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September 5, 2012

The Honorable Mark Leno
Chair, Joint Legislative Budget Committee
1020 N Street, Room 553
Sacramento, California 95814

Dear Senator Leno:

Pursuant to Item 6440-001-0001, Provision 9, of the 2011 Budget Act, enclosed is the University of California's report to the Legislature on *Efforts by UC Medical Schools to Help Meet the Needs of Medically Underserved Communities (PRIME)*.

If you have any questions regarding this report, Associate Vice President Debora Obley would be pleased to speak with you. She can be reached by telephone at (510) 987-9112, or by email at Debora.Obley@ucop.edu.

With best wishes, I am,

Sincerely yours,

Mark G. Yudof
President

Enclosure

cc: Ms. Peggy Collins, Joint Legislative Budget Committee
Mr. Gregory Schmidt, Secretary of the Senate
Ms. Tina McGree, Legislative Analyst's Office
Ms. Amy Leach, Office of the Chief Clerk of the Assembly
Mr. Jim Lasky, Legislative Counsel Bureau
Provost and Executive Vice President Aimée Dorr
Executive Vice President Nathan Brostrom
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Associate Vice President and Director Steve Juarez
Associate Vice President Cathryn Nation
Associate Vice President Debora Obley
Executive Director Jenny Kao

**Efforts by UC Medical Schools to Help Meet the Needs of Medically
Underserved Communities (PRIME)**

September 2012

Legislative Report



UNIVERSITY *of* CALIFORNIA

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Report on Efforts by UC Medical Schools to Help Meet the Needs of Medically Underserved Communities (PRIME)

This report is submitted by the University of California in response to language contained in the 2011 Budget Act, which states:

“9. Of the funds appropriated in Schedule (1), \$2,025,000 shall be used to support 135 full-time equivalent students in the Program in Medical Education (PRIME) at the Irvine, Davis, San Diego, San Francisco, and Los Angeles campuses. The primary purpose of this program is to train physicians specifically to serve underrepresented communities. The University of California shall report to the Legislature by March 15, 2012, on (a) its progress in implementing the PRIME program and (b) the use of the total funds provided for this program from both state and non-state resources”.

State funding for the first cohorts of PRIME students was provided in 2005-06, 2006-07, and 2007-08. State funding requested in 2008-09, 2009-10, 2010-11, and 2011-12 for additional PRIME students was not provided. Because of UC’s commitment to the goals of PRIME and to maintain momentum in the development of this program, the University made funding available in 2008-09 for PRIME expansion, and in 2009-10, redirected funds from other sources to support unfunded enrollments and to support plans to move toward full enrollment across all years of the educational program. In 2010-11 and 2011-12, no state resources were provided, and UC medical schools again redirected revenues from other sources to maintain the systemwide program. This strategy is not sustainable, however, as UC medical schools face continuous reductions in state support and as student fees and levels of educational debt continue to rise.

This report provides an update on recruitment and admissions activities for the first eight classes of medical students enrolled in PRIME-LC at UC Irvine, the first five classes of students enrolled in PRIME programs at UC Davis, UC San Diego, and UC San Francisco, the fourth class enrolled at UC Los Angeles, and the first class of PRIME students enrolled in the new program at UC Merced. This report includes an overview of PRIME curricula for each program; a review of the evaluation process used to assess progress in meeting program goals and objectives; and an overview of the impact that the program has had on campuses and their communities, the University of California system, and medical education nationally. The report includes information and an update on funding for the program.

I. IMPLEMENTATION OF THE UC PRIME PROGRAM

Research has made clear the value of developing a multi-pronged strategy for medical schools to better address the needs of medically underserved groups and communities. Strategies should include the recruitment of students who have a demonstrated interest in community service and an expressed interest in serving disadvantaged communities as part of their future professional careers. Research has demonstrated that students who enter medical school with a predisposition to care for underserved populations, often related to their own personal experiences growing up in these environments, are more likely than other students to ultimately practice in underserved communities and care for minority and uninsured patients. Students from underrepresented minority groups are more likely to maintain an interest in working with underserved populations during medical school and work in physician shortage areas and care for uninsured and Medi-Cal patients after their training. In addition, students in educational pathways focused on the underserved appear to maintain their interest in working with the underserved and demonstrate more positive attitudes toward the underserved than their peers. Through the University’s systemwide PRIME initiative, UC medical schools are developing new programs that will offer students new educational opportunities to prepare them as future leaders

and experts in caring for California's underserved and increasingly diverse populations. UC PRIME programs are innovative training programs focused on meeting the needs of these communities by combining specialized coursework, structured clinical experiences, advanced independent study, and mentoring. These activities are structured to prepare highly motivated, socially-conscious students as future clinicians, leaders, and policy-makers.

UC Irvine

UC Irvine's Program in Medical Education for the Latino Community (PRIME-LC) was developed to help address the increasing demand for culturally and linguistically competent physicians, who are better prepared to address the health needs of the Latino population. The five-year program is designed to improve the cultural and linguistic competence of future physicians by developing Spanish language proficiency and increasing familiarity with the socio-cultural values, health beliefs, and lifestyles of Latino patients. Instruction regarding disparities in health status and disproportionate disease burdens suffered by many Latino patients is emphasized. The program currently has 54 students participating and graduated its third class in May 2011. PRIME-LC alumni have chosen residency training programs in primary care fields such as family medicine, internal medicine, and pediatrics while others have chosen programs in emergency medicine, general surgery, obstetrics and gynecology, and psychiatry.

Building on the success of PRIME-LC, UC medical schools engaged in an intensive planning process to develop new programs that focus on rural health/telemedicine (UCD), health equity/health disparities (UCSD), and urban underserved populations (UCSF). In January 2006, the UC Office of the President received a \$473,000 grant from The California Endowment – a private, statewide health foundation committed to healthcare access, culturally competent health systems, community health, and the elimination of health disparities – to assist and expedite these planning activities with an expectation that these programs would receive permanent state support. The grant also included planning funds for development of a program at the David Geffen School of Medicine at UCLA, which admitted its first class in fall 2008.

UC Davis

UC Davis' Rural-PRIME program is an innovative program in medical education, focused on addressing workforce shortages and healthcare access issues in rural communities. Rural-PRIME welcomed its first class of 12 medical students in fall 2007, 13 in fall 2008, 12 in 2009, 12 in 2010, and eight first-year students in 2011. The students were selected because of their demonstrated interest and strongly expressed commitment to rural practice along with having significant exposure to rural communities. The program graduated four students in May 2011 with nine more graduating in May 2012. Rural-PRIME graduates matched into residencies in family medicine, general surgery, and obstetrics and gynecology.

The goal of Rural-PRIME is to train medical students to become the future physicians and community leaders in underserved communities in rural California. The program builds on UCD's strengths as an integrated health system and medical school including excellence in primary care education, commitment to rural outreach (rural medical school rotations, residency locations, and clinical affiliations), expertise in the use of telecommunications technology, and strong commitments to public health, community service, and diversity.

UC San Diego

The Program in Medical Education-Health Equity (PRIME-HEq) is a five-year dual degree program, first developed in 2007. PRIME-HEq offers students the opportunity to examine health equity in an area of interest consistent with the Healthy People 2020 goal of eliminating health disparities among all segments of California's population. The main goals of the PRIME-HEq program are to increase the number of clinicians, research scientists, and advocates working to improve minority health; create a diverse community of scholars that will develop, disseminate, and apply new knowledge about health disparities and minority health; and promote multidisciplinary university-community partnerships to help improve equity and eliminate disparities in health care delivery. UCSD's faculty is fully committed to the attainment of these goals through partnerships with their communities and by fully engaging their faculty, staff, and students.

Ten medical students matriculated into the PRIME program in 2011-12. There are currently 49 students participating in PRIME-HEq. Their inaugural class will be graduating this spring and will be joining residency programs in family medicine, internal medicine, and obstetrics and gynecology.

UC San Francisco

Faculty at UC San Francisco and the Joint Medical Program (JMP) administered by UC Berkeley and UCSF have been leaders in research investigating the factors that contribute to urban health disparities, including geographic maldistribution of clinicians, lack of insurance, minority race-ethnicity, low socioeconomic status, limited English proficiency, and low health literacy. These are widespread in California, a state with a high proportion of the population lacking insurance and a tremendous degree of racial and ethnic diversity. The Program in Medical Education for the Urban Underserved (PRIME-US) offers UCSF and JMP medical students the unique opportunity to pursue their interests in caring for underserved populations in urban communities. The program provides a medical education experience for students that support their goals of becoming leaders; community-engaged clinicians, educators, and researchers; and advocates for improving the care of urban underserved communities.

UCSF launched PRIME-US in fall 2007 with 12 first-year students, eight at UCSF and four at UCB. In fall 2008, participation in the program grew to 15 PRIME students, with 11 at UCSF and four at Berkeley. There are currently 72 PRIME-US students, with 52 at UCSF and 20 at Berkeley. They have graduated seven students in May 2011 and will graduate 11 more in May 2012. PRIME-US alumni have chosen residency training programs in primary care fields such as family medicine, internal medicine, and pediatrics while others have chosen programs in emergency medicine and psychiatry.

UC Los Angeles

The David Geffen School of Medicine at UCLA has a long history of training practitioners who provide health care to traditionally disadvantaged populations as demonstrated by the success of its longstanding joint medical education programs with UC Riverside and the Charles R. Drew University of Medicine. Building on the success of these programs, the UCLA PRIME initiative aims to educate future physician leaders trained to address the health care needs of a wide range of diverse disadvantaged communities by delivering culturally competent clinical care, providing leadership for improved health care delivery systems in disadvantaged communities, conducting research on health care disparities, and serving as community advocates for improved health care policies. In fall 2008, 18 PRIME students began new UCLA program with 10 students at UCLA and four each at UCR and Charles Drew University. In 2009-10, 17 students matriculated into the program, with nine at the UCLA campus and four each at UCR and Charles Drew University. In both fall 2010 and 2011, 18 students participated in the program. There are currently 71 PRIME students participating at UCLA.

UC Merced

Building on the success of the PRIME program at all UC medical schools and its medical education programs throughout the state, the UC Regents approved the UC Merced San Joaquin Valley PRIME (SJV PRIME) program in September 2010 to help provide a unique solution to the healthcare issues of the central valley. The newest addition to the systemwide program is a collaboration between UC Davis, UC Merced and the UCSF Fresno Medical Education Program to strengthen the recruitment and retention of new physicians in the San Joaquin Valley – one of California's most medically underserved areas. Recognizing the population health problems in the valley, the program will partner with communities to reverse long-standing health inequities and to address the social determinants of health disparities. The new program will also actively promote inter-professional education as a pathway toward improved health and health care.

The program is expected to be fully enrolled with a total of approximately 20 students in 2014-15. The first five students matriculated in the fall of 2011. These five students have strong roots in the valley. The places they call home include Fowler, Fresno, Modesto, Salinas, and Bakersfield. The group is diverse, with candidates being of Hispanic,

Pakistani, Japanese, and Filipino decent. Each has demonstrated leadership skills and a commitment to serve underserved populations in addition to a willingness to practice as a physician in the San Joaquin Valley. Each student was provided a one-time \$10,000 scholarship.

A. RECRUITMENT & ADMISSIONS

Recruitment

One of the most important early objectives of the PRIME initiative was attracting a group of applicants that met both the program's unique criteria and the overall requirements for admission to UC Schools of Medicine. PRIME faculty and staff continue to build the infrastructure and expertise to support the recruitment of well-qualified and highly motivated students. This includes development and revision of informational handouts and web materials; training of academic counselors and admissions staff to respond to questions related to PRIME programs; working with the admissions committees and staff to identify the point at which students apply; integrating the PRIME application process with the general School of Medicine secondary application process; and developing unique standards for the interview process, including the recruitment of interviewers with special expertise in the program's area of focus (e.g., interviewers at UCI who are fluent in Spanish and able to assess each applicant's language ability and commitment to meeting the goals of the program).

Active recruitment also includes year-round visits to UC campuses, California State University campuses, Community Colleges, and private Universities in the state. Faculty, staff, and students in the program have attended premedical conferences and outreach fairs in Northern and Southern California to introduce the program and to speak with potential applicants and advisors.

The PRIME websites at each campus are an important recruitment tool. Each continues to be updated on a regular basis.

PRIME-LC: <http://www.ucihs.uci.edu/PRIMELC/>

Rural PRIME: http://www.ucdmc.ucdavis.edu/medschool/rural_prime/

PRIME-HEq: <http://prime-heq.ucsd.edu>

PRIME-US: <http://medschool.ucsf.edu/prime/>

UCLA PRIME: <http://www.medsch.ucla.edu/uclaprime/>

SJV PRIME: <http://www.ucdmc.ucdavis.edu/mdprogram/sjvprime>

UC PRIME has also made a commitment to widening the pipeline for students from diverse backgrounds interested in pursuing careers in health care. In order to target high school students who may have an interest in health and science, PRIME programs are engaged in a number of K-12 outreach activities, including workshops, presentations, and visits to UC medical schools.

Admissions

The admissions processes for each PRIME program are similar, but not identical. These processes are also evolving as programs grow and as campuses evaluate their progress from year to year. Applicants to PRIME programs must first be identified and invited to submit a secondary application. Only at this stage in the process (at UCI, UCD, UCM, and UCSD) are they given the opportunity to apply to the program. Applicants selected to submit a secondary application are screened by UC admissions committees. When applicants are invited to interview for PRIME, they are provided with detailed information about the programs and have opportunities to meet faculty, current PRIME students, and other prospective students.

PRIME-LC continues to benefit from the UCI School of Medicine's conditional acceptance program. This program was instituted by the Admissions and Outreach Office to improve representation of students from disadvantaged backgrounds who have the humanistic qualities to become outstanding physicians, but who also may lack adequate academic preparation for the rigors of medical school. Applicants admitted as a conditional accept student may also be

accepted as a conditional PRIME-LC student. They take classes with the first year medical students and if necessary have the opportunity to raise their MCAT scores. If they are successful in the medical student classes and raise their MCAT scores, they matriculate with the next class of medical students. There are now four students from the conditional acceptance program in PRIME-LC, and they have done well academically and contributed significantly to PRIME-LC and their respective medical school classes.

For the fall 2009 application cycle, UCSF changed their application process to require applicants to apply as part of the secondary application process. Interested applicants were required to submit their PRIME-US essay with their secondary application. Efforts were made to have PRIME-US interview days but the demand was so high that they were unable to offer all applicants in-person interviews. In 2010, they added additional screening questions to the secondary application and returned to phone interviews to ensure equal treatment for all PRIME-US applicants.

The admissions process is different for the JMP. PRIME-US is piloting a new selection process this year. Consistent with the process in prior years, students who are interested in PRIME-US still notify the program before their interview date and submit their essays prior to interview day. However, a new Selection Advisory Committee has been formed, including JMP PRIME-US students from all three years, the JMP PRIME-US Assistant Director, and the JMP Program Administrator. Members of the Selection Advisory Committee conduct one telephone interview for each of the top JMP PRIME-US candidates referred by the JMP Admissions Committee. The Selection Advisory Committee then ranks them based on the phone interview summaries and the PRIME-US essays, and forwards their recommendations to the JMP Admissions Committee for approval before submission to the UCSF Admissions Committee for final approval. Through this new process, they hope to enhance student input and bring more parity to the overall PRIME-US admissions process while still recognizing the uniqueness of the JMP.

UCLA PRIME is different from the other UC PRIME Programs in that it has a separate admissions process from the general admissions process for the David Geffen School of Medicine. Students interested in UCLA PRIME at any of the three campuses (i.e., UCLA, UCR or Charles Drew University) apply via the American Medical College Application Service (AMCAS) using a separate code for UCLA PRIME. Applicants are evaluated by an admissions subcommittee composed of faculty from all three institutions. UCLA PRIME was one of the first medical school programs in the country to implement the Multiple Mini-Interview, a process in which students interview in relatively short, but focused sessions, with eleven to twelve faculty members who each rate candidates on a particular question selected to examine a particular characteristic identified by UCLA PRIME faculty and administrators. The Multiple Mini-Interview is now used at other California Medical School Campuses for their entire applicant pools including UCLA, UC Davis (also used for Rural PRIME and SJV PRIME), UC Riverside, and Stanford. UCLA PRIME has shared experiences and resources with the other campuses to help them develop effective programs.

Although most programs have reached full enrollment, interest in PRIME programs continues to grow and exceed program capacity. For example, UCSF receives over four times the number of applications as they have available positions. As the program expands, the demand is expected to increase significantly.

B. PRIME CURRICULA

PRIME programs are structured, five-year (MD and masters degree) programs that offer specialized education, training and support for students who wish to acquire added skill and expertise as they pursue future careers caring for medically underserved groups and communities. Although the curriculum for each program is unique, the curricula generally includes a summer orientation/immersion experience, a seminar series with site visits, clinical immersion in underserved settings, community engagement, a master's degree, and sponsored events that are open to the broader campus community. All five programs include a component for improved training and delivery of care through expanded use of telemedicine. Detailed descriptions of the curricula, by campus, are provided in Appendix A.

C. PROGRAM EVALUATION

Each program has developed comprehensive evaluation plans that include both formative and summative assessments at the curricular and programmatic levels. The goal of formative evaluation is to facilitate continuous monitoring of the

quality of the program as various components are planned and implemented. Issues concerning implementation, overall quality, and program challenges are discussed at regularly scheduled meetings of PRIME planning committees and community partner groups. The outcomes of these meetings have led to improved structure and functions.

The prospective design of most PRIME evaluation plans not only includes both formative and summative measures, but quantitative and qualitative methods as well. Data are being collected over time primarily from students, but also from participating faculty and community partners. Surveys explore predisposing factors to working with underserved populations (demographics, work and life experience), career intentions, knowledge of health and health care disparities, and attitudes towards the underserved. Summative evaluations and outcome data will be used to determine the overall effectiveness and quality of the PRIME program. Outcomes of interest include:

- Increased cultural competence – patient-centered skills and knowledge compared with the rest of the class;
- Leadership in extracurricular activities related to the goals of PRIME;
- Scholarly activities of PRIME participants including presentations, publications, academic appointments, etc. ;
- Program retention;
- Advancement of telemedicine technologies, implementation, and utilization;
- Graduate Medical Education in a specialty and program that is congruent with the goals of the PRIME program;
- Practice in underserved communities – residency locations and specialty; and
- Alumni survey to assess the degree of leadership provided by PRIME graduates – leadership in health organizations, development of programs, and health policy impact.

An important goal of the program is the development of a systemwide PRIME evaluation. A systemwide approach will enable each campus to develop both a shared and program-specific evaluation plan that will yield results that will be shared across the University and serve as a national model for innovation in medical education. By pooling data, participating campuses will have the opportunity to fully evaluate the effectiveness and impact of the program and produce high quality educational research.

Ultimately, patient satisfaction will be an important measure of the program's success in meeting the goal of providing culturally sensitive, linguistically competent physicians for diverse patients. Patient surveys will be used to evaluate patient satisfaction, comparing PRIME and non-PRIME students, and later, comparing PRIME and non-PRIME physicians.

D. OUTCOMES

The development and implementation of the PRIME-LC program at the UCI School of Medicine has been a remarkable success as they prepare to graduate their fourth class of graduates this spring. Successful implementation of the newer PRIME programs is expected as well. While the program's overall impact will require many years to fully evaluate, important gains that will have positive implications for health care in California have already been achieved. A number of changes have taken place across UC medical education programs and within their surrounding communities. The most notable changes have involved medical student recruitment, the admissions processes, and active interaction and integration between PRIME students and students enrolled in the core (i.e., non-PRIME) medical school classes. The development of the PRIME initiative has led to the first significant increase in medical school enrollment within the UC system in more than four decades. This unique program reflects innovation in medical education and is emerging as a model in California and nationally for programs committed to addressing the needs of medically underserved groups and communities.

UC Medical Students

Another major goal of the PRIME program is to inspire students to appreciate the rewards and challenges of caring for medically underserved populations. To achieve this goal, each campus continues to develop new learning

opportunities, including offering the PRIME curriculum to non-PRIME students; creating new resources and activities for interested students; and encouraging PRIME students to accept leadership roles in campus organizations.

Current PRIME students hold leadership positions in the American Medical Student Association (AMSA), Latino Medical Student Association (LMSA), Student National Medical Association (SNMA), Black Student Health Alliance (BSHA), and several others. Some students have started new organizations and coordinated several electives (e.g., Caring for the Underserved, Incarcerated Youth, and the Health Disparities Lecture Series at UCSF). PRIME students also participate in a variety of off-campus activities, including community screening events, outreach activities, and health fairs.

Increased activism/advocacy among the students in promotion of social justice and equality in health care continues to grow. For example, UCI sends the largest contingent of medical students in California to Lobby Day, where students meet with their legislators to promote policies that aim to reduce disparities. Some students have also completed internships with legislators who are health advocates.

At UCI, student interest in migration and international health has increased as a result of PRIME-LC. Nearly all PRIME-LC students have returned to Latin America after their immersion experience in Cuernavaca. Other students have worked with global health and international health organizations in other countries. This is also noticeable with respect to assessing language and cultural competence. The interest from the general medical student population for continued language and cultural competence training led to the establishment of medical Spanish as an elective course for first and second-year students. Participation has exceeded expectations with approximately 25% attendance from both classes. The implementation of the PRIME-LC program has also made possible the development of Grand Rounds (a regular series of presentations by experts in Latino health that are open to students, faculty and staff of the UCI School of Medicine, UCI Medical Center, and the larger UCI community).

UC Schools of Medicine

The program continues to have a positive impact on medical school classes throughout the UC system. The PRIME program has produced significant increases in racial, ethnic, and socioeconomic diversity across the UC medical education system. Of the 303 medical students participating in UC PRIME programs in 2011-12, nearly 60% are students who are underrepresented in medicine (UIM). This level of diversity substantially exceeds the proportion in the general classes.

Although the diversity of UC medical school classes still lags far behind the growing diversity of California's population, these increases demonstrate that PRIME is having a positive impact on the University's ability to successfully recruit a diverse group of students who are interested in providing culturally competent care to California's underserved populations.

PRIME program participants enroll in and graduate from UC campuses, but many participants elect to take the Master's year at other institutions. This popular option affords students the opportunity to work with underrepresented populations located in other geographic areas or to take advantage of degree programs and research opportunities offered at other institutions. Nearly 50 PRIME students participated in non-UC programs in 2011-12.

PRIME PARTICIPANTS* 2011-12

Fall 2011 Race/Ethnicity:	UCD **2007	UCI 2004	UCLA 2008	UCSD 2007	UCSF 2007	TOTAL
Native American/Alaskan Native	1	0	0	0	0	1
Black/African American	0	2	8	5	17	32
Mexican American/Chicano/Other Hispanic/Latino	12	39	28	14	20	113

Pacific Islander	2	0	2	0	8	12
Multiple race/ethnicity (URM)	3	2	9	0	0	14
Total URMs	18 (32%)	43 (80%)	47 (66%)	19 (39%)	45 (63%)	172 (57%)
Asian American	6	1	12	14	11	44
White/Caucasian	33	10	12	16	16	87
Other/Non-Reporting	0	0	0	0	0	0
TOTAL PARTICIPANTS	57	54	71	49	72	303

* Participants include all PRIME students enrolled both at UC and other institutions.

**Year the program was launched

UCLA hosted the third statewide PRIME conference on October 21-23, 2011. There were over 200 attendees including PRIME students, faculty, staff and invited guests. The theme of the conference was *Inspiring Change: The Role of PRIME in Redefining Medical Education During a Time of Healthcare System Transformation*. Conference participants heard from state leaders working on these issues and PRIME faculty and alumni, and received an evaluation compendium of presentations, scholarly articles, and other resources for pipeline programs that can be a useful tool for health providers involved in health policy, program development, academia, and more. Students played a major role in the conference, organizing panels, giving presentations, and leading break-out sessions. A conference website has been developed that includes the agenda, biographies, presentations and other resources: <http://apps.medsch.ucla.edu/primeconference/index.html>.

As a result of the statewide conferences, PRIME students from across the state have formed a PRIME Student Council. Each school appoints students and contributes a small amount of funding to ensure that their work on issues of diversity, health care, and community engagement continues to advance. UCD has agreed to host the next PRIME conference.

The UCI Department of Family Medicine has developed a formal residency track position as part of the PRIME-LC program. This specialized track, designed for residents with an interest in becoming leaders in Latino health, will use some of the same curricular interventions that PRIME-LC has developed. In addition, these residents will receive special instruction in medical leadership. This track will allow residents who did not attend UCI to train with PRIME-LC faculty during residency and act as mentors to PRIME medical students. There are currently four PRIME-LC residents in the program. The current applicant pool of 20 physicians for next year is highly qualified for the program and includes students from PRIME-LC. The PRIME Graduate Medical Education component will help advance the mission of the University and provides an opportunity for PRIME-LC graduates to build upon their specialized training and continue to build their leadership and advocacy skills.

Community Partners

The development and implementation of the PRIME program has also facilitated and enhanced University-community partnerships throughout the state. Community partners and preceptors are eager to work with PRIME students as a way to instill and promote awareness and respect for the community in future clinicians. PRIME is committed to developing strong and sustainable relationships with the community, and continues to seek ways to ‘give back.’ As PRIME students become physician leaders in underserved medicine, their commitment to providing health care and advocacy for the underserved will directly benefit communities throughout California.

The use of technology is an integral part of the PRIME curriculum at each school. With funding from Proposition 1D, UC Schools of Medicine have helped to equip its PRIME partner hospitals and affiliated clinics with telemedicine/telecommunication and simulation equipment to help train students and to increase access to specialty services in remote or underserved areas. As part of becoming a preceptor site, clinics and hospitals teaching PRIME students will receive training on the use of the equipment for telemedicine consultations, for teaching students, and for

accessing Continuing Medical Education. Clinicians practicing at the sites will gain access to a wealth of live and online medical research, publications, and other resources.

Impact on Medical Education within the UC System and Nationally

Building on the efforts linked to PRIME-LC, the UC Schools of Medicine at Davis, San Diego, San Francisco, and Los Angeles have each implemented new PRIME programs. As currently envisioned, pending programmatic and budgetary approval, planned enrollment growth through PRIME is ultimately hoped to result in an enrollment increase nearly equivalent to a small new medical school, with a collection of specialized programs dedicated to meeting the health needs of California’s medically underserved. Ultimately, UC PRIME programs are planning to enroll a total of approximately 60 to 80 students per campus (i.e., across the five-year curriculum), equivalent to a total increase of more than 300 new medical students systemwide. By approaching these enrollment increases through the creation of new programs, the UC health sciences system is aiming to help increase the diversity of the physician workforce to improve health outcomes in California.

At the national level, interest in the structure and goals of UC PRIME programs continues to grow within the medical education community. Based upon the growing interest in these programs and the planning undertaken within the UC system over the past several years, UC is frequently invited to present at national and statewide conferences and meetings.

II. THE SOURCE AND USE OF STATE AND NON-STATE FUNDS FOR THE M.D. PROGRAM

The core support for sustaining the undergraduate medical education or MD program is from State funds and student fee funds. In addition, the costs of clinical training traditionally have been supplemented by physician and other professional fee income and by revenues generated by the medical centers.

For the initial growth of the PRIME programs, UC requested and received the MD marginal cost of instruction for the undergraduate medical education students (MD) and the marginal cost of instruction for master’s degree students. For 2007-08, for example, at \$25,600 per MD student, the State provided \$972,000 of State General Funds for 38 MD students, and at the general campus marginal cost of instruction rate of \$10,600, a total of \$85,000 for 8 master’s degree students. Additional support for the medical program was derived from fee revenue from mandatory systemwide student fees paid by all students and from the professional fee charged to MD students.

For 2008-09, 2009-10, 2010-11, and 2011-12, however, the State budget for the University provided no new resources for the PRIME program. In order to maintain momentum in the development of this program, the University provided one-time funding in 2008-09 for PRIME expansion, and in 2009-10, 2010-11, and 2011-12, redirected funds from other sources to support the unfunded enrollment in PRIME. It is important to emphasize, however, that the University cannot continue to accommodate unfunded enrollments without State funded workload support.

BUDGETED AND ACTUAL ENROLLMENTS* IN PRIME, 2011-12

Campus	Budgeted	Actual
Berkeley	4	4
Davis	12	47
Irvine	44	44
Los Angeles	0	54
Riverside	0	8
San Diego	12	49
San Francisco	6	48
Systemwide	78	254

*Includes only students enrolled at UC campuses.

To operate the instructional program, the health professional programs require faculty, administrative and staff personnel, supplies, and equipment. Faculty requirements are determined in accord with student-faculty ratios that have been established for each profession and for each of the categories of students enrolled. The historical budgeted student-faculty ratio for medical students is 3.5:1.

Faculty salary and benefit costs constitute over half of the total expenditures for the health sciences instructional program. Instructional support costs represent approximately 42% of the budget. These costs include salary and benefits for non-faculty personnel, partial support of stipends paid to interns and residents, and supplies and equipment. The remaining 7% of the program's expenditures are for other expenses, such as a portion of malpractice insurance premiums.

A portion of the revenue from student fees is used for financial aid. As Professional Degree Supplemental Tuition for medical students increases, student financial aid for PRIME students remains a priority given the negative impact that increasing debt loads will have on UC medical students and how it influences the career paths they pursue.

UC medical schools are committed to developing new programs, such as PRIME, that will offer students new educational opportunities to better prepare them as future leaders and experts in caring for California's underserved and increasingly diverse populations. PRIME programs build upon research showing that students who enter medical school with an interest in caring for underserved communities as part of their future career are more likely than other students to practice in such communities.

During a budget crisis, the temporary solutions used for 2008-09, 2009-10, 2010-11, and 2011-12 PRIME workload increases were necessary but these are not sustainable solutions if the quality of instruction is to be preserved. Without permanent ongoing workload support, the University will consider plans to bring enrollments more into line with resources.

APPENDIX A: Overview of PRograms In Medical Education (PRIME)

California's physician workforce is vital to the health and well-being of the state's 37 million residents. As the most populous, and most ethnically and culturally diverse state in the nation, California faces unique challenges in improving access to care and health outcomes for its citizens. In both urban and rural communities, challenges associated with inadequate access to care and resulting health disparities stem from multiple factors, including geographic maldistribution of clinicians, lack of insurance, low socioeconomic status, limited English proficiency, and low health literacy. Without comprehensive strategies and focused health professions teaching programs, current health disparities will persist and likely intensify in the years ahead as the state is facing an estimated 15.9% shortfall of physicians (equivalent to nearly 17,000 physicians) by 2015. This shortage is expected as a result of rapid growth and aging of the state's population, aging of the current physician workforce, and a comparative lack of growth in medical education and residency programs in California – *including virtually no growth within UC for more than four decades.*

To help improve health outcomes and better serve patients who face limited access to care, California's health providers must acquire improved understanding of research findings pertaining to health disparities and improved skills with respect to the needs of underserved groups and communities. Health sciences graduates must be prepared and better trained to consider the cultural and socioeconomic factors, health practices, and potential environmental hazards that affect health outcomes.

UC medical schools are committed to developing new programs that will offer students new educational opportunities to better prepare them as future leaders and experts in caring for California's underserved and increasingly diverse populations. PRIME builds upon research showing that students who enter medical school with an interest in caring for underserved communities as part of their future career are more likely than other students to practice in such communities.

The PRIME programs incorporate specific training and curricula designed to prepare future physician leaders to address health disparities and improve the quality of healthcare available to all Californians. The special training ranges from enhancing cultural sensitivity to the use of telehealth technology to overcome geographic barriers to comprehensive health care.

UC Irvine

The PRIME-LC curriculum incorporates three broad components: the traditional medical school core curriculum, the "Doctoring Curriculum" (i.e., the Introduction to Clinical Medicine course, but with additional experiences in the third and fourth year), and the curriculum for the advanced degree program.

Summer Immersion Experience: Southern California and the Central Valley

After six years of providing the cultural immersion summer program in Cuernavaca, Mexico, the PRIME-LC program changed their summer curriculum in 2009. Program faculty and staff wanted PRIME students to have immediate access to the many opportunities for cultural immersion in California. The one-month curriculum combines classroom learning, community service, and field trips emphasizing successful collaborations between physicians and communities with opportunities to learn about health policy and clinical experiences with underserved Latino populations in both urban and rural settings.

Some of the curricular elements of the Cuernavaca experience were retained, such as the course taught by Dr. Socorro Torres-Sarmiento, an anthropologist from Chicano/Latino Studies at UCI, on the history, culture, and geography of Latin America. During the first three weeks of the course, the students' time is shared between her class, health training and outreach, and clinical experiences in community clinics around Orange County with majority Latino patient populations.

Students also explore the relationship between the environment and health in Long Beach to learn about models of successful community interventions. Students spend time at the Unihealth Foundation to learn how funding agencies operate and how they may help meet future needs. They also complete a half-day media training. More than half of the students used this experience in live media interviews before the end of the summer program.

The final week includes five days of working at UCSF-Fresno. The students complete a variety of assignments – clinical practice, teaching children in a migrant housing complex, speaking with kids involved with the Doctor’s Academy at the Latino Center for Medical Education and Research, and understanding the challenges and opportunities of rural medicine for Latino populations. The students also spend two days in Sacramento where they learn about health policy and the legislative process. Students have the chance to participate in direct advocacy by participating in legislative visits with state policy makers and the Governor’s office. After returning to Irvine, students completed their required community projects and made presentations on the final day of the summer experience.

Although the summer experience will no longer take place in Cuernavaca, students will still have access to educational opportunities in Latin America. UCI has plans to offer a fifth-year rotation in Latin American countries, which focuses on clinical and community health. Postponement of this experience to the fifth year will allow students to gain more from working with Latino physicians, and is likely to have a greater impact on their understanding of Latino and border health issues. Implementation of this component is expected to begin in 2013-14.

After the summer, all students meet with faculty in a debriefing session to determine the extent to which the overall objectives were accomplished. The evaluation session for the summer program is an important component of overall program evaluation. Although the program was concerned about the students’ opinion about the new curriculum, the feedback was extremely positive. However, this feedback was used to improve the experience in 2010 and those improvements were reflected in stronger evaluations overall. The immersion experience has proven to be a unique learning experience that builds on the linguistic and cultural competence that PRIME-LC students possess upon matriculation to the program.

The PRIME-LC curriculum is comprised of six components:

- The traditional medical school courses
- Additional courses modified to include content addressing the PRIME-LC goals. For example, the PRIME-LC Clinical Foundations (formerly Patient-Doctor) course series and Problem-Based Learning sessions integrate material specific to treating Latino patients, and the standardized patients communicate in Spanish.
- New courses specifically designed for PRIME-LC that, in addition to the material taught during the summer immersion experience, include courses developed by the Department of Chicano/Latino Studies in the School of Social Sciences.
- Master’s degree
- Electives focusing on the PRIME-LC objectives are continuously being developed. Practical experiences working with California legislators, grassroots organizations, border experiences, and international experiences are examples of electives that have proven popular among the students.
- Scheduled extracurricular activities, such as student gatherings with a moderator to discuss books and other material. In addition, leaders from health care and other disciplines are invited to these sessions as guest speakers as part of or in addition to the PRIME-LC Grand Rounds. Heads of industry, managers of philanthropic foundations, scholars in Latino Studies, and representatives from community-based organizations are examples of those who have participated. These meetings provide opportunities for students to strengthen their relationship previously established during their early experiences together and to network with all students in the program and invited speakers.

In the second year, students have a twelve-week community based primary care experience. They work with a community faculty member in his or her practice to enhance history-taking and exam skills. These experiences include exercises in cultural values, spirituality, ethics, nutrition, pain, humanities, and geriatrics. PRIME-LC students work primarily in Spanish-speaking practices.

Early in the second year, the Chicano/Latino Studies experience begins. Taught by UCI faculty in the Chicano Latino Studies department, this experience focuses on the history, politics, medical and cultural beliefs, and life experiences of Latinos living in the U.S. and in Latin America. Originally scheduled for initiation in the third year, it became apparent that it should begin in the second year to build steadily on the cultural immersion experience. Courses teach students to integrate cultural health care models to provide optimal clinical care to Latino patients. Students are invited to participate in seminars to discuss contemporary issues in Latino health.

PRIME-LC students are required to obtain an additional graduate degree. The Master of Public Health (MPH) degree is the most popular choice. Students have also either completed or are in the process of completing their Master of Business Administration (MBA) and Master of Public Policy (MPP). The program works closely with the Directors of these degree programs to ensure their compatibility with the students and the mission of PRIME-LC.

UC Davis

Rural-PRIME is an “integrated” track within the UCD School of Medicine. Students take the same lectures and classes as the general class each year. All students will receive an MD and will also complete a master’s in year four of the five-year curriculum, in Public Health, Health Informatics, or a related healthcare subject area. The primary difference for Rural-PRIME is that the course content of the general curriculum integrates rural contextualization and infield experiences. For example, Doctoring (a course to introduce students to the clinical curriculum and to model physician-patient interaction) has been modified to have a rural focus; the Primary Care clerkship in year three will be at rural centers of excellence; and a voluntary seminar series is available to Rural-PRIME students to learn more about health issues in rural and underserved populations.

In 2011, the program conducted a series of strategic planning sessions around areas such as curriculum, student affairs, and partner development. The ensuing discussions and peer consultations with two other, more established rural medical education programs, have contributed to the development of competency-based curricular requirements. The educational objectives of the Rural-PRIME program are similar to those of the core graduation competencies, with the addition of the following competencies specific to future rural physicians:

Patient Care

- Understand the evaluation and treatment of common disorders given limited resources, including limited access to specialty care
- Obtain a thorough history; perform a complete and thorough physical exam in order to evaluate a patient in a low resource setting
- Understand the procedures commonly performed in the primary and urgent care settings in rural areas

Knowledge

- Be familiar with medical disorders encountered in rural settings which are not commonly seen in urban areas
- Understand the social determinants of health that impact rural communities

Professionalism

- Understand the nuances of dual relationships with patients often encountered in a small community
- Understand socio-cultural issues, including issues of isolation, particularly for minority groups, that impact health care in rural communities

Systems-Based Practice

- Understand the use of technology in the provision of medical care in rural communities and demonstrate skill in application of technology in patient care
- Work effectively in health care teams in the rural setting

Life-Long Learning

- Be familiar with reliable resources available to rural health care providers for the application of evidence-based medicine and up-to-date practice guidelines

All Rural-PRIME students participate in a special two-day orientation, which provides an overview to the basic concepts of rural health care and early exposure to rural life and health care services. The orientation includes both lecture and hands-on experiences in a range of topics:

- Rural-PRIME curriculum and master's degree options
- Rural models of health care delivery and rural case discussions
- Applications of telecommunication and simulation technologies in learning as well as increasing access to medical care for rural patients

In 2011, the orientation included a site visit to a partner rural clinic: Plymouth Clinic, in Plymouth, CA. Students took a tour of the rural clinic and had the opportunity to ask questions of the physicians and staff working there. Following the clinic visit, the students traveled to Sutter Amador Hospital in Jackson, CA. There, students took tours of the hospital facilities and met with several of the lead teaching faculty. They also had an intimate discussion with the local Public Health Officer regarding the challenges of rural health care, the structure of the hospital and the local patient population. The CEO of the hospital met with the students to discuss the logistics of rural health care and how the hospitals and clinics operate.

In addition, during orientation, students have the opportunity to meet with rural practice faculty instructors who will advise them and follow them throughout their medical school experience. The longitudinal Doctoring course, which begins in the first year for all medical students (Doctoring 1), affords Rural-PRIME students the opportunity to work with rural practice faculty instructors who teach portions of the course both in the classroom and in rural practice settings.

Classes modified to have a rural focus help students obtain the same core knowledge and skills as the general medical school class but use case studies to highlight rural themes, use of technology, distance learning, and public health. Through the infield experience in Doctoring 1, Rural-PRIME students are exposed to migrant and other underserved populations in community-based clinics. Students are also introduced to the use of telecommunication technology in the practice setting and as a tool to connect with faculty, the classroom, and fellow students.

In 2009-10, the curriculum was changed so that first and second year students (versus only second year students) receive skills-based training sessions in the UC Davis Center for Virtual Care. The exposure is double that of previous years and overall, translates into PRIME students having four to five times the amount of simulation training received by the students in the general class. Under the expert tutelage of the nurses and administrators at the Center, the students learn to use simulation technology to mimic real-life situations, learn basic skills such as suturing, and hone their ability to make logical decisions in crisis situations. A faculty member oversees the process, helps with the training, and creates real-life "scenarios." These skills-based sessions are meant to increase preparation for third-year clinical rotations (clerkships).

Doctoring coursework follows a similar implementation plan in the second year of the program (Doctoring 2), and combines required core courses with increased exposure to rural practice. It focuses on advanced clinical skills, epidemiology, ethics and problem-based assessment. Rural-PRIME students also focus on population-based health, are exposed to rural inpatient practice, and continue to use telecommunication technology as a clinical and educational tool. Another recent change to the curriculum is the additional training in the use of telecommunications technology for distance learning and telemedicine. Students are trained to become familiar with the operations of the equipment,

with use of peripherals such as a general exam camera, and with telemedicine protocol. As they become proficient in the basics of videoconferencing, they become more confident about the prospect of their third year, when they will be “beaming” back to their didactics sessions at UC Davis several times a week.

Third-year Rural-PRIME students follow the same clerkship rotations as traditional students, but will receive a portion of their training in rural clinical settings for at least 16-20 hours per week. In 2011, Rural-PRIME’s third year cohort completed their core clerkships in Primary Care, Pediatrics, Ob/GYN, Surgery, and Internal Medicine. The rural psychiatry clerkship was discontinued due to a lack of suitable sites, housing, and sustainability. These students are still completing their clerkships at rural hospital and clinics around Northern California and the Central Valley. Rural-PRIME completed a rigorous selection process for their rural partner sites.

The Rural-PRIME partner sites for 2011-12 are:

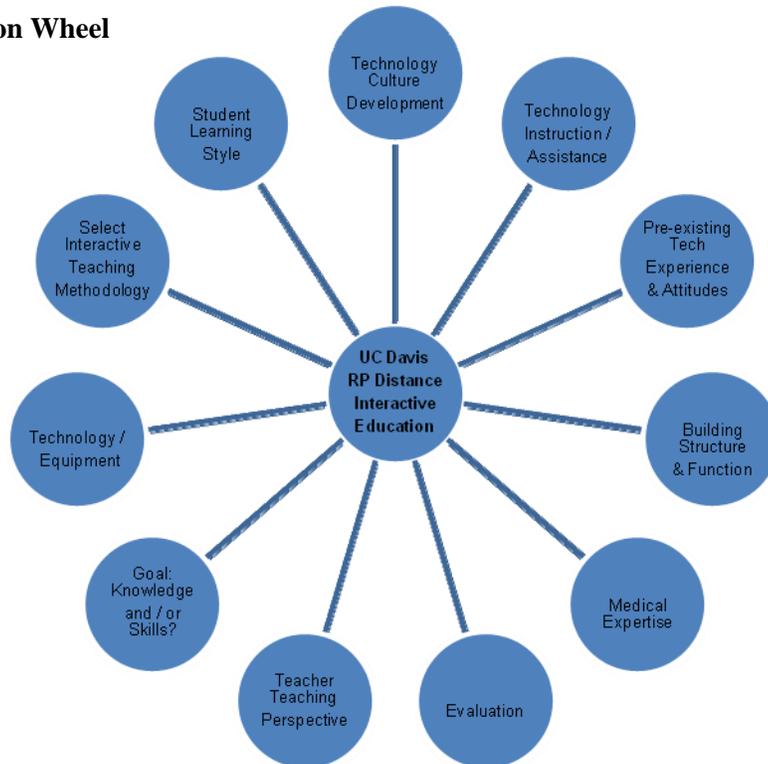
- Tahoe Forest Hospital, Truckee, CA
- Sutter Amador Hospital, Jackson, CA
- Shasta Community Health Center, Redding, CA
- Mee Memorial Hospital, King City, CA
- Oak Valley Hospital, Oakdale, CA
- Communicare Health Centers, Davis/Woodland/Sacramento, CA

Feedback from the rural rotations continued to be very positive and enthusiastic, citing the high level of hands-on experience that comes with being part of a smaller team and often the only student with the attending physician. Students were also impressed with the hospitality and goodwill shown them by administration, staff and patients at the rural sites.

Telemedicine and video-conferencing equipment, funded by Proposition 1D, has been purchased and deployed at the sites in Jackson, Truckee, Davis (Communicare), Woodland (Communicare), King City, Redding, and Oakdale. This equipment is also used for attending departmental grand rounds and supervision by instructors on case loads. Clerkship coordinators, faculty, students, and rural site personnel underwent training to make the connection seamless. The distance education component has saved an enormous amount of travel and “lost” clinical time, has allowed the students to experience the benefits of real rural immersion versus commuting, and has allowed the rural sites to access Continuing Medical Education for their medical and nursing staff.

Weekly didactics are featured in the new *distance interactive medical school education program* (see *Distance Education Wheel below*). The didactics are delivered at a distance via telemedicine with interactive methods at multiple sites simultaneously. This new field includes many diverse areas of medicine, technology, and pedagogy: technology culture development, technology faculty instruction, measurement of pre-existing experience with teleteaching, building and facility restructuring with technology installation, instructor medical expertise, instructor teaching perspectives, student learning styles, methodology fitting the goals/objectives, and modified evaluation. Distance learning began in July 2009 and has continued through each cohort’s clerkship year. They have continued to build this culture during 2010-11, with advanced web streaming software installed last spring in the SOM.

**Rural-PRIME
Distance Education Wheel**



In 2008, the School of Medicine at UC Davis relocated to a new state-of-the-art facility in Sacramento, on the health system campus. The new building has “smart” classrooms and distance learning capabilities that will result in a unique learning experience. These technologies will allow the Rural-PRIME students to get the most out of their rural immersion experiences and enable them to access resources available to the School of Medicine. On returning from rural clerkships, students will use the Center for Virtual Care to enhance their exposure to more complex diagnostic and treatment processes and to supplement their rural practice experience. UC Davis telemedicine resources will also provide on-site and remote Continuing Medical Education training for instructors who participate in the Rural-PRIME program to ensure that the educational objectives are achieved and the learning experience is maintained at a consistent level.

During year four, Rural-PRIME students will be engaged in the pursuit of a master’s degree in Public Health, Health Informatics, or a healthcare related subject area unless they had applied for and received an exemption. Those students who chose to pursue a Master’s have chosen a Master’s in Public Health while others have chosen to pursue to research during that year. Current third year students have completed their Masters’ applications and are awaiting replies.

Year five will be a clinical year where students will engage in a number of clinical electives based in their interest. Select specialties have volunteered to design rural rotations at clerkship and other rural hospital/clinic sites such as Indian Health. During year five, medical students will partner with Family and Community Medicine residents at rural sites.

The role of advising and mentoring Rural-PRIME students has consistently been communicated as a vital one as the planning team has developed the curriculum and kept faculty updated. In the early stages of the planning process, research from other programs across the country showed that mentoring at various levels is crucial in keeping the students focused on their studies, doing well, and passionate about going back to rural areas to practice.

Rural-PRIME students receive advising in several dimensions. In addition to traditional advising, students also attend seminars in the Office of Career Advising approximately once per month. This makes graduate group faculty available to them, and provides the opportunity for discussion about the master's component of the program. Mentoring occurs through rural physician preceptors. This provides the students with a deeper understanding of rural practice and leadership, both through their course work and patient care experiences.

UC San Diego

The PRIME-HEq curriculum is a five-year dual degree program that offers students the flexibility to examine health equity in a particular area of interest consistent with the Healthy People 2010 goal to eliminate health disparities among all segments of the population. While significant strides were made in the first decade of the twenty-first century, there is still much work to be done. In recognition of this, Healthy People 2020's overarching goals include the achievement of health equity, elimination of disparities, and improvement of health for all groups. At UC San Diego School of Medicine, PRIME-HEq is well positioned for this.

The main goals of the PRIME-HEq are to increase the number of clinicians, research scientists, and advocates working to improve minority health; create a diverse community of scholars that will develop, disseminate, and apply new knowledge about health disparities and minority health; and promote multidisciplinary university-community partnerships to help improve equity and eliminate disparities in health care delivery. Medical students match their interests, backgrounds, and expertise to the scholarly pursuit of reducing disparities in health. All students participating in PRIME-HEq receive a broad-based preparation in the clinical, research, and health policy arenas. This preparation occurs through the five primary components of PRIME-HEq:

- Participation in a series of courses that address health disparities and health equity
- Engagement in community activities with underserved and at-risk populations
- Completion of an Independent Study Project (ISP) as part of a Master's Degree program
- Quarterly meetings with PRIME-HEq Director
- Ongoing reflective practices (debriefing with PRIME-HEq Director)
- Mentorship meetings in preparation for the Master's Degree

PRIME-HEq students may obtain a master's degree in any discipline, including, but not limited to Public Health, Leadership of Healthcare Organizations, Bioengineering, Advanced Studies in Clinical Research, Business Administration, or Advanced Studies in Law and Medicine.

The PRIME-HEq curriculum's primary aim is to ensure that all graduates of the PRIME-HEq program have the knowledge, skills, and attitudes necessary to become clinicians, researchers, and advocates fully committed to finding solutions to eliminate disparities in health care. Although developed for PRIME-HEq students, the PRIME courses are open to all students enrolled in degree programs in the health sciences. The first three courses are integrated into the preclinical years:

From Genes to Communities: Influences on Health is a course that addresses health care equity. Using a variety of methodologies, this course examines some of the influences on health ranging from genetic inheritance to the environment. In addition, the concept of health equity is introduced, with a discussion of health care system models that may either increase or decrease health equity in a given population. The course includes the opportunity for students to hear stories from people from varied backgrounds about their health.

Beyond the Bench and Bedside: Partnering with Communities provides an overview of community-based quantitative and qualitative research methods, and includes a review of selected "best practices" for community assessments and program planning. The course is designed to provide students with the knowledge and skills to partner with communities to conduct and evaluate community-based research, and design and conduct program evaluations of community programs.

Healthy Minds, Healthy Bodies: In partnership with an urban public high school, this course was developed as an outreach opportunity where PRIME students teach a longitudinal health curriculum, established to address the six urgent health topics identified in the most recent Youth Risk Behavior Survey (YRBS) 2007. The PRIME-HEq students teach this curriculum monthly, and have recently added an interactive component to it. The high school students will visit the UCSD School of Medicine, where they will have the opportunity to be a “doc-for-a day.”

As a result of the new Integrated Scientific Curriculum (ISC) at UCSD School of Medicine (fall 2010), students are provided with more extensive clinical experiences in the preclinical years. Their first and second year PRIME students have been specifically paired with preceptors who care for patients in underserved communities during their Ambulatory Care Apprenticeships (ACA). Students in their third year of medical school are required to have a longitudinal primary care experience. PRIME students are assigned to a community-based clinic for their experience or they may choose to remain with their ACA preceptor.

A *Health Policy and Advocacy* course is now available through UCSD Extension for PRIME students who return to complete their final year of medical school. Students have the option of doing the advocacy portion in Sacramento or Washington, D.C. Leadership is at the forefront of their curricular experiences; therefore all PRIME-HEq students are encouraged to participate in the new School of Medicine leadership elective, *Leaders in Medicine*. Several of the PRIME students participated in this year’s Lobby Day for Single Payer Healthcare.

PRIME-HEq is continuing to expand opportunities for students to work and become engaged in the community. PRIME students continue to be involved in UCSD’s three Student-Run Free Clinics, mentor students in various programs, and continue to have strong collaborations with programs developed for disadvantaged students on the undergraduate campus. PRIME continues to partner with the UCSD Center for Community Wellbeing (CCW), a multidisciplinary group whose main goal is to improve the education, health, safety, and economic and social development in underserved communities of southeast San Diego. UCSD is now a “field station” in this underserved community, and is now working on a nutrition curriculum for disadvantaged middle and high school students who attend one of the main career centers in this community.

In addition to understanding the importance of community engagement activities, students understand and are fully committed to scholarly endeavors. PRIME students are involved in numerous research projects which focus on disparities, including, but not limited to, a large asset mapping project of several San Diego communities which was completed last year. Other areas of disparities research in which students are involved include trauma outcomes in elderly minority patients and pediatric injury outcomes in minorities in California.

PRIME-HEq builds on the foundation of excellence in research, clinical care, health promotion, disease prevention and health care advocacy that exists as part of the university-community partnerships between UCSD, San Diego State University School of Public Health, and the Council of Community Clinics network in San Diego. Training in community clinics reinforces culturally effective care practices and will allow PRIME-HEq students to participate in the care of underserved and at risk populations as they become skilled physician healers. Exposure to health policy and advocacy will train the students to become skilled physician advocates who will be able to promote change in the health care system to improve the health status of underserved populations. These concepts will be reinforced during coursework, clinical experiences, faculty meetings, and self-reflection activities.

UC San Francisco

The PRIME-US curriculum includes a summer introduction, a core seminar series with site visits, clinical immersion, community engagement, a master’s degree, a capstone experience, and open events. Longitudinal themes on leadership and community engagement incorporate evidence-based competencies and critical reflection. A strong mentorship and support program ensures personal and professional success.

Summer Orientation

PRIME-US students arrive early for a stipend-supported orientation experience that includes visiting community-based organizations, learning about underserved care, and getting to know one another. Students are asked to explore

personal, professional and program goals to facilitate peer bonding and enhance program development. They are introduced to key faculty members at UCSF and the JMP, as well as institutional resources and support services. They attend talks on health disparities and vulnerable populations, and visit a variety of community organizations in San Francisco and the East Bay. To learn about community engagement and critical reflection, students participate in a community assessment walking tour of the Tenderloin District and Oakland followed by a facilitated reflection session. At the end of orientation, the PRIME students and faculty serve lunch at a large food kitchen in the Tenderloin District to demonstrate their commitment to service learning.

Seminars and Site Visits

Regularly scheduled afternoon seminars provide students with a solid foundation in the principles, practices, and populations of urban underserved care. In small group settings, students meet with faculty and community members to discuss their work and careers in underserved care. Topics include at-risk youth, prison health, legal issues, public health, and more. These interactive teaching sessions are complemented by field trips to community-based organizations and institutions. Some activities are held at one of the campuses, while most are held in the community. Seminar guests are invited faculty and community experts who are encouraged to present their work in a manner that engages the students. Guests are also asked to share their career path stories, offering the students an opportunity to hear how others have pursued their goals. While most seminars are specifically for PRIME-US students, other activities are open to all interested students at UCSF and the JMP. Leadership competencies such as negotiation, public speaking, advocacy, and media skills are incorporated into the seminar series.

Clinical Immersion

Clinical immersion experiences in PRIME-US provide students with a valuable opportunity to work directly with underserved communities, learn about the systems of care in a variety of settings, and meet physician role models. Their presence in these settings also creates a pipeline, providing opportunities for community clinics and public hospitals to cultivate their future workforce. The clinical component of PRIME-US includes preceptorships and clerkships rotations.

All students at UCSF and the JMP participate in preceptorships. PRIME-US students, however, are specifically placed with a physician role model in community-based clinics for the first two years of medical school. These longitudinal placements enable students to understand the clinic structure and public health system; develop relationships with clinic staff, physicians, and patients; and learn about direct patient care in community settings. In addition to clinical goals and objectives established by UCSF and the JMP, PRIME-US has additional preceptorship goals. Students are expected to spend extra time at their preceptor sites to help fulfill the following goals:

- Work directly with urban underserved patients
- Learn about the clinic and health care system
- Explore the community
- Practice cultural/linguistic competence
- Form longitudinal relationships with patients
- Work with a role model
- Find inspiration

PRIME-US students in their clerkship year participate in the same clinical rotations as their non-PRIME peers, but have the opportunity to complete at least some of their rotations in underserved settings. Students often select placements at the local county hospital (San Francisco General Hospital) or at UCSF-Fresno hospitals, all of which offer a wealth of experiences to meet the goals of the program and interests of our students. During this year, most students also participate in a Longitudinal Continuity Experience where they can gain exposure to a field they want to explore in more depth, including subspecialty medicine. PRIME-US seminars are offered during the UCSF intersession curriculum and additional evening events provide an opportunity to discuss challenges of caring for underserved patients, access like-minded peer support, and obtain career mentorship.

Community Engagement Program (CEP)

Community engagement activities are incorporated into all aspects of PRIME-US. The goals of the CEP are to:

- Provide a framework for working effectively in partnership with urban underserved communities building successful and sustainable partnerships
- Develop opportunities to work with communities on short-term service learning activities and longitudinal projects
- Promote critical thinking and reflection on experiential learning activities

Student objectives are to:

- Learn ways to define community
- Learn and practice the core principles of community assessment
- Understand principles of cultural humility
- Understand purpose of community-campus partnerships
- Identify and apply core principles of service learning
- Understand the impact of historical and current social determinants on health disparities
- Create and reflect on a personal vision for community engagement

Community engagement is “wrapped around” all components of the PRIME-US curriculum. Seminars and site visits introduce students to community experts and leaders, providing them with an opportunity to learn directly from those working and advocating for the underserved. Preceptorships and clerkships also provide an opportunity for students to engage directly with community-based organizations, health care providers, and patients. In addition to the CEP goals and objective listed above, evidence-based competencies enable students to reflect on their activities and evaluate their progress.

Master’s Degree

An extra year of graduate study is included in the PRIME-US curriculum. All JMP students complete a Master’s of Science during their first three years, while UCSF students will explore a variety of master’s degree opportunities (e.g. public health, public policy) between their third and final year. PRIME-US has worked closely with the UCSF liaison to the UC Berkeley MPH program and secured additional spots for their students, but PRIME-US students can also pursue master’s degrees at other institutions. This year, three PRIME-US students will complete their MPH at UC Berkeley, one at Harvard, and one at Johns Hopkins. According to PRIME-US policy, students who have already completed a master’s degree or equivalent experience can request a waiver. Student facing extreme financial hardship may also apply for a waiver.

Capstone Experience

This year, UCSF revised their Capstone Course based on student feedback as students wanted a more targeted curriculum that would build on the knowledge and skills already obtained in PRIME-US, provide more engagement with community partners, and allow for bonding time with their PRIME peers. Several students participated in a working group to revise the course.

In this month-long course, PRIME-US students review the core principles and practices of underserved care, acquire new leadership skills, and work together on community-based projects. As the culminating curriculum for PRIME-US, this course provides students with the opportunity to design, implement, and evaluate a project; partner with a community-based organization; develop skills in organizational leadership and systems-based practice; network with physician and community leaders; and reflect with peers. The Capstone Course is required to complete the program. However, if PRIME-US students choose to enroll in one of the UCSF Pathways to Discovery, they may substitute a fourth year Pathways course for this requirement.

The Capstone Course divided students into two groups to work on community service learning projects. PRIME-US leadership worked with community partners ahead of time to identify projects of interest and develop a framework for the work to be done. Early preparation enabled students to maximize their contributions to the organization. The first project was with Mentoring in Medicine (MIM), a non-profit health careers outreach and pipeline program in Oakland. PRIME students worked with youth participants to create an online e-Health curriculum. The project included

conducting focus groups, reviewing and researching content, and teaching and mentoring MIM participants. The second project was the Peralta Health Initiative. This project offered students the opportunity to work closely with the Asian Health Services school-based clinic at Peralta Community College as well as with the college administrators to evaluate mental health service needs on campus. During the last week of the course, each group gave a formal presentation about their projects to PRIME-US leadership and their community partners.

Open Events

When PRIME-US was first launched, students were very concerned about excluding their peers who were interested in underserved care. Responding to their concerns, popular activities were repeated and some PRIME-US seminars were opened for all students. UCSF sponsors electives, co-sponsors events, and provides mentorship to non-PRIME students on community engagement projects and career development. This year, the JMP saw the revival of the popular JMP Underserved Seminar series offering a public health perspective on health disparities and health equity.

UC Los Angeles

While UCLA PRIME students will receive the same general four-year M.D. program instruction as students in the core medical program, their experience is augmented by activities and electives that will provide them with experiences to further their goals of clinical care, research, or health policy. All will develop expertise in aspects of telemedicine by having experience in a robust clinical telemedicine program. Although all students will have exposure to telemedicine, the PRIME students will have greater breadth and depth than non-PRIME students.

During a three week pre-matriculation program, UCLA PRIME students are presented with an examination of traditional models of leadership, given the opportunity to identify a group project designed to help in a disadvantaged community, and serve as mentors for undergraduate students who are participants in the Summer Medical and Dental Education Program (SMDEP), a national program funded by the Robert Wood Johnson foundation.

The faculty have developed new courses and activities to supplement existing courses – Caring for the Underserved in Los Angeles, Health of the Latino Population, Medical Spanish, Salvation Army Homeless Clinic, Immersion Experience in Cross-Cultural Medicine, and Healthcare Delivery in Nontraditional Settings. New courses include:

- Tele-health Program: Introduction to information related to basic telemedicine such as video conferencing; utilization of a “smart classroom” and technology links with community clinics or affiliated sites to increase patient access to care
- Tele-Education: This selective will increase students’ experience in the planning and implementation of teleconferences from across the UCLA system of affiliates on topics relevant to health care disparities and care of the underserved
- Student Operated Homeless Clinic: Located in Riverside, this clinic is currently a volunteer activity that will be transitioned to a service-learning selective

Students participate in a Summer Immersion Experience after the first year. They will have the opportunity to choose from a service-learning program, a research project with a faculty member conducting studies related to underserved populations, Spanish language and culture immersion programs, or administrative fellowships with UCLA Health Systems Leadership. All UCLA PRIME students present a poster about their experiences at the annual Short Term Training Program Scholarship Day.

During the second year, opportunities for all students to learn about health care needs of underserved communities will be increased through existing weekly problem-based learning (PBL) sessions. PBL cases will be developed that emphasize issues related to underserved populations in both rural and urban settings. PRIME students will be expected to share their experiences and knowledge with other students in their groups and become the “expert” on health disparities in these sessions. Eventually, second year PRIME students will be expected to design PBL experiences for first year students.

Students will have access to the clinical clerkships that are currently offered at UCLA and affiliated sites for third year students. PRIME students will be required to have their clinical clerkship experiences in one of the affiliated County hospitals or the VA hospital. They will also be assigned to the LA County Hubert Humphrey Clinic, Inland Empire and Imperial Valley sites, or one of the Venice Family Clinic sites. These sites will be equipped with telemedicine technologies. Clinical preceptors will be identified to provide longitudinal experience for PRIME students in medically underserved areas in specialties of their choice. Students will have clinical opportunities during core rotations in pediatrics, psychiatry, and surgery/surgical subspecialties to work in settings where tele-imaging, tele-pathology, tele-dermatology, tele-psychiatry, and/or tele-ophthalmology are available.

Students enrolled in the PRIME program are required to obtain an advanced degree during the fourth year in which they will develop a project related to helping improve healthcare for disadvantaged/underserved Californians. This additional educational experience will prepare clinician leaders who will be advocates and activists in underserved communities. With opportunities to develop expertise in academic medicine, public health, health care disparities research, public policy, telemedicine, clinical informatics, and other related fields, PRIME graduates will be knowledgeable about various ways to influence change with regard to California's health systems. Opportunities will also be available for students to obtain work experience that will advance their knowledge and leadership skills in health policy and advocacy for medically underserved communities. Students will be expected to design and implement a research project that will meet the criteria for a thesis.

In addition to the currently offered clinical electives, PRIME students will have required selectives during the fifth year. Proposed selectives may include Telemedicine in Psychiatry; Clinical Informatics; joint selectives in business/medicine, public health/medicine, or law/medicine; and clinical experiences in telemedicine programs such as tele-emergency department consultation, tele-stroke, pediatric tele-psychiatry, tele-imaging, tele-dermatology, tele-pathology, and more. Students will be required to participate in Senior Scholarship Day in a special section devoted to care of vulnerable populations. Presentations and posters will provide an opportunity for members of the entire medical school class to learn about the needs of the underserved and the outcomes of targeted interventions.

UC Merced

Elements of the pre-clinical curriculum include a UCDSOM pre-matriculation program, an orientation tailored to the San Joaquin Valley, the PRIME seminar series, a two-year longitudinal community clinic preceptorship, inter-professional learning, a hospice experience, a community-engaged research project in the San Joaquin Valley, and the Summer Institute on Race and Health.

Summer Orientation

All SJV PRIME students participate in a four-day orientation hosted by UC Merced in collaboration with UCSF Fresno and UC Davis. The SJV PRIME orientation precedes their regular medical school orientation and provides an overview to health care and healthcare access in the San Joaquin Valley. Students also meet community partners and faculty partners who will be involved in the program as it develops.

The orientation includes presentations, discussions, and experiences covering a variety of topics:

- Opportunities for team-building
- Service learning
- Determinants of health care in the valley
- Research on health disparities in the valley
- Efforts underway to improve health care access in the valley
- Residency program at UCSF Fresno

The first SJV PRIME orientation was held July 18-21, 2011 in Merced, Fresno, and other surrounding communities. The orientation successfully met the goals of bringing the cohort together and learning about building healthy communities in the San Joaquin Valley while also introducing them to stakeholders/partners and further reflecting about the future.

Curriculum Overview

The SJV PRIME students spend the first two years of medical school at the UC Davis School of Medicine (UCDSOM) and the second two years in the San Joaquin Valley. For the third year, clinical curriculum will take place at UCSF Fresno. During the fourth year, students can choose clinical rotations throughout the San Joaquin Valley, with locations still to be determined. Students are encouraged to take a fifth year to pursue a Master's degree in a program of their choice. They must successfully complete all UCDSOM curricular elements in addition to the UC Merced SJV PRIME curriculum.

Table 1: Distribution of activities for the five-year UC Merced San Joaquin Valley PRIME

Medical school year	Description	Location
1	Pre-clinical courses	UC Davis School of Medicine
2		
3	Clinical rotations	UCSF-Fresno and San Joaquin Valley sites
4		
5	Master's degree	Various locations per student choice

Figure 1: UC Merced San Joaquin Valley PRIME Logic Model: The figure outlines the inputs, outputs, assumptions and external factors that will lead to expected outcomes for the program graduates.

Program: UC Merced San Joaquin Valley PRIME Logic Model

Situation: To increase the supply of highly qualified diverse physicians in the San Joaquin Valley

Inputs	Outputs		Outcomes -- Impact		
	Activities	Deliverables	Short (1-3 yrs)	Medium (4-6 yrs)	Long (7-10 yrs)
Support from UCM, UCD, UCSF-F Faculty time -Outreach -Curriculum -Oversight -Didactic -Clinic faculty Administrative support Evaluation team	Interview students Plan curriculum: -Pre matriculation -Orientation in SJV -Longitudinal community clinic -Inter-professional experiences -Quality workshops -Disparities workshops -Home hospice visits -Site visits to residency programs in SJV -Community-based research -Outreach activities Plan MS3-4 yrs in SJV Create an evaluation plan	Enroll 6 students/yr -detailed curricula -# enrolled in pre-mat -orientation schedule - # of clinic visits - # and type of workshops, nurse care-a-longs - # of workshops given by UCDSOM, UCM, UCSF-F - # of hospice home visits - post hospice visit survey and writing exercise - # site visits - # of workshops/events in community research -# of outreach activities Commitment from UCSF-F for MS3 year # of sites available for MS4 year Evaluation plan/yr	Increase in the # of applications to SJV Compare selected knowledge, skills and attitude deliverable to non-SJV UCD students: -Performance on CPX -Performance in clinic -Satisfaction with clinic visits -Satisfaction with hospice visits -Increased comfort with end-of-life care	SJV graduates choosing residencies in SJV Increase in UIM students at UCD	SJV graduate physicians practicing in SJV SJV graduate physician leaders in SJV Increased # of collaborative projects between UCDSOM and community UCDSOM

Assumptions:

The program will identify diverse students committed to practicing in the San Joaquin Valley and prepare them to be leaders in quality health care.

External Factors:

LCME guidelines
 UCDSOM curriculum guidelines
 Need for sustained funding

Pre-clinical Year One

The SJV PRIME curriculum is an enhancement to the UCDSOM curriculum. That is, the students must successfully complete all UCDSOM curricular elements in addition to the UCM SJV PRIME curriculum. Each element is detailed below in Table 2.

Table 2: The UC Merced San Joaquin Valley PRIME Curricular Map for Pre-Clinical Year 1

July	August-May
Pre-matriculation program and SJV Orientation (2 weeks)	Community Engaged Research (1 workshop, 1 optional site visit in SJV)
	Hospice (1 lecture, 1 workshop, 3 home visits)
	Interprofessional Learning (2 workshops, 1 bedside shadowing experience, 2 book clubs)
	Longitudinal Community Clinics (0-1 per month)
	PRIME and Health Care for the Poor and Underserved Seminars: Community Engagement, Leadership, Health Equity (1 per week)
	Doctoring 1
	UCDSOM Curriculum

The *prematriculation program* is a 10-day intensive academic program for students matriculating to the UCDSOM. Approximately 25 students participate in a sampling of UCDSOM first year classes, including anatomy, physiology, and biochemistry. The cost for the program is \$500 per student. In 2011, four of the five SJV PRIME students participated. In the future, all PRIME students will be expected to participate.

Immediately following prematriculation, the SJV PRIME students participate in an orientation tailored around healthcare in the San Joaquin Valley. In 2011, the four-day orientation was held at UC Merced, UC San Francisco at Fresno, and in communities throughout the valley. Activities included meetings with faculty and community leaders, service-learning at the Modesto Salvation Army, and clinical shadowing at UC San Francisco at Fresno.

The *PRIME seminars* occur weekly during the lunch hour. These seminars were originally developed for UCDSOM Rural PRIME and have been modified to include the SJV PRIME students. The year-long seminars are divided into topical blocks addressing the following topics: community engagement, leadership, telemedicine, and health equity. For the 2011-12 academic year, students participated in the first six months of this course. While this course will remain optional for the second six months, students will enroll in the family and community medicine course, *Healthcare for the Poor and Underserved*. This undergraduate course is telecast to the UCDSOM each winter and spring. SJV PRIME students are coordinators for the course.

The *longitudinal community clinics* take place up to two half-days per month. These clinics replace and add to the UCDSOM preceptorships (four required clinic experiences over the course of the first year of medical school). They have enhanced this requirement with more clinic visits, continuity of primary care provider role models, and placement of students into the same site. In 2011-12, four of the five students have their clinics at Kaiser Permanente Point West clinic and one student has clinic at the Transcultural Wellness Center.

The *inter-professional learning modules* (two workshops, one bedside shadowing experience, and two book clubs) are taught by Betty Irene Moore School of Nursing (BIMSON) faculty. These modules provide an introduction (through workshops) and early exposure (through a 1:1 nurse-medical student bedside shadowing experience in the intensive care unit) to the hierarchies present in physician-nurse teams. In addition, the students participate in the BIMSON’s two annual book clubs. The books for 2011 are *The Spirit Catches You and You Fall Down* by Anne Fadiman and *The Absolutely True Diary of a Part-Time Indian* by Sherman Alexie.

The *hospice experience* includes two introductory workshops and three home visits with patients and families enrolled in the UC Davis Hospice Program. In collaboration with Rural PRIME, student pairs visit patients over the course of three months. The *community engaged research* program remains under development.

Pre-clinical Year Two

The pre-clinical year two begins with the optional four-week Summer Institute on Race and Health. This inter-professional multidisciplinary experience uses workshops, site visits, reflective learning, service learning, and multi-media to explore how race influences health and disparities in health and in health care. This elective was first offered in 2011 and was featured on the BIMSON website. To encourage enrollment and help defray costs, enrolled students who meet eligibility requirements can qualify for a \$1,900 stipend.

In year two, students continue in the *longitudinal continuity clinics* and *PRIME Seminars*. While most UCDSOM year two preceptorships move from the clinic into the hospital, the SJV PRIME students remain in the same clinic during year two to promote continuity, relationship building, and exposure to primary care.

Students can select one of three activities (“selectives”) from year one (Community Engaged Research, Hospice, or Inter-professional learning) to further pursue during year two.

Table 3: The UC Merced San Joaquin Valley PRIME Curricular Map for Pre-Clinical Year 2

June	July-May
Summer Institute on Race and Health (Optional 4 weeks)	Community Engaged Research selective
	Hospice selective
	Interprofessional Learning selective
	Longitudinal Community Clinics (1-2 per month)
	PRIME and Health Care for the Poor and Underserved Seminars: Community Engagement, Leadership, Health Equity(1 per week)
	Doctoring 2
	UCDSOM Curriculum

Curricular Elements Under Development for the Pre-clinical Years

As a new program, the program is pursuing new opportunities and making modifications based on student feedback. They are actively exploring the following topics to pilot in year two:

- Collaborating with the UC Merced Center of Excellence on Health Disparities to tailor a workshop series to teach students methods to define and address health disparities in the San Joaquin Valley
- Visiting residency programs in the San Joaquin Valley in order to arrange learning opportunities at valley residency programs
- Collaborating with an ongoing community-based research program in the San Joaquin Valley
- Supporting students who are interested in research
- Exploring evaluation methods including videotaping outpatient visits and self-directed chart review

Clinical Years Three and Four

The UC Merced San Joaquin Valley PRIME team at UC Davis has been in discussions with Dr. Joan Voris at UCSF-Fresno about placing third-year PRIME students in the clerkship program at UCSF-Fresno. The

Longitudinal Integrated Fresno Education Program integrates the six core clerkships (internal medicine, family medicine, pediatrics, psychiatry, obstetrics and gynecology, and surgery) into two six-month blocks that emphasize outpatient care. The new class will relocate to Fresno in summer 2013 to participate in the program. Dr. Voris is exploring the availability of student housing through the same arrangements currently available to UCSF students rotating in Fresno. They are continuously exploring opportunities for fourth-year electives throughout the San Joaquin Valley, some of which may occur through UCSF-Fresno.

Master's Year 5

UC Merced San Joaquin Valley PRIME aims to nurture physician leaders for the San Joaquin Valley. The program encourages a fifth year to pursue a Master's degree in public health, informatics, business, or other field of interest to the students. At this time, the fifth year Master's is not a requirement for the program. As students already gain significant leadership skills and knowledge through the PRIME experience and the threat of additional educational debt is a constant concern for students. Until SJV PRIME can find a way to offset the financial debt incurred by the additional year, they are concerned that some highly qualified students will not choose PRIME because of the required fifth year. Although SJV PRIME students may opt out of the fifth year, students are encouraged to pursue a Master's program.

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