University of Louisville School of Medicine
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Medical Education Program Highlights
The holistic, mission-based admissions process of University of Louisville School of Medicine (ULSOM) selects 162 students for each entering class based on academic ability; desire to remain in Kentucky and serve the needs of its citizens; and evidence of caring, dedication, perseverance, and service to others in need. Students may come from underprivileged backgrounds and communities, and strategic support has been implemented to ensure they succeed and thrive in medical school. Longitudinal coaching is delivered through the Advisory College Program, which assigns incoming students to 1 of 6 colleges. This college serves both as a physical “home” within the school and as a cohort for meetings, socialization, wellness, and advising programming support with faculty and staff. Each college is supported by faculty advisory deans who mentor and coach students individually and in groups longitudinally across all 4 years. Advisory Colleges support development of peer relationships between classmates as well as between classes; the program is a core feature of the healthy, inclusive learning environment of the school. An optional enrichment program providing opportunity for academic exploration and scholarly productivity and increasing the number of students choosing careers in academic medicine is the ULSOM Distinction Track Program. This longitudinal elective experience admits up to 25% of MD program students into 1 of 4 mentored tracks: business and leadership, global health, medical education, and research. Each track is unique in its requirements, ensures a faculty-mentored longitudinal experience, and culminates in a required scholarly project.

Curriculum
Curriculum description
The ULSOM curriculum integrates basic and clinical science topics using didactic, self-directed, and active learning within the 2 + 2 hybrid curriculum structure.

- The first 2 years are primarily classroom based, with a 10-week break between the first and second years for elective, research, or service-learning experiences, including NIH-sponsored Summer Research Scholars Program. Students gain clinical experience through community precepting, standardized patient encounters, and clinical electives during both years.
- Following year 2, 10 weeks of flexible time is given for studying and taking USMLE Step 1 as well as vacation.
- The third year consists of 7 core clerkships as well as 6 weeks of elective time to explore additional medical specialties of the students’ choice.
- The fourth year requires 11 weeks of electives in critical, palliative, and ambulatory care as well as an acting internship, with the remainder of the year remaining flexible with elective choice based on the student’s desired medical specialty.

See Supplemental Digital Appendix 1—4-Year and 3-Year Curriculum Map—at http://links.lww.com/ACADMED/A836.

Two major programs, the Trover Rural Scholars (TRS) and the Rural Medicine Accelerated Track (RMAT), are targeted to improve the shortage of rurally placed physicians in Kentucky. TRS selects 8 incoming students to complete years 4 and 4 at the Madisonville Trover campus, a distributed clinical campus with a 400-bed hospital and clinics. RMAT is a 3-year path to the MD degree targeted to increase physicians prepared to practice rural primary care. Up to 2 RMAT graduates annually complete all of the required courses and objectives for the 4-year MD degree in 3 years, participating in the Match in their third year. Using vacation and elective time, RMAT students have already completed 12 weeks of family medicine training when they begin other traditional third-year clerkships. TRS and RMAT students complete additional elective experiences, longitudinal weekly primary care clinics, and independent learning assignments that support and assess the additional objectives necessary to function independently in improving patient or community health in a rural or resource-restricted environment. Ensuring a consistent educational experience for students in parallel tracks at a distributed campus requires that they complete all of the same core coursework and are assessed on the same objectives required for the MD degree, as well as continuous monitoring of educational outcomes, work hours, and patient encounters. Technology support, faculty development, and standardized patient encounters are also delivered to support these students and faculty, ensuring that the quality of the learning environment meets or exceeds the level expected for Louisville campus students.

Assessment
Content and assessment are organized using behaviorally based objectives throughout the 4-year program, requiring evidence of student attainment of required knowledge, skills, and attitudes across AAMC competency domains in each year. The 38 ULSOM program objectives were completely revised in 2017, and were developed as a novel set after Educational Program Committee (EPC) review of the AAMC Physician Competency Reference Set, ACGME domains of competency, Core EPAs, and the Medical School Objectives Project. The EPC determined
Students start year 1 with the Clinical Anatomy, Development, and Physical Examination courses, relating the developing human to observed anatomy in the dissection laboratory as well as the examination of living patients in the standardized patient clinic.

In spring of year 1, students examine molecular, biochemical, genetic, immunologic, pharmacologic, microbiologic, and pathologic mechanisms in the Molecular Basis of Life, Defense, and Disease course to prepare them for organ system–based study of health and disease in year 2.

The first year concludes with a 2-week immersion in critical examination of the biomedical literature and clinical problem solving in the Biostatistics and Evidence-based Medicine course.

Second-year students in the Human Systems in Health and Disease courses study the normal microanatomy and physiology of each organ system as well as its primary pathogens, pathology, and therapeutics.

Integration of core content related to health care disparities, community health, and prevention of disease relevant to the topics under study occurs in each organ system, and each unit is overseen by an MD and PhD lead for optimal integration.

Clinical experiences

Four semester-long Introduction to Clinical Medicine courses run concurrently with the primary science courses, focusing on development of personal and professional identity, navigating health care disparities and cultural humility, an introduction to medical systems science, applied medical ethics, and basic and complex patient communication skills, including health coaching. Students practice emerging clinical skills in our novel longitudinal standardized patient (LSP) program. This program assigns the same LSP to a student for a full year, training students in continuity of care as well as intermittently requiring students to practice caring for a colleague’s patients. This placement allows practice developing rapport and building the therapeutic relationship while providing a more consistent setting for monitoring student development and giving feedback about strengths and learning needs. All core basic and complex communication skills are embedded in a naturalistic manner, which includes 12 different characters of varying backgrounds who each have a 2-year biographical storyline. Students also practice using an electronic medical record during their year 1 and 2 LSP experiences, allowing feedback on informatics and clinical documentation skills as well as the assignment of specific evidence-based and clinical reasoning assignments. In addition to written assessments, assigned group work, and satisfactory completion of community preceptorships, students must pass a summative OSCE each semester assessing the clinical skills practiced with their SP over that period.

Required and elective community-based rotations

Clinical clerkships place students in a variety of inpatient and outpatient sites associated with the health sciences campus as well as community clinical partners and the distributed campus in Madisonville, Kentucky. The majority of students complete a clinical placement in a federally defined medically underserved area via the Kentucky Area Health Education Center grant program, and all Louisville campus students rotate at a Veteran’s Administration clinical site, an urban referral specialty and trauma hospital, a freestanding children’s hospital, and multiple community clinics and residential care
facilities. In addition, each clerkship includes independent study modules integrating basic science content as well as societal and health care systems content affecting clinical care. Clerkships use a combination of didactic, case-based, and online assignments to deliver the core curriculum, and each clerkship requires an NBME shelf examination and clinical evaluations assessing attainment of program objectives. Each clerkship requires students to pass a summative Step 2-style OSCE based on required diagnoses for that specialty and observed mini-CEx assessments for core clinical skills. At the end of year 3, students also take a multistation Step 2-style OSCE assessing core skills for each required clerkship to progress in the program.

Fourth-year students generally position their acting internship early in the year and also use vacation time to study for and take Step 2 CK and CS. The design of this year maximizes flexibility and allows students desiring away rotations or multiple rotations in a subspecialty up to 4 months to explore these options. Students also use this elective time to complete and present original research or work with community and university centers to develop and implement health care–associated service and quality improvement projects. Additionally, many students elect to teach their junior colleagues in a variety of settings in the popular Medical Students as Teachers elective.

**Curricular Governance**

The EPC is responsible for the overall design, implementation, management, and evaluation of the medical student curriculum.
See Figure 1—Educational Program Committee governance structure.

The EPC has the authority to oversee all curriculum-related matters and reports on such matters to the dean and Faculty Forum.

The Undergraduate Medical Education Office coordinates all academic support services for the undergraduate medical education program.

See Figure 2—Undergraduate Medical Education Office organization.

The vice dean for undergraduate medical education oversees admissions, student affairs, and the Undergraduate Medical Education Office.

See Figure 3—Organizational chart of dean’s staff.

To support growth in teaching and learning throughout the Health Sciences Campus, the Faculty Development Office, with a new vice president–level position, was created in 2018. Improvements in faculty development as a result of this leadership include creation of a content library for clinical educators to improve the teaching abilities of busy clinical faculty and creation of the yearlong Leadership and Innovation in Academic Medicine program, which has won regional awards for its innovative programming and graduated > 30 faculty to date. Faculty knowledge of current learning science continues to improve through book clubs and dedicated faculty development programs with a specific focus on diversity and wellness. Faculty with an interest in pursuing education as a career focus also have the ability to enroll in the interdisciplinary Certificate in Health Professions Education, a yearlong, accelerated course of postgraduate study dedicated to education science in the health professions.