The Ohio State University College of Medicine
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Medical Education Program Highlights

• The Lead.Serve.Inspire (LSI) curriculum incorporates innovative longitudinal projects such as the Community Health Education Project to meet the education program objectives. Students work collaboratively in teams to partner with a community health organization to identify a specific need within the population and implement and study an intervention to address it.

• The Ohio State University has developed specific and intentional initiatives to support the well-being of its students. The MINDSTRONG program provides cognitive behavioral skills-building techniques to enhance resiliency and self-protection of participants.

• Faculty Development for Medical Educators (FD4ME) is an interactive, online faculty development program that delivers a wide range of peer-reviewed topics in medical education.

Curriculum

Curriculum description

LSI is a competency-based curriculum developed to meet the evolving needs of students and educators in a rapidly changing educational environment. By integrating foundational science concepts with early clinical experiences, incorporating flexible instructional methods and targeted assessment strategies, the curriculum fosters critical thinking and prepares students to provide patient-centered care in diverse settings. It includes 3 parts of study over 4 years:

Part 1 (Clinical Foundations, 18 months), Part 2 (Clinical Applications, 12 months), and Part 3 (Advanced Clinical Management, 12 months).

Part 1 allows students to build a strong foundation of biomedical, behavioral, and clinical sciences while developing the knowledge, skills, and attitudes needed to function as a physician in clinical settings. Material is delivered in 8 multisystem integrated curricular blocks with unifying content threads running longitudinally throughout (e.g., anatomy, diversity and inclusion, pharmacology, scientific inquiry).


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Students participate in weekly longitudinal group (LG) sessions where they develop skills required for relationship-centered care. Through longitudinal relationships with faculty, students cultivate skills in history and physical examination, clinical reasoning, and health coaching. They build upon these experiences with biweekly longitudinal practice sessions where they join clinical sites to hone the skills introduced in LG through participation in patient care and integration into the health care team.

Professional development weeks are interspersed throughout Part 1, providing students with a focused career development curriculum and opportunities to explore a wide range of career paths early in training. One-week selects allow students to explore areas of interest complementary to the learning objectives for Part 1.

Several longitudinal curricular components begin in Part 1. The Community Health Education Project introduces students to concepts of population-based medicine through service learning and provides an opportunity for interprofessional collaboration. The Educational Portfolio and Faculty Coaching Program uses an online portfolio to incorporate self-assessment through reflective writing. Faculty coaches provide feedback and support each student’s self-directed learning and professional growth. The applied health systems science curriculum provides a foundation in the key concepts of high-quality care and process improvement.

Part 2 provides core clinical experiences to refine the knowledge, skills, and attitudes needed to interpret and apply knowledge while working with individual patients and patient populations. These core clinical immersions are delivered in three 16-week rings of integrated clinical content: understanding patients within populations (family medicine, pediatrics, geriatrics), understanding patients with reproductive and surgical needs (obstetrics–gynecology, perioperative medicine, surgery, radiology), and understanding patients with specialized medical needs (internal medicine, neurology, psychiatry).

Each ring begins with a 1-week ground school that combines foundational knowledge with practical skills development in the clinical skills lab to prepare students for the specific clinical environment.

Students continue work in the Educational Portfolio Coaching Program and in applied health systems science.

Part 3 gives students advanced clinical training across a spectrum of patient care frameworks to acquire the ability to effectively manage patients within diverse health care systems.

• Advanced Management in Hospital Based Care (AMHBC) provides students with advanced experiences in an acute
care setting. Students spend 4 weeks each in the emergency department and on a mini-internship.

• Advanced Management and Relationship Centered Care (AMRCC) provides 8 weeks of ambulatory setting advanced training at 2 selected sites.

• Students must complete at least four 4-week electives, one of which must be an advanced competency. The advanced competencies offer enhanced skill development in a domain identified as a priority for each student’s advancement.

• Students must enroll in at least 1 clinical track in Part 3. These individualized educational plans provide a framework to prepare for internship in their chosen specialty. Students work toward entry-level residency milestones.

• Students complete their capstone project for applied health systems science and present a summative portfolio to a faculty committee during Part 3.

Curriculum changes since 2010

The LSI competency-based curriculum replaced the previous curriculum in the fall of 2012. Two learning pathways (the Integrated Pathway and the Independent Study Pathway) were replaced by this single curriculum, focusing on integrating foundational sciences with clinical care and longitudinal projects throughout.

• Med 1-2 was reorganized into multiorgan system blocks with horizontal content threads (Part 1, Clinical Foundations).

• The Clinical Analysis and Problem Solving Program for teaching foundational clinical skills was replaced with a combined program using LG and longitudinal practice. Students develop essential clinical skills early in Med 1 and learn to function as part of the health care team in an ambulatory setting.

• New longitudinal programs, including the Community Health Education Project, the Educational Portfolio and Coaching Program, and the Applied Health Systems Science Project, were added.

• Med 3 combined the existing 7 core clinical clerkships into 3 rings with integrated clinical content and educational sessions (Part 2, Clinical Applications). A clinical skills immersion experience (ground school) was introduced at the beginning of each ring.

• Med 4 was revised to include an emphasis on care of the acutely ill patient (AMHBC) and the chronically ill or ambulatory patient (AMRCC) in addition to focusing on individualized career development (Part 3, Advanced Clinical Management). The learning experiences were aligned to help students better prepare for residency, and specialty-specific clinical tracks were created. Advanced competency electives were added to enhance core skills.

• The LSI curriculum was designed to allow continuous content and delivery improvement. For example, with the recent opioid crisis, we were able to modify the curriculum to ensure that students were graduating with required skills.

Assessment

In February 2018, the Executive Curriculum Committee adopted the AAMC Physician Competency Reference Set as the basis of the medial education program objectives. See Supplemental Digital Appendix 2—Medical Education Program Objectives and Assessment Methods—at http://links.lww.com/ACADMED/A835.

Assessment changes since 2010

Since the implementation of LSI in 2012, there has been an increased emphasis on the use of multimodel competency-based assessments. Summative evaluations such as OSCEs, medical knowledge exams, and nationally normed/standardized content exams are administered during designated weeks. Expert faculty raters are trained to perform direct observations of competence and are available as resources for students who need remediation. Evaluations are cumulative and mastery based, providing clear evidence that each student has met competency.

Parallel curriculum or tracks

• The OSU Primary Care Track is an accelerated 3-year doctor of medicine program intended for students interested in a career in family medicine. The program offers early hands-on experiences through longitudinal, practice-based clinical encounters in addition to professional development.

• The Medical Scientist Training Program incorporates the LSI curriculum with a partnering graduate program (biomedical sciences, neuroscience, or biomedical engineering) to provide a rigorous curriculum in both medicine and research, facilitating the development of outstanding clinician–scientists.

Pedagogy

LSI delivers a curriculum that fully integrates foundational sciences with clinical practice.

Part 1 includes a variety of classroom and asynchronous methods that enable mastery of content. In-person experiences including lecture, small- and large-group discussion, case-based learning, team-based learning, and panel discussions are recorded when assessments or protected patient information are not included. Livestreaming and digital recording as well as self-directed learning allow students to prepare for in-classroom sessions and to determine how they learn most effectively. Laboratory sessions, simulation, and incorporation of standardized/simulated patients supplement these approaches. The use of virtual patients and a longitudinal preceptorship provide an early introduction to patient care and application of foundational science principles in the clinical environment.

In Parts 2 and 3, ambulatory and in-patient clinical experiences integrate with simulation and self-directed learning as the primary instructional methods. Students participate in lectures, small-group discussions, case-based learning, and workshops as well as other activities such as specialty-specific conferences and journal clubs. Reflection, research, and independent learning provide opportunities for self-directed education.

The implementation of LSI provided an opportunity to focus on innovation and efficiency in teaching. The incorporation of high-fidelity simulation, digital classrooms, and virtual reality allows faculty to effectively deliver cutting-edge content. Faculty routinely use a flipped classroom design to incorporate...
team-based learning and small-group discussions, emphasize use of prosection over primary dissection in gross anatomy, and encourage reflection by students to make learning more efficient and engaging. Each area of content is offered in at least 2 formats to allow flexibility for student learning styles and preferences.

Clinical experiences
Students first encounter nonsimulated clinical experiences after 9 weeks of their first year as part of the Longitudinal Practice curriculum. They train in a variety of clinical environments: the large academic Ohio State University Wexner Medical Center, large metropolitan community hospital partners in the city, small community-based hospitals, and a large children's hospital. Ambulatory experiences are offered in a range of settings, including academic and community practices and the outpatient Veteran’s Affairs clinic.

Required longitudinal clinical experiences include the LG and longitudinal practice in Part 1 and a subset of students who select a longitudinal ambulatory experience in AMRCC in Part 3.

Curricular Governance
The Executive Curriculum Committee is responsible for curriculum planning, implementation, evaluation, and oversight, with the management and coordination of the curriculum vested in the vice dean of education and associate dean of medical education.

See Figure 1—Curricular governance.

Education Staff
The Office of Medical Education provides academic and administrative support for the implementation and maintenance of the curriculum under the direction of the associate dean of medical education.

- Faculty positions required to administer the curriculum are supported centrally by the College of Medicine with release time for FTE % based on a standard formula.
- Faculty teaching contributions are tracked via a centralized database so total teaching effort can be factored into the departmental budget allocation process annually.
- Staff support for academic program directors and budget support for implementation of the curriculum are administered through the Office of Medical Education and the Office of Curriculum and Scholarship.
- The offices of medical education, student life, research education, and admissions solely support undergraduate medical education. The offices for diversity and inclusion

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Figure 1 Curricular governance.
and curriculum and scholarship additionally support undergraduate and graduate medical education. See Figure 2—Organizational chart.

Faculty Development and Support in Education

The Center for Faculty Advancement, Mentoring, and Engagement (FAME) provides comprehensive faculty career development for all domains of the academic medical center, including programming to develop faculty to be expert educators, leaders, clinicians, and scholars. The educator development programs in teaching/leadership and educational research support excellence and advancement for an annual cohort. Peer review of teaching is offered through FAME in all teaching venues. FD4ME, developed at Ohio State, is an online faculty development and continuing education platform for health professions educators. The College of Medicine partners with the College of Education and Human Ecology to offer a Master of Arts in Biomedical Education degree.

Faculty on the clinical (nontenure) track are eligible for promotion via 1 of 3 pathways: clinician–educator, clinician–scholar, and clinical excellence. Promotion of clinical faculty on the clinician–educator pathway is based upon convincing evidence that the candidate has developed the necessary level of leadership and recognition as a teacher. A distinctive record of teaching and mentoring excellence is required, demonstrated by exemplary learner, colleague, and national peer evaluations. Teaching awards and other honors are evidence of excellence. Candidates should demonstrate curricular innovation, new teaching modalities or evaluation methods, program or course development, and contributions to scholarship through peer-reviewed publications or dissemination of work focusing on pedagogy of education or other related content.

References
