# SOM Student Pipeline Programs

The UCR School of Medicine has expanded upon a series of student pipeline programs that focus on increasing access to medical school for socio-economically and/or educationally disadvantaged students. These pipeline programs, which reached a total of 1,120 students in 2014, are comprised of activities designed to improve the competitiveness of students for entry into medical school. Activities include academic and career enrichment strategies, development of learning communities, physician shadowing, parental involvement and mentored community service. Working in partnership with community stakeholders, the medical school intends to produce culturally responsive, service-minded physicians who are drawn largely from Inland Southern California and thus more likely to remain in the region to practice. The importance of drawing students from the communities surrounding UCR is underscored by a study completed by researchers in the UCLA medical school and published in the American Journal of Public Health. The study found that medical schools and clinics could increase the number of primary care physicians in medically underserved areas by selecting and encouraging students from these communities, as these students demonstrate a strong identification and sense of responsibility to their communities. To that end, the UCR School of Medicine is continuing the tradition of providing a unique pathway into medical school for UCR students, similar to the former UCR/UCLA Thomas Haider Program in Biomedical Sciences, the precursor to UCR’s four-year independent medical school. The new Thomas Haider Program at the UCR School of Medicine maintains the charter of its predecessor to recruit, admit and support students from disadvantaged backgrounds who attend UC Riverside. Up to 24 of the 50 seats each year are filled by students who attend UCR for at least six consecutive quarters and complete their bachelor’s degree at UCR. Students admitted to the Haider Program will complete all four years of medical school at UCR, with the M.D. degree awarded by UC Riverside.

Several external funders have supported and continue to support these initiatives, including Kaiser Permanente Southern California, the Desert Healthcare District, and the California Wellness Foundation. In addition to pursuing additional extramural funding to support student pipeline programs, the medical school will continue to devote core personnel resources to coordinate these programs. The current programs are organized into 10 major initiatives (each described below) beginning with elementary school outreach and continuing through postbaccalaureate premedical education.

* **K-8 Outreach Program:** Working closely with the leadership of the San Bernardino Unified School District, the medical school has crafted a unique vertical mentoring program which involves UCR medical and undergraduate students mentoring 12 high school students at San Bernardino High School (SBHS), who in turn mentor 20 middle school students at Arrow View Middle School. These 32 students will in turn mentor a class of 35 elementary students at Riley Elementary School. These schools are feeder schools to each other which helps create a unique vertical mentoring relationship. The program seeks to encourage primary and secondary school students and their families to explore, experience and demystify higher education and professional medical careers. A community advisory board consisting of parents, SBHS alumni and administrators has been formed.
* **Mini Medical School:** This concept, initiated by the University of Maryland School of Medicine and in place at many medical schools, utilizes medical students and faculty inviting members of their communities (barber shops, churches, etc.) to come to the medical school to learn about diseases and public health. The difference with the UCR medical school version is that students go into the community, rather than requiring the community to come to campus. Students from the undergraduate, postbaccalaureate and medical school levels collaborate on presentations on such topics as specific medical problems or diagnoses and demonstrations on practical ways to shop for healthy food alternatives in the local neighborhood. Each team, typically less than 10 students, has either a medical student or a post-bac student on it to assist the undergraduate students. Faculty and medical residents offer the students feedback on the content of their presentations, prior to public demonstration. Currently, there are 236 students registered for 27 different topics. Students have presented at dozens of venues including health fairs, open houses, secondary schools, and after school programs.
* **Medical Leaders of Tomorrow:** This new program is a one-week residential activity in a UCR residence hall for 40 rising 10th graders each summer. The goal of the program is to stimulate interest in higher education and the healthcare field as a career goal. Students are educated on existing health issues and health disparities in Inland Southern California and use a team model to create a community health education project focusing on these issues. Students also receive presentations on preparing for college admission, careers in the healthcare field, and structured recreational activities. In addition, students take part in interactive activities such as a visit to a healthcare facility, medical simulations, and science experiments. The program seeks to increase student awareness and interest in careers in healthcare and expand student awareness and interest in higher education. A component for parents/guardians includes presentations on applying to college, financial aid, and parental involvement.
* **Health Science Partnership:** This program provides enrichment activities and presentations to high school students enrolled in health academies with an “at-risk” student population. Mentor teams comprised of UCR undergraduate health science students and medical students visit these students in their classrooms presenting information on college life, health careers, medical school, and facilitating problem-based learning activities. The program, which in 2014 reached 690 students at high schools in the region, aims to improve understanding of the college admission process, increase interest in pursuing a post-secondary education, and raise student awareness of careers in medicine/health.
* **Future Physician Leaders:** Students targeted for this program are high school, community college, and university students who are originally from Inland Southern California and aspire to be physician leaders in their community. The program has three components: Leadership Lecture Series, Summer Physician Shadowing Rotations, and Community Service/Community Health Projects. Begun in the Coachella Valley, the program has since established two additional branches – in San Bernardino/Riverside in 2012 and in Temecula in 2014. In 2014, a total of 179 students participated in the program, a 53% increase since 2012. The health education projects reached more than 2,000 community members.
* **Community College Outreach Program:** This program represents outreach to local community colleges to provide transfer workshops, UCR campus visits, individual and group advising, and access to the resources of the Medical Scholar Program (see below) once students transfer to UCR. To date, nearly half of the 91 transfer student alumni from this program have been admitted into postgraduate health related careers, including 21 in M.D. medical schools and 6 in D.O. medical schools. Transfer alumni have also been successful in gaining admissions to other professional programs, including pharmacy, optometry and dental schools. The medical schools plans to expand efforts to recruit more transfer students to UCR and into the Medical Scholars Program for academic, career, and personal development support. Plans are underway to craft an enhanced pipeline specifically between UCR and Riverside City College, for better transfer success of students from this large (19,000 students) local community college.
* ***FastStart*:** The *FastStart* program, established in 1999, is an intensive, five-week summer residential program designed for 36 incoming UCR freshmen who aspire to medical and other science-based careers. Preference is given to students identified as coming from a disadvantaged background. Participants live on campus in residence halls, and attend three gateway classes each day (chemistry, biology, and mathematics) where they are introduced to and prepared for the rigors of a college science curriculum. The program also has a number of social and team-building activities, workshops on study skills, and professional development opportunities. Historically, *FastStart* students have entered UCR with lower high school GPAs and SAT scores than other UCR science students on average, yet have higher pass rates than the general UCR student population in the science and mathematics “gateway” courses for the upper division science curricula. In fact, 100% of the 2013 cohort of *FastStart* students passed their first year science courses in 2013-14, and were advanced into the second year in our science college for 2014-15 (in contrast non-*FastStart* science students have on average about an 80% retention rate after one year in this science college). Even more importantly, *FastStart* students are almost twice as likely to graduate from UCR with a science degree as non-*FastStart* students.
* **Medical Scholars Program (MSP):** Established in 2004, this program is a learning community designed to provide academic, personal and professional development support for disadvantaged students in the sciences with the goal of increasing their graduation rates and promoting their entrance into medical school or other health profession postgraduate programs. The faculty and staff provide holistic mentoring and advising approaches to develop personalized academic plans based on each student’s academic preparation, outside responsibilities (work, family, commuting, etc.), and career plans. Also important is providing key resources (e.g., study groups and academic coaches for gateway science courses, peer mentorship, and positive encouragement by staff and faculty) at critical transition points in the student’s academic career (entering UCR as a freshman or transfer student, preparing to apply to graduate or professional schools, etc.). MSP sponsors research internships, both for summer and academic year terms, which matches undergraduate students with faculty mentors. Finally, the program promotes professional and career development to inspire leadership and a sense of community service, both within the MSP community and to underserved communities. Working with socioeconomically and/or educationally disadvantaged students, many of whom are at risk of completing their BS/BA degree, the School is proud to report that MSP continues to graduate students with science degrees at UCR at levels twice that of non-MSP students. Of the 412 MSP alumni, 295 (71.6%) graduated with science degrees (compare this to 36% for non-MSP science majors who graduated with science degrees), including 166 underrepresented in medicine students who graduated with a science degree. A significant number of these students continued their training in health or science related graduate programs. In fact, over the past 10 years of the program, 79 of MSP alumni are in, or graduated from, allopathic M.D. medical schools and another 12 in D.O. medical schools. It is important to point out that 60% of the MSP cohort is from under-represented in medicine (URiM) populations, and their success rates of graduation and placement into health or science related graduate programs are equivalent to that of their non-URiM counterparts.
* **Premedical Postbaccalaureate Program:** This is a one-year academic program for motivated college graduates from educationally and socio-economically disadvantaged students seeking to improve their academic preparation for medical school. It provides four key components before guiding students through the application and interview process. The components are a) full-time enrollment in upper-division science courses for one academic year; b) enhancement of critical thinking skills, test-taking, and study skills; c) a structured MCAT preparation course; and d) seminars on health disparities and the health system. Each student receives individual advising and writes a learning agreement each academic term to set goals and create a personalized experience. Eight of the 10 students from the 2013-14 cohort met or exceeded the science GPA contract of >3.50. This is critical as the School has an excellent record of placing students who meet the science GPA contract of > 3.50 into medical school (our historic rate is 87.5%).
* **Diabetes Health Coaches:** The program provides health education and motivational support for patients suffering from this chronic illness in three different clinics under the auspices of Riverside County Regional Medical Center (RCRMC). This new program was piloted with physicians, nurses and nutritionists at RCRMC in the fall of 2013 with eight coaches, all of whom are bachelor of science graduates who are in their gap year applying for medical school or other health profession school. The students spend at least eight hours per week (two shifts of four hours each) at each clinic and committed for at least one full academic year. This pilot program worked quite well and a third clinic was added in fall of 2014.There are also opportunities to expand the health topics considered (e.g., asthma, obesity, and hypertension). Since its inception, the Diabetes Health Coaches have worked with over 500 patients.

Finally, the School of Medicine operates the campus’ Health Professions Advising Center, which serves all UCR undergraduate students and alumni interested in careers in the health professions, including medicine. Professional staff and peer mentors are available to guide students in planning pre-health professions course work, gaining health-related experiences, completing service work, and preparing to apply for admission to graduate and professional programs.