical field

The role of the learning facilitator in Rap sessions and General Assembly meetings is to:

- Conduct and lead designated small group activities
- Help distribute materials during large group activities
- Assist in taking attendance
- Participate and lead general assembly discussions

Summer Work-Study Component

For each of the last three years, the Med-COR Program Summer-Work Study component has provided a different experience related to the health and medical field. These experiences

include: Introduction to Basic Medicine (IBM), Introduction to Basic Science (IBS), and Introduction to Laboratory Research (ILR).

Introduction to Basic Medicine

In the 10th grade, students work directly with patients in the wards under the guidance of hospital staff. This opportunity gives students a chance to experience first hand day-to-day primary health care.

Introduction to Basic Science

In the 11th grade, students receive three hours a day of advanced ward experience in the Women's and Children' Hospitals. In this experience, they deal mainly with the scientific aspects of medical work.

Introduction to Laboratory Research

In the summer following their graduation from high school, Summer Work-Study participants get further practical experience. Most of them are placed in research laboratories. Those who want to be nurses are returned to the wards, and those who want to be therapists are provided with appropriate experiences in physical, occupational, recreational, or respiratory therapy. The Introduction to Laboratory Research experience is designed to create a bridge between high school and college.

Scholastic Aptitude Test Preparatory Plan Component

The Scholastic Aptitude Test Preparatory Plan component is a five-year plan to improve student's SAT scores as much as possible. The goal of this component of the Med-COR Program is to help each student score at least 1100 on the SAT by the last year of high school. In addition

to the summer plan, students also receive SAT and PSAT assistance during the regular Saturday Academic Tutorial component of the program. Table 3 presents a detailed description of this plan.

Table 3.
Scholastic Aptitude Preparation Program Five-year Plan

Grade/Semester	SAT Preparation Reinforcement Activities
8th Grade – 1st Semester	Building Vocabulary and Sentence Completion
8th Grade – 2nd Semester	Basic Math Skill
9th Grade – 1st Semester	Building Vocabulary and Analogies
9th Grade – 2nd Semester	Algebra
10th Grade – 1st Semester	Vocabulary and Reading Comprehension
10th Grade – 2nd Semester	Geometry
11th Grade – 1st Semester	All portions of Verbal Section of SAT
11th Grade – 2nd Semester	All portions of Math Section of SAT
12th Grade	A 5-day workshop (Optional)

Family Core Unit Component

Parent involvement requires parent participation in one of the five active committees. Hospitality Committee insures the assistance of parent volunteers for Med-COR events and provides refreshments and support for other committees. Program Committee recommends activities that will improve parenting skills, contribute to the production and publication of the Med-COR newsletter, and helps with Med-COR workshops and seminars. Fund Raising Committee provides financial support and stipends for eligible summer students. Parents in this committee also solicit businesses and community organizations to contribute to the fund raising activities. Communication Committee informs parents of upcoming committee meetings and community activities and alerts parents about possible changes in scheduled activities.

Transportation Committee insures school buses are running on schedule and serve as a liaison between students, parents, bus drivers, and the Med-COR Program in five areas of Los Angeles: South Bay, South Central, West Los Angeles, East Los Angeles, and San Fernando Valley.

A Med-COR program advisor provides support and assistance to parents in the following areas:

- Assures all needed materials for parent meetings are ready
- Develops areas of communication for parents to use
- Distributes parent monthly meeting letters
- Updates future Med-COR program events
- Develops parent sign-up for bus monitoring at each home school
- Mails out requests to Med-COR potential sponsors asking for donations
- Distributes sign-in rosters developed by Med-COR program during Parent Advisory Committee (PAC) meetings. (PAC consists of chairs from each parent committee, a program advisor and the program director)
- Responds to parents on related issues of their concern

Counseling Services Component

Generally, the counseling services are provided in large or small groups by the Med-COR Program grade monitors on Saturdays. Students may also receive individual counseling. Students receiving individual counseling are identified through: 1) self-referral; 2) grade-monitor referral; 3) facilitator recommendation; or 4) parent recommendation. Counseling services are divided into academic counseling, career counseling, college exposure counseling, and personal counseling.

Academic Counseling Students recommended for academic counseling due to poor performance in mathematics, science or English receive individual counseling until their grades improve.

Career Counseling The majority of the Med-COR Program career counseling services is presented in large or small group settings conducted by program staff and health career professionals.

College Exposure Counseling The focus of the college counseling sessions is to ensure that all students gain entrance to a college or university. Students are assisted in preparing for university admission by participating in the following activities:

- PSAT/SAT workshops to help students gain knowledge about taking standardized tests
- Organized undergraduate admission college fairs
- Organized day and overnight visits to California colleges
- Undergraduate admission workshops to understand the college application process
- Completing college applications and preparing personal essay statements
- Identification of the scholarships and other financial resources
- Financial Aid workshops to apply and complete the Federal Student Aid application

Personal Counseling Students are provided personal counseling initially by Med-COR staff, and when it is necessary they are referred to specialists such as psychologists and psychiatrists.

Exposure to Science and Scientific Inquiries Component

In an effort to provide diverse scientific exposures and as part of an expanding curriculum, the Med-COR program has been developing relationships with other universities in addition to USC. During 1999-2000, Med-COR in conjunction with the California Institute of Technology initiated a program of scientific exploration for high school students. For a period of three months, the Med-COR Program bussed about 25 students and three learning facilitators to the California Institute of Technology campus to engage in a series of scientific demonstrations and experiments.

Med-COR Program Monitoring Procedures

This section of this report will review how the Med-COR Program monitors its progress toward program objectives to address the following research questions:

To what extent is program progress and effectiveness supervised and monitored? What set of criteria are used to monitor progress?

According to the program staff, the Med-COR program monitors its own progress by analyzing the progress of the students that successfully complete the program. The program keeps track of student progress primarily through grade monitors. Grade monitors are the first link to the students in the Med-COR Program. Med-COR Program grade monitors request students' cumulative records from the Los Angeles Unified School District schools annually in order to review and monitor students' school progress.

The grade monitors follow a five-year curriculum outline. The activities are designed to meet the program objectives and are sequenced over a five-year period. Students are monitored with respect to their own academic progress. The main criteria to judge students' progress are their Grade Point Average (GPA) scores, Scholastic Aptitude Test (SAT) scores, attitudinal behavior changes (measured by an in-house survey instrument), and successful completion of the program.

In addition to monitoring student academic performance, senior students are also monitored with regard to their college admissions progress. Each grade monitor submits a monthly progress report to the program director. Based on the results of this on-going monitoring process, poor performing students are identified and the following in-house intervention procedures are initiated:

- An individual conference is held with student to determine the nature of the problem he/she is facing
- Home school and parents are contacted to explore possibilities and existing remedial options
- Available resources are reviewed and a set of acceptable strategies to both students and their parents will be selected to solve the problem
- Student progress will be monitored on an on-going basis by parent at home and by teachers at school.

Student Selection Process

As previously mentioned, the Med-COR Program mainly aims to recruit Hispanic, Black, Asian, and other non-Anglo students interested in health careers. The program mostly recruits eighth grade students from a large number of middle schools. However, some students enter the program at a higher grade level. There is no absolute grade point average requirement, but applicants with inadequate math and English basic skills are generally not accepted. Our third research question is:

How are program participants selected? Is there a significant difference between the initial achievement level of those who are accepted and those who are not?

Table 4 presents the background information for the 569 students who took the entry exam in the summer of 1996.

Table 4.
1996-97 Med-COR Applicants' Background Information (N=569)

Background	Level	Accepted Applicants n=165	Non-Accepted Applicants n=404
		%	%
Gender	Male	32	37
	Female	68	63
Ethnicity	White	7	4
	Non-White	93	96
Language Status*	IFEP	48	37
	ELL	3	20
	RFEP	19	16
	EO	30	28
Title I Membership	Yes	31	48
	No	69	52

*IFEP=Initially Fluent English Proficient
ELL= English Language Learner
RFEP=Redesignated Fluent English Proficient
EO= English Only

The Table 4 data clearly indicates that the majority of applicants (accepted or non-accepted) are minority students, however, a significantly higher proportion of accepted students (97%) are fluent English speakers compared to non-accepted applicants (80%).

The academic achievement of Med-COR applicants who were accepted into the Med-COR program was compared with non-selected Med-COR applicants based on the Spring 1996 test score using California Tests of Basic Skills Form U (CTBS/U). Test data indicate that selected Med-COR students initial level of performance was above the national average, and significantly above the performance of the applicants who were not accepted (Table 5).

Table 5.
Spring 1996 CTBS/U Reading, Mathematics, and Language Average NCE Scores

Test	Group	Mean	N	T-Value
Reading	Accepted	57	157	9.51***
	Non-accepted	44	365	
Mathematics	Accepted	64	157	8.89***
	Non-accepted	50	366	
Language	Accepted	60	149	8.16***
	Non-accepted	48	365	

*** P<. 0001

Results

Results of the Student Interactive Survey[1]

This section of the report addresses the following research questions.

How much time did students spend receiving instruction from tutors (learning facilitators)? How much time did they spend on other components activities? How do they judge the impact and usefulness of each program component? What are the opinions of Med-COR Program students about each component of the program?

The student interactive survey contained questions on:

- Student's background information such as entry grade to the Med-COR Program, ethnicity, father's and mother's education and occupation, resident school, college plans, and educational and career interests
- Students' opinions regarding the impact of Med-COR Program and its contribution beyond what they were learning at their regular school
- Student description of the services they received from each program component, the amount of time spent receiving these services, and their opinions about the usefulness of the services received

Tables included in Appendix B contain the participants' responses to these questions. These findings should be interpreted cautiously since most of the students expressed difficulty in remembering detailed information about their Med-COR experiences, and there were no recorded data to either support or refute their responses.

Participants Background Information At the time of entry, 50% of the respondents were eighth graders, 30% were ninth graders, and 13.8% were 10th graders. Almost all of the participants are minority students (10% Asian, 21.3% Black, and 61.3% Hispanic. The majority

of students come from middle-income families with 13.8% reporting their father's occupation as professional. Fifteen percent of student participants reported that their father had a college degree and 22.5% reported their mother had a college degree. These findings raise questions about whether the stated objective of serving minority students from low-income families is being fulfilled (Appendix B, Tables 3-6). These findings must be interpreted with caution since more than 40% of the students did not respond.

College Admission Almost all (91.3%) of the respondents stated that they have a college plan and 86.3% stated that they have already applied to a college or university to continue their education. More than half (55%) of the respondents expressed interest in continuing their education in the health or medical field and 18.8% are interested in teaching positions. However, our follow-up studies will determine the exact percentage of Med-COR graduates who are actually being accepted to postsecondary institutions.

Saturday Tutorial Services Component Students reported receiving tutorial instruction in mathematics (12.0%), science (8.0%), English (7.5%), or a combination of mathematics and English (5.5%), science and English (3.3%), mathematics and science (7.8%), and all three subjects (12.3%). The average one-on-one individual tutoring time received by respondents for the duration of their program participation (about 4 ½ years) was 21.5 hours with a range of 1 to 160 hours. Students rated their one-on-one learning experience as very useful with a mean of 4.24 on a 5-point scale. Students believed that individual one-on-one tutoring had a positive

[1] See Appendix F for tabulations of student survey percentages.

impact on their achievement (12.5%), and provided a real connection with program staff (2.5%), but found it to be inconsistent from year-to-year (2.5%). Students reported receiving group presentations on Scholastic Aptitude Test (SAT) preparation (12.8%), career information (10.3%), study skills (2.5%), college preparation (16.0%), laboratory experience (4.0%), and networking (2.3%). Participants rated their group presentations as very useful with a mean of 4.58 on a 5-point scale.

Summer Work Study Component For the 21 Summer Work-Study component participants, the average number of hours of participation was 295 hours with a range of 100 to 1,000 hours. These students rated their experience as very useful with a mean of (4.84) on a 5-point scale. Student Work Study sites included USC-LAC Hospital, Northridge Medical Center, King Drew Hospital, and MLK Hospital. Summer Work Study students believed that their Summer Work Study experience: a) helped them to achieve their academic and personal goals (4.8%); b) provided a positive and first-hand experience in the medical field (19.1%); and c) increased their knowledge of the medical field; and gave them sufficient understanding of medical work to realize that a medical career was not for them (2.4%).

Family Core Unit Component The average parent participation time reported by 27 respondents who said that their parents were involved in the program was 8.5 hours with a range of 3 to 32 hours of active parental involvement. About one-fourth of these parents were involved in fundraising activities (24.5%), and less than one-tenth were involved in multiple committees (8.8%), or assisted with transportation (5.0%).

Counseling Services Component The participants' rating of counseling services received a mean of 4.48 on a 5-point scale by the 54 students who stated they had received some form of counseling. The nature of counseling services received by Med-COR students was mostly educational (35.8%), followed by personal/social (5.0%), and vocational counseling (3.8%).

Exposure to Science and Scientific Inquiries Component The scientific exposure component was rated by 54 students as very useful with a mean of 4.46 on a 5-point scale. Students participated in 'introduction to laboratory science' (13.1%), 'biology laboratory' (15.6%), 'chemistry laboratory' (9.4%), and other scientific inquiries (13.1%). Students believed that their scientific inquiry experiences: a) had a positive impact on their career preparation (2.9%), b) advanced their course of studies (7.1%), c) improved their understanding of science issues (5.8%), d) enhanced their motivation (5.0%), and f) provided hands-on experience (7.1%).

Students Opinions on the Impact and Contribution of the Med-COR Program

Respondents believed that the Med-COR Program as a whole had a positive impact on their education by:

- Providing career information (8.3%)
- Motivating them to work harder (7.1%)
- Making schooling a priority for them (18.8%)
- Increasing their self-confidence (3.8%)
- Offering them new educational opportunities (5.0%), and
- Making their educational goals achievable (2.9%)

They also thought that Med-COR program has a significant impact on the choice of their future career by:

- Providing medical career information (38.1%)
- Making their educational goals achievable (4.4%)
- Motivating them to work harder (3.1%)
- Presenting new career opportunities (6.9%),
- Making it clear that a medical career is not for them

A small percentage of respondents (5%) believed that Med-COR program did not have any impact on their choice of future career.

Students gave the following responses to the question about unique and special contribution of the Med-COR program beyond the regular education provided to them at their local school:

- Knowledge about medical careers (18.8%)
- Availability of advanced courses and medical laboratories (17.9%)
- One-on-one tutoring (8.8%)
- Motivation and self-confidence enhancement (5.0%)
- A new and clear focus on college (3.8%)
- Networking and involvement (14.2%), and
- Motivating students to think seriously about their future (5.4%)

Student Suggestions for Med-COR Program Improvement Students suggested that Med-COR Program:

- Provide more field trips to universities (2.1%)
- Include more advanced courses and better prepared learning facilitators (1.3%)
- Improve learning facilitators stability rate (2.1%)
- Provide better organization and structure (5.4%)
- Make the program available to all (2.1%), and
- Provide more information on new medical careers (1.7%)

Results of the Learning Facilitator Interactive Survey[2]

This section of the report contains learning facilitators responses to the following general research questions[3]:

How are the program facilitators/tutors being recruited, trained, and evaluated? What type of services do they offer? What are the opinions of the facilitators about the Med-COR Program procedures and activities, training and evaluation?

The learning facilitator interactive survey was designed to obtain information related to the following issues:

- The learning facilitators' background information such as ethnicity, years of service in Med-COR program, and their motivation to become learning facilitators
- The nature of their instructional and non-instructional duties, and problems they encountered accomplishing the related activities.
- Their evaluation, training and the amount of time allocated to each activity.
- Their opinions about the program and their suggestions to improve the effectiveness of the Med-COR program in accomplishing its objectives

Data collected from learning facilitators are summarized in Appendix C.

Learning Facilitator background The majority of the learning facilitators are Hispanic (40.6%), followed by Asian (25.0%), White (14.1%), and Black (6.3%). Less than one-fifth (15.6%) of learning facilitators have more than one year of teaching experience in the Med-COR Program. About half of the learning facilitators (48.6%) have more than one year of postsecondary education and more than half (56.3%) are science majors. Close to two-thirds of respondents (59.4%) are from the University of Southern California.

[2] See Appendix G for tabulations of learning facilitator survey percentages.

[3] It is important to mention that the majority (more than 80%) of the learning facilitators who participated in this evaluation were new to the program because of the high attrition and were hired in the middle of the year. Therefore, their judgments should be reviewed with caution.

About one-fourth of respondents (23.4%) stated "working with students" as one of their major motives to become involved in Med-COR and 28.1% of the respondents said having an impact" attracted them to Med-COR program. Receipt of compensation was the third factor cited in attracting university students to the Med-COR program (17.2%).

Learning Facilitators Activities and Time Allocation Learning facilitators reported the following activities as their major job duties:

- Devising lesson plans (31.3%)
- Reviewing students' journals (7.8%)
- Assisting with assignments (6.3%)
- Tracking student attendance (6.3%)

Instructional methods used by learning facilitators included lesson preparation based on student needs (10.9%), reviewing Med-COR program instructional information (6.3%), and reviewing their own previous school notes (6.3%). Learning facilitators reported needing guidelines and training regarding how to teach a variety of instructional issues (14.1%), and how to discipline (6.3%).

The average number of hours learning facilitators spent during the last six months providing one-on-one tutorial instruction was 6.6 hours in mathematics, 2.3 hours in science, and 5.2 hours in English. Overall, it can be said that during the last six months, learning facilitators spent close to 14 hours providing one-on-one tutorial services (about 14% of their working time).

The average number of hours reported by learning facilitators for group instruction during the last six months was 12.7 hours on mathematics, 6.5 hours on science, and 6.0 hours on English. Overall, they spent about 25 hours or about (25%) of their time on group tutorial services during the last six months.

Overall, learning facilitators participated in the following activities:

- Taking attendance (92.1%)
- Participating in grade meetings (89.1%)
- Administering tests (87.5%)
- Setting up the classroom environment (84.4%)
- Providing one-on-one tutoring (84.4%)
- Giving presentations (82.8%)
- Participating in assemblies (78.1%)
- Teaching study skills (73.4%)
- Presenting daily announcements (71.9%)
- Giving small group presentations (68.8%)
- Participating in rap sessions (59.4%)
- Participating in college exam preparation (53.1)
- Student assessments (50%)

Learning Facilitators Evaluation and Training In response to the question of "How are you being evaluated?" 15.6% of respondents said they were not being evaluated, and 10.9% stated that they were being evaluated only by students. It is important to mention that more than 80% of the respondents were hired in the middle of the year and there was not enough time for either training or evaluation of their performance.

About half (48.4%) of respondents reported that they received training during their orientation. About one-third of participants (32.8%) stated that they received no training and a small group of learning facilitators (10.9%) said they trained themselves by shadowing their supervisors. The training differences may have resulted from the large turnover rate midway through the fall semester.

Learning Facilitators opinions about the Impact of the Med-COR Program Learning facilitators believe that the Med-COR program has been very successful in motivating students, advancing their postsecondary education, promoting group unity, and enhancing the students

self-image and self-esteem. They also believed that the Med-COR program has been successful to some extent in providing a networking system, giving students the opportunity to explore their career options by introducing professionals from the health and medical fields.

Learning facilitators also stated that participation in the Med-COR program affected them in a number of ways. The most frequent factors cited were: a) enticing them to consider a teaching career (7.8%), b) presenting them with new and challenging experiences (5.7%), c) enhancing their communication skills (4.2%), and d) building awareness of the students' and schools' social and cultural backgrounds.

Learning Facilitator Suggestion for Med-COR Program Improvement A very small number of learning facilitators offered suggestions to improve the quality of the Med-COR Program. The most frequent suggestions were:

- Provide standardized lesson plans (6.8%)
- Increase the wages of learning facilitators to reduce high level of turnover (6.8%)
- Provide better communication (4.7%)
- Expand Med-COR events (4.7%)
- Increase staff stability (4.2%)
- Provide more books and resources (3.1%)
- Provide formal training (3.1%) and
- Improve student selection (2.6%)

Med-COR Program Impact on Student Outcomes

One of the major objectives of this evaluation was to examine the impact of the Med-COR program on student outcomes. Focusing on this issue, our fifth evaluation question was:

> *What effect does participation in the Med-COR program have on student school performance, college participation and health career participation?*

Since there was a significant difference between those applicants who were accepted into the Med-COR program and those who were not (see Table 5), we selected a subsample of the non-selected Med-COR applicants whose average achievement scores were comparable to the selected Med-COR applicants. The two samples of the 1996 applicants (99 Med-COR students selected in 1996 and 83 non-selected Med-COR applicants) were matched based on the Spring 1996 California Tests of Basic Skills (CTBS)[4] data. There was no significant difference between the two groups in reading, mathematics and language test scores in 1996 (see Table 6).

Table 6.
Spring 1996 CTBS/U Average Reading, Mathematics, and Language NCE Scores for the Selected Matched Samples

Test	Group	Mean	N	t-value
Reading	Accepted	61.7	99	-1.29
	Not-accepted	59.3	83	
Mathematics	Accepted	71.2	99	-0.95
	Not-accepted	69.2	83	
Language	Accepted	64.8	99	0.64
	Non-accepted	66.1	82*	

One student did not have language test score.

[4] CTBS was the achievement test used by the District before Stanford 9.The CTBS data were used to match the retrospective sample at the time this cohort was admitted to the program.

Stanford 9 test scores, teacher's marks, and Scholastic Aptitude Test (SAT) scores from the two matched groups were then used as measures of student achievement outcomes.

Stanford/9 Student Achievement Data presented in the following tables compares the achievement of the matched groups during 1997 to 2000 based on Stanford 9 test data. The minimum acceptable t-value for these analyses is 2.61 for a p-value<=0.01 (α level has been adjusted for the number of analyses). Based on these data there was no significant difference between the academic performances of Med-COR students compared to the performances of the comparison group (Tables 7 to 10). However, the results of these analyses should be interpreted with some caution. There are two alternative explanations for these findings: 1) since selected students are high ability students, the impact of the program may be small on academic achievement, and 2) a large majority of comparison students attend similar programs such as Black Scholars and Upward Bound. We were able to interview a limited number of these students and most of them mentioned attending other comparable programs.

Table 7.
Spring 1997 Stanford/9 Average Reading, Mathematics, and Language NCE Scores for Med-COR students and a Comparison Group

Test	Group	Mean	N	t-value
Reading	Accepted	64.1	77	0.16
	Non-accepted	63.8	57	
Mathematics	Accepted	66.8	77	-0.88
	Non-accepted	69.1	57	
Language	Accepted	63.9	77	-0.65
	Non-accepted	65.1	57	

Table 8.
Spring 1998 Stanford/9 Average NCE Scores for Med-COR students and Comparison Group

Test	Group	Mean	N	t-value
Reading	Accepted	59.7	74	1.35
	Non-accepted	56.7	55	
Mathematics	Accepted	65.2	74	0.60
	Non-accepted	63.3	55	
Language	Accepted	63.2	72	-0.68
	Non-accepted	65.0	55	
Science	Accepted	63.5	74	1.75
	Non-accepted	58.5	55	
Social Science	Accepted	61.2	73	2.12
	Non-accepted	55.2	55	

Table 9.
Spring 1999 Stanford/9 Average NCE Scores for Med-COR students and Comparison Group

Test	Group	Mean	N	t-value
Reading	Accepted	62.1	77	0.21
	Non-accepted	61.5	55	
Mathematics	Accepted	66.6	77	0.05
	Non-accepted	66.4	55	
Language	Accepted	64.4	77	0.22
	Non-accepted	63.8	55	
Science	Accepted	61.2	77	0.61
	Non-accepted	59.1	55	
Social Science	Accepted	67.8	77	0.44
	Non-accepted	66.5	55	

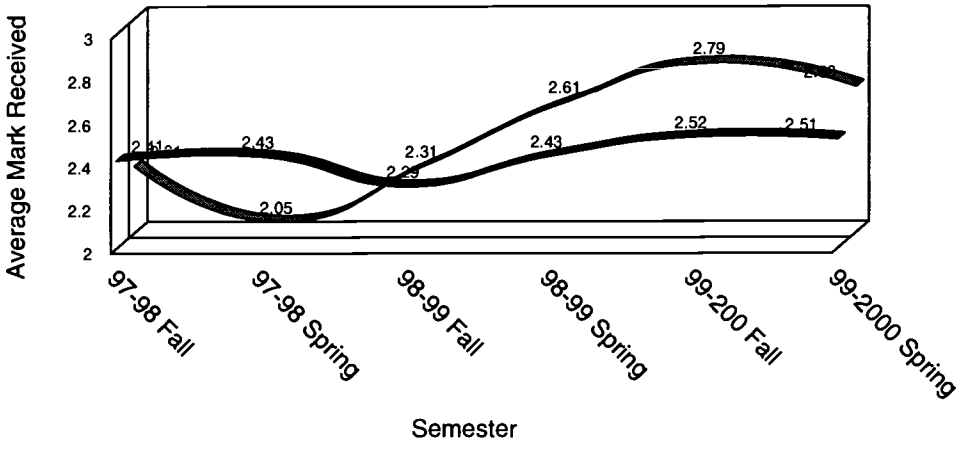
Table 10
Spring 2000 Stanford/9 Average NCE Scores for Med-COR students and Comparison Group

Test	Group	Mean	N	t-value
Reading	Accepted	47.02	74	1.06
	Non-accepted	43.86	57	
Mathematics	Accepted	50.67	75	0.28
	Non-accepted	51.36	57	
Language	Accepted	50.11	72	0.40
	Non-accepted	48.93	58	
Science	Accepted	48.02	73	1.28
	Non-accepted	43.96	57	
Social Science	Accepted	54.46	71	0.32
	Non-accepted	55.52	58	

Teachers' Marks Marks given to Med-COR and comparison students are presented in the following figures. Figure 1 presents the average marks received in A-F social science courses by each group from Fall 1997 to Spring 2000. In the upper grades, there is some indication that comparison students have a higher average than Med-COR students (see Figure 1 and Figure 2). However, interpreting these results may not accurately reflect student comparative performance since marks given to these students may be partially based on the performance of other students in the class and a high mark in one class may be an average mark in another.

Teacher marks received in social science, science, English, mathematics, and advanced placement courses reveal relatively similar patterns of achievement (no significant difference) for both Med-COR students and comparison group students (Figures 1 to 5).

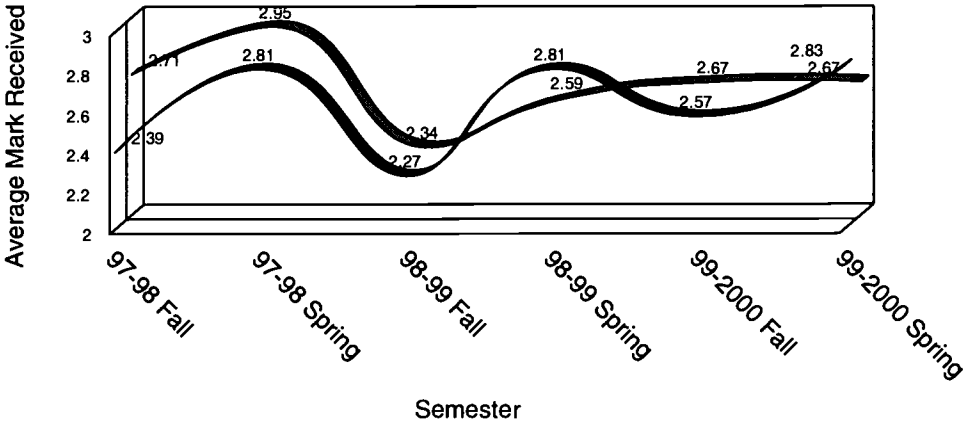
Figure 1. Average Marks Received for Courses* Taken in Social Science by a Matched Sample of Med-COR and Non-Med-Cor Students



* These courses are part of A-F high school curriculum courses.

Med-COR Students Non-Med-COR Students

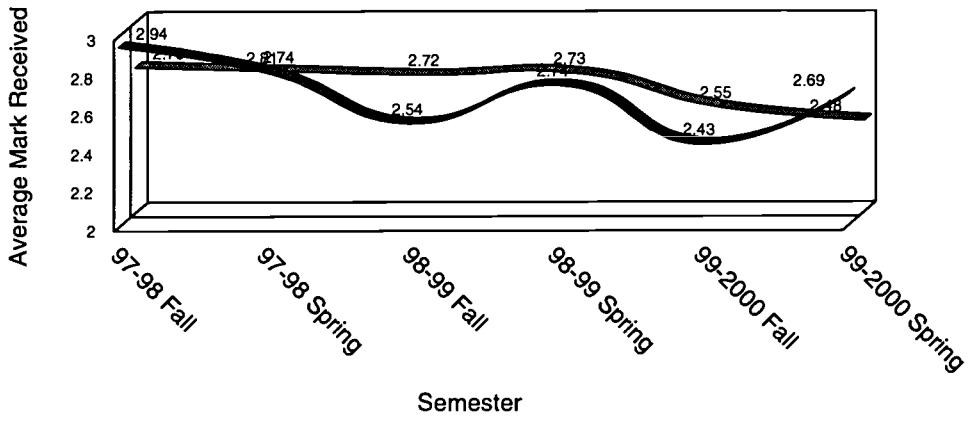
Figure 2. Average Marks Received for Courses* Taken in Science by a Matched Sample of Med-COR and Non-Med-COR Students



*These courses are part of A-F high school curriculum courses.

Med-COR Students Non-Med-COR Students

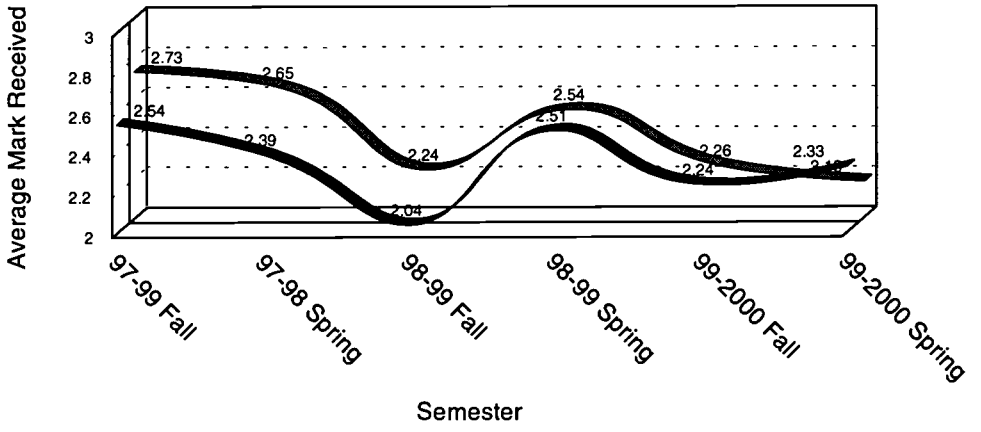
Figure 3. Average Marks Received for Courses* Taken in English by a Matched Sample of Med-COR and Non-Med-COR Students



*These courses are part of A-F high school curriculum courses.

Med-COR Students Non-Med-COR Students

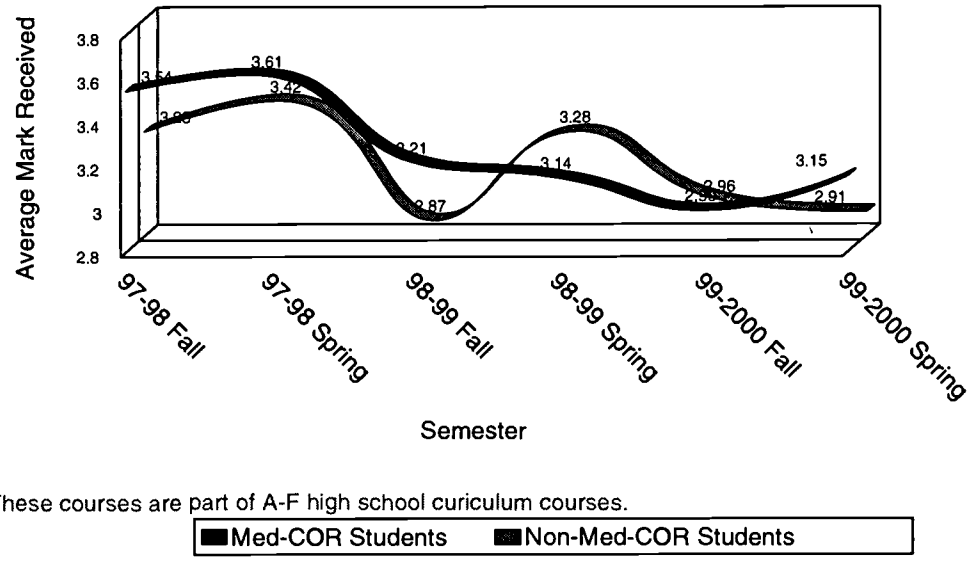
Figure 4. Average Marks Received for Courses* Taken in Mathematics by a Matched Sample of Med-Cor and Non-Med-COR Students



*These courses are part of A-F high school curiculum courses.

Med-COR Students Non-Med-COR Students

Figure 5. Average Marks Received for Advanced Placement Courses Taken by a Matched Sample of Med-COR and Non Med-COR Students



*These courses are part of A-F high school curiculum courses.

Med-COR Students Non-Med-COR Students

Scholastic Aptitude Test One of the major emphases of the Med-COR Program is to improve target student's Scholastic Aptitude Test (SAT) scores, a key factor in college admission. Although Med-COR students perform slightly better on SATs than comparison students, there was no statistically significant difference between the two groups for either verbal or mathematics components of the test.

The average verbal score for 67 Med-COR students who took the SAT test during 1999-2000 school year was 538 compared to 44 students in the comparison group who had an average of 517.

The average mathematics score for 67 Med-COR students who took the SAT test in year 2000 was 553 compared to 44 students in the comparison group who had an average of 546. The Med-COR program's goal of attaining an average of 1100 SAT scores for a high majority of the target students was met. The Med-COR average SAT score for all study participants was 1091.

Suggestions and Recommendations

Although survey data collected from students and learning facilitators indicate that important services and relevant activities are being provided to Med-COR participants, we suggest the following recommendations to further strengthen the program:

1. With a limited number of staff, the program is very widespread and diffuse. We suggest limiting the number of activities and focusing mainly on activities that are directly linked to successful continuation of participants postsecondary education such as Saturday Academic tutorials, group presentations, study skill workshops, SAT preparation, university application guidelines, and an explanation of career opportunities and their academic requirements.
2. The routine tasks of daily activities in which Learning Facilitators are engaged such as setting up the classroom environment should be given to non-academic staff, freeing up the Learning Facilitators time for more meaningful instructional activities such as preparing lesson plans or providing more one-on-one instruction.

3. An effort should be made to provide more summer work-study opportunities. Students who participated in summer-work studies appreciated the learning experience and the opportunity to get first-hand experience in medical and health-related professions.
4. Pre-SAT and SAT preparation, study skills and testwiseness should be organized in a more meaningful way. Although these issues are being emphasized during the program, the presentation is diffuse and too disconnected.
5. A student needs assessment at the beginning of the year is crucial to align program objectives and student needs. In addition, a program monitoring process should be tied to students needs and program objectives. Program activities need to be reviewed on an ongoing basis.
6. The high turnover rate of learning facilitators is troublesome. Increasing the hourly rate for learning facilitators and creating a promotional ladder with higher pay for those who stay in the program may significantly decrease the turnover rate. Another option is to request that LAUSD authorities provide additional training and financial support for these individuals as potential future teachers.
7. Since the original goal of Med-COR program was to help low-income minority students, the selection process should place greater emphasis on identifying low-income students who are interested in health and medical careers.

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Appendix A

Med-COR Program Participating Schools

Med-COR Program Participating Schools

Middle Schools	High Schools
Adams	Banning
Audubon	Bell
Bancroft	Belmont
Belvedere	Bravo Medical Magnet
Berendo	Carson
Bethune	Crenshaw
Brete Harte	Dorsey
Burroughs	Fairfax
Carnegie	Foshay
Carver	Fremont
Clay	Gardena
Curtiss	Garfield
Drew	Hamilton
Edison	Hollywood
El Sereno	Jefferson
Fleming	Jordan
Gompers	Kennedy
Griffith	King Drew Magnet
Hollenbeck	Lincoln
Le Conte	Locke
Maclay	Los Angeles
Mann	Manual Arts
Marina Del Rey	Monroe
Markham	N. Hollywood
Mt. Vernon	Narbonne
Muir	Roosevelt
Nightingale	San Fernando
Nimitz	South Gate
Olive Vista	Sylmar
Pacoima	Van Nuys
Peary	Venice
San Fernando	Washington
Sepulveda	Westchester
South Gate	Wilson
Stevenson	Virgil
Sun Valley	White
Van Nuys	Wilmington
Virgil	White
Wilmington	Wright

Appendix B

Med-COR Students Interactive Survey Data

Table 1.

Grade Accepted into Med-COR Program

	Statistics		
Entry Grade	Frequency	Percent	Cumulative Percent
7	2	2.5	2.5
8	40	50.0	52.5
9	24	30.0	82.5
10	11	13.8	96.3
No-Response	3	3.7	100.0
Total	**80**	**100.0**	

Table 2.

Student Ethnicity

	Statistics		
Ethnicity	Frequency	Percent	Cumulative Percent
Asian	8	10.0	10.0
Black	17	21.3	31.3
Hispanic	49	61.3	92.5
Other	6	7.5	100.0
Total	**80**	**100.0**	

Table 3.

Father's Occupation

Occupation	Statistics		
	Frequency	Percent	Cumulative Percent
No-Response	32	40.0	40.0
Professional	11	13.8	53.8
Skilled and Semi-Skilled	32	40.0	93.8
Others	5	6.3	100.0
Total	**80**	**100.0**	

Table 4.

Mother's Occupation

Occupation	Statistics		
	Frequency	Percent	Cumulative Percent
No-Response	29	36.3	36.3
Professional	22	27.5	63.8
Skilled and Semi-Skilled	14	17.5	81.1
Homemaker	12	15.0	96.3
Others	3	3.8	100.0
Total	**80**	**100.0**	

Table 5.

Father's Education

	Statistics		
Education	Frequency	Percent	Cumulative Percent
No-Response	40	50.0	50.0
Less than High School	15	18.8	68.8
High School Diploma	13	16.3	85.0
College or Higher	12	15.0	100.0
Total	**80**	**100.0**	

Table 6.

Mother's Education

	Statistics		
Education	Frequency	Percent	Cumulative Percent
No-Response	33	41.3	41.3
Less than High School	14	17.5	58.8
High School Diploma	15	18.8	77.5
College or Higher	18	22.5	100.0
Total	**80**	**100.0**	

Table 7.

Student's College Plan

	Statistics		
College Plan	Frequency	Percent	Cumulative Percent
No-Response	4	5.0	5.0
4 year College/ University	61	76.3	81.3
MA/MS or Higher	12	15.0	96.3
Other	3	3.8	100.0
Total	**80**	**100.0**	

Table 8.

Applied to a College/University

	Statistics		
Applied to a College/University	Frequency	Percent	Cumulative Percent
YES	69	86.3	86.3
NO	11	13.8	100.0
Total	**80**	**100.0**	

Table 9.

Student's Career Interest

	Statistics		
Career Interest	Frequency	Percent	Cumulative Percent
No-Response	1	1.3	1.3
Medical Career	44	55.0	56.3
Teaching Career	15	18.8	75.0
Other	20	25.0	100.0
Total	**80**	**100.0**	

Table 10.

Subject(s) in which Student Received Tutorial Services

Category label	Count	Percent of Responses
No Response	169	42.3
Mathematics	48	12.0
Science	32	8.0
English	30	7.5
Mathematics and English	22	5.5
Science and English	13	3.3
Mathematics and Science	31	7.8
Mathematics, Science and English	49	12.3
Other Topics	6	1.5
Total Responses	**400**	**100.0**

Table 11.

Total Number of Hours Student Received Tutorial Instruction

	Statistics		
No. of Hours	Frequency	Percent	Cumulative Percent
1 - 10	36	45.0	45.0
11 - 20	10	12.5	57.5
21 - 30	10	12.5	70.0
31 - 160	10	12.5	82.5
No-response	14	17.5	100.0
Total	80	100.0	

Mean = 21.45, Standard Deviation=31.25

Table 12.

Students' Average* Rating of Tutorial Instruction on a 5-Point Scale

	Statistics		
Average Rating*	Frequency	Percent	Cumulative Percent
Less than 3	3	3.75	3.75
3.1-4.0	16	20.00	23.75
4.1-50	51	63.75	87.50
No-Response	10	12.50	100.00
Total	80	100.0	

*Averaged over subjects Mean=4.24, Standard Deviation=0.66

Table 13.

Student Comments on Med-COR Tutorial Component

Category label	Count	Percent of Responses
Program positively impacted on my achievement	20	12.5
Felt real connection with program staff	4	2.5
High turn-over facilitator rate has a negative impact	5	3.1
Felt real connection with program staff	4	2.5
Program was inconsistent from year to year	4	2.5
Other comments	16	10.0
No Response	111	69.4
Total Responses	**160**	**100.0**

Table 14.

Types of Topics Addressed During Group Presentations

Category label	Count	Percent of Responses
No Response	193	48.3
SAT preparation	51	12.8
Career Information	41	10.3
Study Skills	10	2.5
College Preparation	64	16.0
Laboratory Experience	16	4.0
Networking	9	2.3
Other Issues	16	4.0
Total Responses	**400**	**100.0**

Table 15.

Students' Average* Rating of Group Presentations on a 5-Point Scale

Ratings of Group Presentations	Statistics		
	Frequency	Percent	Cumulative Percent
Less than 3	1	1.25	1.25
3-4	12	15.00	16.25
4-5	55	68.75	85.00
No-response	12	15	100.00
Total	80	100.0	

*Averaged over different types of presentations
Mean = 4.58 Standard Deviation=0.51

Table 16.

Total Number of Hours Student Participated in Summer Work Study

Total Hours of Summer Work	Statistics		
	Frequency	Percent	Cumulative Percent
100.00	5	23.9	23.9
160.00	2	9.5	33.4
200.00	6	28.7	62.1
300.00	1	4.7	66.8
360.00	1	4.7	71.5
400.00	2	9.5	81.0
500.00	2	9.5	90.5
700.00	1	4.7	95.2
1000.0	1	4.7	100.0
Total	21	26.3	

Mean=295 Standard Deviation=229.36

Table 17.

Students' Rating of Summer Work Study Program on a 5-Point Scale

Rating of Summer Work Study	Statistics			
	Frequency	Percent	Valid Percent	Cumulative Percent
3.00	1	1.	4.5	4.5
4.00	1	1	4.5	9.1
4.50	1	1.	4.5	13.6
5.00	14	17..	63.6	77.3
5.00	5	6.	22.7	100
Total	22	27..	100.0	
No-Response	58	72..		
Total	**80**	**100.0**	**100.0**	

Mean=4.84, Standard Deviation=0.47

Table 18.

Location of Student's Summer Work-Study Site

Category label	Count	Percent of Responses
No Response	130	81.3
USC-LAC	16	10.0
LA County Hospital	2	1.3
Northridge Medical Center	3	1.9
King Drew Hospital	3	1.9
MLK Hospital	6	3.8
Total Responses	**160**	**100.0**

Table 19.

Student Comments on Med-COR Summer Work-Study Component

Category label	Count	Percent of Responses
Helped me to achieve my academic & personal goals	2	4.76
Positive, 1st experience I had in medical field	8	19.05
Excellent, increased my knowledge of medical field	5	11.90
Realized that I don't want to work in medical field	1	2.38
Received training, but was not placed	2	4.76
Other	11	26.19
No-response	13	30.95
Total Responses	**42**	**100.00**

Table 20.

Number of Hours of Parental Involvement in Program as Reported by Students

Number of Hours of Family Involvement	Statistics		
	Frequency	Percent	Cumulative Percent
3-5 Hours	12	15.0	15.0
6-10 Hours	6	7.5	22.5
11-20 Hours	9	11.3	33.8
No-Response	53	66.2	100.0
Total	**80**	**100.0**	

Mean=8.85, Standard Deviation=6.58

Table 21.

Student Report on Family Involvement in Med-COR Program

Category label	Count	Percent of Responses
No Response	137	34.3
Involved in multiple committees	35	8.8
Involved only in fundraising	98	24.5
Regularly attended parent meetings	104	26.0
Assisted with transportation	20	5.0
Other involvements	6	1.5
Total Responses	**400**	**100.0**

Table 22.

Students' Average* Rating of Counseling Services on a 5-Point Scale

	Statistics		
Rating of Counseling Services	Frequency	Percent	Cumulative Percent
1-3	6	7.5	7.5
4-5	48	60.0	67.5
No-Response	26	32.5	100.0
Total	**80**	**100.0**	

*Averaged over different types of counseling services received
Mean=4.48, Standard Deviation=0.81

Table 23.

Type(s) of Counseling Services Received by Students

Category label	Count	Percent of Responses
No Response	133	55.4
Educational	86	35.8
Personal & Social	12	5.0
Vocational	9	3.8
Total Responses	**240**	**100.0**

Table 24.

Number of Hours Student s Participated in a Community Service Program

Number of Hours Participated	Statistics		
	Frequency	Percent	Cumulative Percent
2.-10	15	18.75	18.75
11-55	6	7.50	26.25
No-Response	59	73.75	100.00
Total	21	26.3	

Mean=11.76 Standard deviation=11.86

Table 25.

Students' Average* Rating of Scientific Exposure and Inquiry on a 5-Point Scale

Rating of Scientific Exposure and Inquiry	Statistics		
	Frequency	Percent	Cumulative Percent
1-3	4	5.0	5.0
4-5	50	62.5	67.5
No-Response	26	32.5	100.0
Total	**80**	**100.0**	

Mean=4.48 Standard Deviation=0.81

Table 26.

Type of Scientific Experience in which Student Participated

Category label	Count	Percent of Responses
No Response	78	48.8
Introduction to Laboratory Science	21	13.1
Biology Laboratory	25	15.6
Chemistry Laboratory	15	9.4
Other Scientific Inquiries	21	13.1
Total Responses	**160**	**100.0**

Table 27.

Student Comments on Usefulness of Med-COR Scientific Inquiry Component

Category label	Count	Percent of Responses
No-Response	150	62.5
Impacted career preparation	7	2.9
Advanced studies	17	7.1
Improved understanding	14	5.8
Enhanced motivation	12	5.0
Provided hands on experience	17	7.1
Other Comments	23	9.6
Total Responses	**240**	**100.0**

Table 28.

Impact of Med-COR Program on Student Attitudes Towards Schooling and Education

Category label	Count	Percent of Responses
No Response	94	39.2
Providing Career Information	20	8.3
Providing Instructional Assistance	17	7.1
Motivating me to work harder	27	11.3
Making School a Priority for me	45	18.8
Increasing my self-confidence	9	3.8
Offering new Educational Opportunities	12	5.0
Making my Educational Goals Achievable	7	2.9
Other	9	3.8
Total Responses	**240**	**100.0**

Table 29.

Impact of Med-COR Program on Student Attitudes Towards Career Choice

Category label	Count	Percent of Responses
No Response	39	24.4
No Impact	8	5.0
Providing Medical Career Information	61	38.1
Making my Career Goals Achievable	7	4.4
Motivating me to work harder	5	3.1
Presenting new Career Opportunities	11	6.9
Not to choose a Medical Career	9	5.6
Other	20	12.5
Total Responses	**160**	**100.0**

Table 30.

Special Contribution of Med-COR Program on Student Learning

Category label	Count	Percent of Responses
No Response	61	25.4
Knowledge about Medical Careers	45	18.8
Availability of Advanced courses and Labs	43	17.9
One-to-one tutoring	21	8.8
Enhancement of motivation	12	5.0
New and clear focus on college	9	3.8
Networking and Involvement	34	14.2
Thinking seriously about my future	13	5.4
Nothing Special	2	.8
Total Responses	**240**	**100.0**

Table 31.

Student Comments on Med-COR Program Overall

Category label	Count	Percent of Response
No Response	134	55.8
Interested in becoming a Med-COR Mentor	2	0.8
Believes Med-COR enhances life opportunities	35	14.6
Suggests more field trips to Universities	5	2.1
Asks for more funding for summer jobs	2	0.8
Asks for more advanced courses and better facilitators	3	1.3
Appreciates college and career information	7	2.9
Asks for more stable facilitators	5	2.1
Asks for more information on new medical careers	4	1.7
Appreciates provided learning environment	17	7.1
Asks for a better organization and structure	13	5.4
Believes program should be available to all	5	2.1
Other	9	3.7
Total Responses	**240**	**100.0**

Appendix C
Learning Facilitator Interactive Survey Data

Table 1.

Learning Facilitator Ethnicity

	Statistics		
Ethnicity	Frequency	Percent	Cumulative Percent
Asian	16	25.0	25.0
Black	4	6.3	31.3
Hispanic	26	40.6	71.9
White	9	14.1	85.9
Other	9	14.1	100.0
Total	**64**	**100.0**	

Table 2.

Learning Facilitators Years of Experience

	Statistics		
Years of Experience	Frequency	Percent	Cumulative Percent
No-response	2	3.1	3.1
Less than 1	52	81.3	84.4
More than 1	10	15.6	100.0
Total	**64**	**100.0**	

Table 3.

Learning Facilitator Years of Education

	Statistics		
Years of Education	Frequency	Percent	Cumulative Percent
12	2	31.1	3.1
13	13	20.3	23.4
14	13	20.3	43.8
15	9	14.1	57.8
16	10	15.6	73.4
17	13	20.3	93.8
18	2	3.1	96.9
20	2	3.1	100.0
Total	**64**	**100.0**	

Table 4.

Learning Facilitator Major

	Statistics		
Major	Frequency	Percent	Cumulative Percent
Science	36	56.3	56.3
Mathematics	3	4.7	60.9
English	2	3.1	64.1
Other	23	35.9	100.0
Total	**64**	**100.0**	

Table 5.

Learning Facilitator University

	Statistics		
Current College/University	Frequency	Percent	Cumulative Percent
University of Southern	38	59.4	59.4
University of California	9	14.1	73.4
California State University	8	12.5	85.9
Other	9	14.1	100.0
Total	**64**	**100.0**	

Table 6.

Motives for Becoming a Learning Facilitator

Motives	Count	Pct of Responses
Working with students	30	23.4
Having an impact	36	28.1
Gaining experience	11	8.6
Financial gain	22	17.2
Giving back	6	4.7
Community work	5	3.9
No-response	18	14.1
Total responses	**128**	**100.0**

Table 7.

Tracking Activities

	Statistics		
Track activities	Frequency	Percent	Cumulative Percent
No-response	1	1.6	1.6
Yes	49	76.6	78.1
No	14	21.9	100.0
Total	**64**	**100.0**	

Table 8.

Activities Recorded by Learning Facilitators

Activities	Count	Pct of Responses
Lesson plans	40	31.3
Student journal	10	7.8
Assignments	8	6.3
Attendance	6	4.7
Other Duties	6	4.7
No-Response	58	45.3
Total responses	**128**	**100.0**

Table 9.

Providing a Log of their Daily Activities to Supervisors

	Frequency	Percent	Cumulative Percent
Valid No-	1	1.6	1.6
Yes	41	64.1	65.6
No	22	34.4	100.0
Total	**64**	**100.0**	

Table 10.

Instructional Preparation Methods Used by Learning Facilitators

Methods of preparation	Count	Pct of Responses
Review lesson	10	5.2
Read on my own	19	9.9
Prepare myself based on student	21	10.9
Read Med-COR given	12	6.3
Review my previous notes	12	6.3
Other approaches	28	14.6
No-response	90	46.9
Total responses	**192**	**100.0**

Table 11.

Areas in which Learning Facilitators Need Help and Support

Areas Support Needed	Count	Pct of Responses
No support needed	31	24.2
Subject matter and instructional	18	14.1
Discipline	8	6.3
Processes & Procedures	10	7.8
No response	61	47.7
Total responses	**128**	**100.0**

Table 12.

Program Staff who Provide for Learning Facilitators

Support Provider	Count	Pct of Responses
Supervisors	34	26.6
Co-Facilitators	37	28.9
Program Director	8	6.3
Others	11	8.6
No-response	38	29.7
Total responses	**128**	**100.0**

Table 13.

Number of Absences as Reported by Learning Facilitators

Number of Days Absent	Statistics		
	Frequency	Percent	Cumulative Percent
0	21	32.8	32.8
1	20	31.3	64.1
2	13	20.3	84.4
3	6	9.4	93.8
4	1	1.6	95.3
5	3	4.7	100.0
Total	**64**	**100.0**	

Table 14.

Reasons for Reported Absences

Reason	Count	Pct of Responses
University Vacation	8	6.3
Out of State	7	5.5
University Exams	11	8.6
Illness	15	11.7
Others	9	7.0
No-response	78	60.9
Total responses	**128**	**100.0**

Table 15.

Sources of Evaluation as Reported by Learning Facilitators

Responses	Count	Pct of Responses
No-evaluation	20	15.6
By Students	14	10.9
Through Observation	31	24.2
Other ways	13	10.2
No-response	50	39.1
Total responses	**128**	**100.0**

Table 16.

Sources of Training as Reported by Learning Facilitators

	Statistics		
Type of Trainings	Frequency	Percent	Cumulative Percent
Orientation	31	48.4	48.4
No Training	21	32.8	81.3
Shadowing staff	7	10.9	92.2
Continuous and informal	5	7.8	100.0
Total	**64**	**100.0**	

Table 17.

Number of Hours Learning Facilitators Spent on One-on-One Tutoring in Mathematics during the Last Six Months

	Statistics		
Number of Hours	Frequency	Percent	Cumulative Percent
Less than 4	41	64.1	64.1
5-15	13	20.3	84.4
16-25	7	10.9	95.3
26-55	3	4.7	100.00
Total	**64**	**100.0**	

Mean=6.60, Standard Deviation=11.51

Table 18.

Number of Hours Learning Facilitators Spent on One-on-One Tutoring in Science during the last Six Months

	Statistics		
Number of Hours	Frequency	Percent	Cumulative Percent
Less than 4	50	78.1	78.1
5-10	11	17.2	95.3
11-24	3	4.7	100.0
Total	**64**	**100.0**	

Mean=2.34, Standard Deviation=4.65

Table 19.

Number of Hours Learning Facilitators Spent on One-on-One Tutoring in English during the Last Six Months

	Statistics		
Number of Hours	Frequency	Percent	Cumulative Percent
Less than 4	49	76.5	76.5
4-20	9	14.1	90.6
21-44	6	9.4	100
Total	**64**	**100.0**	

Mean=5.20, Standard Deviation=11.41

Table 20.

Number of Hours Learning Facilitators Spent on Teaching Mathematics to a Group of Students during the Last Six Months

	Statistics		
Number of Hours	Frequency	Percent	Cumulative Percent
Less than 4	39	60.9	60.9
4-20	9	14.1	75.0
21-40	8	12.5	87.5
40-70	8	12.5	100
Total	**64**	**100.0**	

Mean=12.68, Standard Deviation=19.92

Table 21.

Number of Hours Learning Facilitators Spent on Teaching Science to a Group of Students during the Last Six Months

	Statistics		
Number of Hours	Frequency	Percent	Cumulative Percent
Less than 4	43	67.2	67.2
4-10	8	12.5	79.7
10-20	6	9.4	89.1
21-48	7	10.9	100
Total	**64**	**100.0**	

Mean=6.45, Standard Deviation=12.41

Table 22.

Number of Hours Learning Facilitators Spent on Teaching English to a Group of Students during the Last Six Months

	Statistics		
Number of Hours	Frequency	Percent	Cumulative Percent
Less than 4	41	64.1	64.1
4-10	12	18.8	82.9
11-48	11	17.1	100.0
Total	**64**	**100.0**	

Mean=6.02, Standard Deviation=11.51

Table 23.

List of Activities in which Learning Facilitators Participated

	Responses		
	No-response	Yes	No
Activities	Percent	Percent	Percent
Setting classroom environment	3.13	84.38	12.50
Giving presentations	7.81	82.81	9.38
One-on-one tutoring	1.56	84.38	14.06
Student assessments	4.69	50.00	45.31
Taking attendance records	4.69	92.19	3.13
Announcements	6.25	71.88	21.88
Test administration	3.13	87.50	9.38
College exam preparation	7.81	53.13	39.06
Rap sessions	10.94	59.38	29.69
Participation in assemblies	4.69	78.13	17.19
Participation in grade meetings	3.13	89.06	7.81
Teaching study skills	4.69	73.44	21.88

Table 24.

Learning Facilitator Attitude toward the Med-COR Program Success in Accomplishing its Objectives

Objectives	Mean*
Promoting group unity	4.07
Providing a networking system	3.53
Exploring career opportunities	3.32
Development of interpersonal skills	3.63
Improving self-image	3.95
Enhancing self-esteem	4.05
Meeting professionals	3.25
Advancing higher education opportunities	4.19
Motivating students	4.48

* Scores are based on a 1 to 5 scale, 5 being very successful.

Table 25.

Obstacles and Problems Learning Facilitators are Encountering

Category label	Count	Pct of Responses
Program disruption	13	6.8
Students with different ability level	4	2.1
Lack of formal training	2	1.0
Different schools & student needs	11	5.7
Time management	4	2.1
No obstacles	5	2.6
Low student attendance	2	1.0
Lack of structured lesson plans	9	4.7
Lack of student motivation	11	5.7
Setting priorities and goals	4	2.1
Lack of resources	6	3.1
Staff turnover	7	3.6
High student to staff ratio	2	1.0
Working outside paid hours to prepare	5	2.6
Other ineffective facilitators	6	3.1
No-response	101	52.6
Total responses	**192**	**100.0**

Table 26.

Impacts of Med-COR Program on Learning Facilitators

Category label	Count	Percent of Responses
Becoming more efficient and effective	5	2.6
Improved communication	8	4.2
Unsure	1	.5
Enjoyed working with youth	7	3.6
New experiences	11	5.7
No impact	7	3.6
Reinforced education as top priority	9	4.7
May consider teaching as career	15	7.8
Awareness of inner city students and school	4	2.1
Work with program until graduate from college	3	1.6
Questioning original career choice, may teach	2	1.0
Med-COR alumni	2	1.0
Inspired by students drive, feel motivated	2	1.0
More organized	2	1.0
Learn about medicine	2	1.0
No-response	112	58.3
Total responses	**192**	**100.0**

Table 27b.

Learning Facilitator Suggestions for Program Improvement

Category label	Count	Percent of Responses
More structure	12	6.3
Better communication	9	4.7
Better organization	13	6.8
Formal training	6	3.1
More books and resources	6	3.1
Increase salary	13	6.8
Standardized lesson plans and goals	13	6.8
Improve selections of students	5	2.6
Expand events	9	4.7
Stable staff	8	4.2
Clear job descriptions	3	1.6
Smaller clusters	5	2.6
Rotate clusters	2	1.0
Other issues	8	4.2
No-response	80	41.7
Total responses	**192**	**100.0**

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Signature: E Maddahian

Printed Name/Position/Title: Ebrahim Maddahian, PhD, Research Coordinator

Organization/Address: 450 N. Grand Ave. Los Angeles, CA 90012

Telephone: 213-625-5152

FAX: 213-625-5155

E-Mail Address: emaddahi@lausd.k12.ca.us

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