Keck School of Medicine of the University of Southern California
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Medical Education Program Highlights
The Keck School of Medicine (KSOM) medical education curriculum is integrated and system based with substantial emphasis on the early and progressive development of clinical skills; the clinical relevance of basic science; direct experience with patients or simulations representing a set of common and/or important diseases and conditions; gaining skills in hypothesis-driven research; well-being; professional identity formation; and the roles of the humanities, ethics, art, and law in medicine.

The following courses and programs are highlights within the KSOM curriculum and illustrate how we address select areas of emphasis listed above:

- Clinical skills development: The Introduction to Clinical Medicine (ICM) course is over 50 years old and ensures that students develop clinical skills early in medical school. It is a longitudinal course during years 1–2 with a faculty-to-student ratio of 1.6. Students systematically acquire clinical skills and competency in interviewing, history taking, and physical examination through workshops with standardized patients and hone their skills through encounters with actual patients every other week beginning the first few weeks of medical school. ICM also introduces students to clinical problem solving and documentation in the medical record.

- Mentoring and professional identity formation: The Professionalism and the Practice of Medicine (PPM) course pairs 2 faculty mentors with a group of 24 students in years 1–2 to gain skills and competence in communication, the social and community contexts of health care, ethical judgment, self-awareness and reflection, self-care and personal growth, professionalism, cultural competence, and lifelong learning. Mentoring is extended into year 3 with the Track Mentor Program (a faculty member meets regularly with students on each clerkship track) to continue student professional identity formation and to support a positive learning environment.

- Student well-being: The KSOM hired a director of medical student wellness and has integrated 34 hours of required well-being curriculum throughout years 1–3 and additional optional activities to facilitate student well-being. The content is not tested/graded and focuses on the lived experience of the medical students, the link between physician well-being and quality/patient safety outcomes, incorporation of student self-reflection, and promotion of appropriate self-disclosure/role modeling by instructors.

- Humanities, ethics, art, and law curriculum: This 4-year curricular thread is integrated into courses including ICM, required clerkships, and year 3 intersessions. In years 1 and 2, the focus is on collaborative discourse to help students learn to identify, analyze, and resolve clinical ethical problems. Years 3 and 4 include ethics education by clinical role models.

Curriculum
Curriculum description
The KSOM is currently a 4-year curriculum. Years 1–2 are delivered as integrated systems and longitudinal courses (ICM, PPM, and the Scholarly Project course). USMLE Step 1 is taken at the end of year 2. Years 3–4 are designed as a continuum and include the core required clerkships (family medicine, internal medicine, internal medicine subinternship, neurology, obstetrics–gynecology, pediatrics, surgery, and surgery subspecialty) and individualized selective and elective rotations, enabling senior students to pursue independent learning plans in pursuit of their specific career goals.


Curriculum changes since 2010
Changes made to the curriculum since 2010 are highlighted below:

- Learning by cadaveric dissection was better integrated with system content.
- A Transition to Clinical Practice course was established to precede start of core clerkships in year 3.
- Two single-week intersession courses during year 3 were added for students to pause, reflect, and consolidate clinical/educational experiences of year 3.
- The requirement of a scholarly project was implemented through the Scholarly Project course to engage all students in hypothesis-driven research.
- The longitudinal year 3 Track Mentor Program to continue to promote professional identity formation and a positive learning environment was established.
- A number of year 4 electives were made flexible by self-directed asynchronous learning, distance learning, and/or flexible clinical shifts to enable students to participate in residency interviews while achieving the objectives of the electives.
Assessment

The KSOM medical education program objectives are adapted from the ACGME domains of competence to meet the needs of the KSOM curriculum.


Changes in student assessment implemented since 2010 are highlighted below:

• An end-of-year 2 cumulative exam was discontinued because it did not provide additional student performance information.
• An end-of-year 1 cumulative exam was changed from summative to formative.
• A clinical assessment tool based on observable behaviors was implemented in all required clerkships.
• Narrative assessments by research mentors and some small-group facilitators were added.
• OSCEs in required clerkships were supplanted by twice yearly multistation mini-clinical performance examinations with OSCEs reflective of each student’s prior clerkship experiences.

Pedagogy

The KSOM uses a variety of pedagogical approaches within courses and across all 4 years to achieve medical education program objectives.

See Table 1—Pedagogy.

Changes in pedagogy implemented since 2010 are highlighted below:

• The use of audience response systems in lectures has been promoted and increased.
• Approximately 50% of the 6-week hematology and clinical immunology system and 100% of the obstetrics–gynecology clerkship curriculum were converted to flipped classroom teaching models.
• The internal medicine subinternship curriculum was converted to a predominantly workshop-based learning approach.
• A year 4 elective, Teaching and Leading in Residency, made up of web-based meetings and distance learning was created.

Clinical experiences

LAC+USC Medical Center is one of the largest public health care hospital and ambulatory networks in the country and serves as the primary inpatient and ambulatory teaching site for KSOM students. Other health care settings include Keck Hospital and the Norris Comprehensive Cancer Center (USC-owned private healthcare facilities), community-based clinics, private physician offices, and Children’s Hospital Los Angeles. The principal challenge in designing and implementing clinical experiences is in identifying new clinical sites for required clerkships, especially in psychiatry and obstetrics–gynecology.

Required longitudinal experiences

• ICM is delivered in years 1–2 and enables students to achieve competency in basic clinical skills through workshops and encounters with real patients. Students learn from real patients and are exposed to patient care activities in the ICM course in the first few weeks of medical school and every other week in years 1–2.
• PPM is delivered in years 1–2 as a mentoring and professional identity formation program.
• The Track Mentor Program in year 3 promotes the continued development of professional identity formation and a positive learning environment.

Required and elective community-based rotations

The family medicine clerkship provides all students with individualized opportunities to experience community-based practices and to understand the role of a primary care physician. A variety of elective community-based experiences are also offered in general internal medicine, neurology, and integrative medicine.

Curricular Governance

See Figure 1—Medical Education Curriculum Committee governance.

The KSOM provides stipends for the roles of system chairs and clerkship directors and funding for salaries of medical student educators (MSEs). Departments may provide additional funds for MSEs and they support all other faculty time and activities. Departments that oversee required clerkships fund clerkship coordinator positions. Each department receives funding allocations from the Office of the Dean to assist with faculty and staff compensation, which are based on department undergraduate education effort.
Education Staff

The Office of Curriculum is responsible for overseeing and ensuring the development, implementation, and delivery of the 4-year MD curriculum. The Office of Curriculum provides direct support to faculty course directors, instructors, and medical students. It oversees the scheduling and coordination of courses and faculty and the development and distribution of supporting materials. The Office of Curriculum organizes and administers the Medical Education Curriculum Committee and its subcommittees to ensure continuous quality improvement efforts in all aspects of the MD curriculum.

The Evaluation, Assessment, and Reporting unit within the Department of Medical Education manages the entire evaluation process of all core learning and teaching events throughout the 4-year MD program. It oversees the development of tools (examinations, questionnaires, focus groups, etc.) and produces relevant reports for assessment of outcomes and continuous quality improvement activities.

The role of primary medical education staff and administrative faculty in the Office of Medical Education is to support all aspects of the MD program. The office is responsible for multiple areas outside of educational programming relevant to medical students, that is, admissions, student affairs, diversity, and inclusion, and the undergraduate minor in health care studies. The Office of Curriculum is responsible for overseeing and administering curricular aspects of the MD program or the MD component of dual-degree options.

Faculty Development and Support in Education

The Faculty Development Unit in the Department of Medical Education provides direct support for Keck faculty and residents who wish to improve teaching skills and educational scholarship. The unit provides a wide range of services and offerings including customizable faculty development sessions on assessment and feedback, curriculum design, instructional design and strategies, program evaluation, and educational scholarship and research. Interactive workshops are targeted to specific teaching needs including, but not limited to, creating a positive learning environment, identifying learners in difficulty, assessing learners, providing effective feedback, small-group teaching, and teaching in the clinical setting. Small-group or 1-on-1 consultation sessions addressing the specific needs of individual

See Figure 2—Medical education leadership.

The Department of Medical Education is composed primarily of PhD/EdD educator faculty members and part-time or voluntary faculty instructors in required longitudinal courses. The department is composed of multiple units, including clinical skills education and evaluation, evaluation and assessment, educational technologies, faculty development, academic support, and instructional design. The department has offered a Masters of Academic Medicine program since 2009 and graduated 103 individuals to date, including many KSOM faculty. The department also sponsors an annual Innovations in Medical Education conference.

Figure 1 Medical Education Curriculum Committee governance.
faculty or small groups (disciplines, systems, clerkships, etc.) are available upon request. The department also oversees residents-as-teachers training by directly delivering content or by coordinating with departmental training programs.

The KSOM has established 7 promotion tracks that reflect the different profiles of activities and contributions of faculty. Each track includes expectations for contributions in scholarship, education, and service and, in the case of the clinician–educator and practitioner series, clinical practice. The amount of time devoted to individual areas and expectations in each area differ among the promotion series. Aggregate evaluation reports from students and residents of teaching/education activities are included in the promotion dossiers. Letters from mentees are also solicited and, in the case of the clinician–educator series, evaluation of teaching effectiveness by residency and/or fellowship directors may be requested. Teaching evaluation data are provided annually to each department chair at the time of faculty merit review.

**Initiatives in Progress**

The KSOM curriculum will transition to a renewed 4-year physician–citizen–scholar curriculum effective 2021 with the class of 2025. The renewed curriculum will be delivered in 3 phases: preclerkship (18 months), clerkship (12 months), advanced clinical experiences (18 months).

Planned features of the renewed physician–citizen–scholar curriculum are:

- Four hours of active case-based learning each week of the preclerkship phase.
- Enhanced clinical skills and clinical reasoning development in the preclerkship phase.
- Emphasis on active learning strategies throughout the curriculum, early clinical immersion, and a learning environment that fosters the well-being and professional development of students.
- Engagement of students with surrounding communities.
- Enhanced offerings in humanities, ethics, art, and law.
- A new longitudinal coaching program to guide professional identity formation.
- Integration of health systems science instruction and related clinical experiences throughout the preclerkship and clerkship phases.
- Immersive clinical training in the clerkship phase through a series of core clerkships organized into two 26-week blocks of grouped clinical rotations: 1 block of internal medicine/family medicine/psychiatry/neurology and 1 block of surgery/anesthesia/obstetrics–gynecology/pediatrics. The blocks will be enhanced by “just in time” training and by longitudinal cross-cutting themes covering geriatric medicine, chronic disease prevention and management, and mental health during the internal medicine/family medicine/psychiatry/neurology block; and health systems science, social justice, and quality and patient safety during the surgery/anesthesia/obstetrics–gynecology/pediatrics block.
- Individualized training in the advanced clinical experiences phase to enable the determination and pursuit of one’s areas of interest and ultimate career goals.
- An end-of-year 4 Transition to Residency course.
- Step 1 will be taken after the clerkship phase.