University of California, Riverside School of Medicine
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Medical Education Program Highlights

The University of California, Riverside School of Medicine (UCR SOM) is a unique, community-based medical school for the 21st century. With our initial class having graduated in 2017, UCR SOM is a newly established medical school, yet has a long-standing history of educating medical students. In a shared degree program that began in 1974, students completed the first 2 years of their education at UCR, then transferred to UCLA. With this program as a foundation, and the need for improved access to medical care in the “Inland Empire,” a full 4-year program was built. Committed to its local community, UCR SOM focuses on preparing students for careers working with underserved and rural populations; recruiting, training, and retaining students from the area; embracing innovation; and refining a distributed training model.

- The Longitudinal Ambulatory Care Experience (LACE) bridges the gap between classroom and clinical application by providing students hands-on clinical experience throughout inland Southern California. It replaces the traditional “shadowing” preceptorship with a program emphasizing continuity and progressive learning. Participating medical practices are primary care focused and expose students to ambulatory care within the local community.
- Multiple Designated Emphasis (DE) programs:
  - The DE in medical Spanish, also known as HABLAMoS (Hispanic And Bilingual Ambulatory Medical Studies), is a 4-year language learning program that includes classroom instruction and experiential learning opportunities in Spanish-speaking clinics, communities, and family homes in Southern California and Spanish-speaking countries.
  - The DE in medical and health humanities allows medical students to examine the individual, social, and historical experience of health, pathology, medicine, and clinical encounters.
  - The DE in health care leadership prepares medical students to become future health care system leaders, including deans, CEOs, and CMOs.
- The Early Assurance Program is a unique portal for admission to UCR SOM, providing exceptional, “mission-fit” UCR undergraduate students with a guaranteed seat in a future UCR SOM class. The program benefits applicants by reducing financial and psychological stress of applying to medical school.
- The MD/Master of Public Policy Concurrent Degree Program, offered by UCR SOM and the School of Public Policy, develops leaders who will continue their careers shaping health care policy in the United States.
- The Bringing Education & Service Together Program is an innovative, longitudinal residents-as-teachers curriculum that has been validated in a randomized, controlled trial.

See Supplemental Digital Appendix 1—Distributed Training Model—at http://links.lww.com/ACADMED/A848.

Curriculum

Curriculum description

The first-year curriculum integrates human biology and disease, focusing on an integrated approach to human biological systems. Instruction is driven by cases explored in small groups, laboratories, conferences, clinical skills workshops, and independent study. During this time, students begin their 3-year LACE, where they begin to care for patients under the supervision of a mentor. The second-year curriculum focuses on disease processes, followed by an integrative assessment module. Third-year students gain clinical experience through a longitudinal clinical curriculum in core areas of medicine, surgery, family medicine, pediatrics, obstetrics–gynecology, psychiatry, neurology, and emergency medicine at local medical centers and hospitals. In the fourth year, students complete selective, electives, and a community-based scholarly project.

Curriculum changes since 2010

Our 4-year curriculum, like the school, is new. Key changes planned in the near future:
- We are continuing to convert instruction to a more active format while progressively reducing number of lectures, using a flipped classroom model and online content delivery.
- With planned construction of a new medical education building expected to be completed in 2023, we anticipate a cutting-edge design that will facilitate the most innovative educational techniques.
- We plan to increase curricular content focused on leadership, medical humanities, humanism, health care disparities, professional ethics, and the science of health care delivery.

Class size changes since 2010

Class size is now 77, increased from an initial class size of 50. This modest increase has not had any significant effects, but we plan further increases over several years, continuing our mission to increase the physician workforce in our community. The final class size is not determined yet, but increases will require expansions of partnerships with our clinical affiliates.
Medical education program objectives

Our outcomes-based educational program objectives are closely aligned with ACGME delineated physician competencies and the AAMC Physician Competency Reference Set. They are also linked to the learning outcomes and assessment strategies of each instructional session in the curriculum.


Assessment changes since 2010

- Weekly self-assessments: Each week, students complete self-assessments covering learning content from the past week. All assessments were originally formative. To incentivize attendance in the second year, however, we changed the self-assessments to graded quizzes.
- NBME subject examinations: We have substituted these in lieu of traditional examinations in core clerkships.
- LACE: Quality improvement research is a required part of the LACE curriculum as a practice improvement project. Mandatory graded checkpoints throughout the projects, including written submissions and conference presentations, anchor students’ learning experience.
- OSCEs: We use OSCEs across the first 3 years. Standardized patients are now trained and employed as OSCE raters.

Parallel curriculum or tracks

Given the critical shortage of primary care physicians in the area, we plan to implement a 3-year accelerated curriculum leading to conditional acceptance in our affiliated family medicine residency program, followed by a requirement for 3 years of service in the area.

Pedagogy

- The preclerkship curriculum integrates and correlates normal human biology with disease processes and clinical skills. We use a blend of formats, including lectures, podcasts, case-based sessions, and small-group discussions, with time for self-directed study outside of class. Woven into each block are skill-building threads (doctoring, clinical skills, problem-based learning) that serve to integrate scientific concepts into a clinical context. The Doctoring course includes standardized and simulated patient experiences for practice in history taking, as well as adding challenges in the clinical setting. Operating in parallel, the Clinical Skills course provides students with physical exam practice. Anatomy laboratory instruction (in years 1 and 2) integrates cadaver dissection with peer instruction in ultrasound techniques.
- In addition to direct clinical experience, the LACE program integrates a public health lecture series presenting topics on ethics, medical humanities, and more. Every student is required to complete a LACE practice improvement project, which exposes students to the process of literature review, internal review board mechanisms, and the iterative nature of quality improvement. Students present the results of their projects at the school’s annual Conference on Teaching, Learning, and Discovery.
- We supplement clinical experiences in the integrated longitudinal curriculum with weekly case-based readings and required written assignments.

Changes in pedagogy since 2010

- We are transitioning from faculty-centered to student-centered learning approaches. Our aims were to improve student engagement, curricular alignment, and clinical integration in the second year. We replaced poorly attended lectures with self-study assignments comprising readings, videos, and self-assessments, devoting in-class time to small-group problem-solving sessions led by clinical faculty using a scripted “morning report” format. This revision called on second-year students to acquire a larger amount of information outside of class, and student–teacher interactions now emphasize clinical application. This revision also allowed us to achieve better alignment with our program objectives and USMLE Step 1 examination content outline.
- We eliminated instructor-written exams at the end of each block in year 2 and shifted weighting of block summative scores to the NBME subject examination (65%) and weekly quizzes (35%), with the goal of reducing stress and incentivizing students to keep abreast of weekly learning goals.
- We incorporated a radiology thread into each of the 9 preclerkship blocks.

Clinical experiences

As a community-based medical school, UCR SOM partners with many sites to provide experiences that prepare students for practice within different settings and systems. Within the LACE curriculum in years 1–3, students work 1-on-1 with preceptors at ambulatory primary care sites ranging from single-physician private practices to large medical groups. Third-year longitudinal clerkship experiences occur throughout the community at Riverside University Health System (our county hospital), other regional medical centers, federally qualified health centers, physicians’ private practices, and university-based UCR Health outpatient and inpatient settings.

Required longitudinal experiences

Students begin LACE assigned to a community-based clinic and continue this experience for their first 3 years of medical school. This experience allows students to build continuity with the attending preceptor, patients, and staff. During this time, they also complete a quality improvement project to improve health care in our region.

The third-year curriculum includes 3 required clinically integrated longitudinal clerkship blocks:

- Block A: Internal medicine and surgery
- Block B: Family medicine, obstetrics–gynecology, and pediatrics
- Block C (longitudinally integrated throughout the third year): Emergency medicine, psychiatry, and neurology

This longitudinal structure allows us to give students regular feedback throughout the rotation.
Clinical experience first encounter
Students engage in clinical experiences after the first month of medical school through the LACE program, which continues throughout the third-year curriculum.

Required and elective community-based rotations
As a community-based school of medicine, we provide all required and elective clinical rotations in collaboration with community clinical partners based throughout inland Southern California.

Challenges in designing and implementing clinical experiences for medical students
We have designed UCR SOM’s clinical experiences to support our mission to improve the health of medically underserved communities in the region. As we prioritize our community’s needs within our training program, we face the same clinician shortages that the rest of our region does. We strive to meet these challenges by continually growing and diversifying a complex array of community partnerships.

Curricular Governance
See Figure 1—Curricular governance.

Education Staff
Medical education leadership
- The Office of Medical Education, led by the senior associate dean for medical education, oversees and manages the undergraduate medical education curriculum. Providing additional leadership are associate deans in 4 areas: preclerkship curriculum, clerkship curriculum, quality improvement, and assessment and evaluation.

- Under the University of California’s shared governance structure, the school’s 36-member Medical Education Committee designs, approves, and oversees the curriculum.

- Professional staff members support scheduling and logistics, coordination of activities at community-based clinical sites, medical simulation instruction, anatomy, information and instructional technology, and curriculum evaluation and assessment.

See Figure 2—Medical education leadership.

Administrative faculty and staff in the Office of Medical Education have sole responsibility for undergraduate medical education. Premedical and graduate medical education programs are administered by the Office of Student Affairs and Office of Graduate Medical Education, respectively.

Faculty Development and Support in Education
Professional development for faculty as educators
The Office of Faculty Development (OFD) provides many programs, including the Teaching Excellence Academy, a professional certificate in medical education, workshops, webinars, online support, and new faculty orientation. Many are offered as longitudinal programs, including the Clinical Teaching Series, the Teaching Essentials Series, and the Quality Improvement and Patient Safety Series. Special events offered to faculty include the annual Conference on Teaching, Learning, and Discovery, and Women in Medicine and Science events. The

Figure 1 Curricular governance.
OFD also offers 1-on-1 consultation, classroom observation, and instructional design services.

Role of teaching in promotion and tenure
Evidence of quality in teaching is an essential criterion for appointment, advancement, or promotion. In judging the effectiveness of a candidate’s teaching, the committee considers the candidate’s command of the subject; continuous growth in the subject field; ability to organize material and to present it with command of the subject matter and logic; capacity to awaken in students an awareness of the relationship of the subject to other fields of knowledge; fostering of student independence; spirit and enthusiasm; ability to arouse curiosity and encourage high standards; personal attributes as they affect teaching and students; participation in the general guidance, mentoring, and advising of students; and effectiveness in creating an academic environment that is open and encouraging to all students, including development of strategies for the advancement of students in various underrepresented groups.

Teaching academy
The Teaching Excellence Academy is the flagship program of the OFD. Each year, 10 faculty members are selected to participate in a community of practice learning experience. In addition to attending six 3-hour sessions, participants engage in a scholarly teaching project and present their project at the Conference on Teaching, Learning, and Discovery. The academy is open to anyone with a UCR SOM faculty appointment. Participants must be nominated by either the chair of their department, a member of the leadership team, or graduates from the academy.