University of Nebraska Medical Center College of Medicine
Regan Taylor, MD, and Amy Cutright, MD

Medical Education Program Highlights
The mission of the College of Medicine (COM) at the University of Nebraska Medical Center (UNMC) is to promote and improve the health of the citizens of Nebraska by advancing health and biomedical sciences through the highest quality education, patient care, research excellence, and community service. We underwent a curriculum redesign implemented in 2017 and anxiously await the graduation of our first class to complete the new curriculum in 2021. We are proud to be one of the leading schools in primary and rural care in the nation and strive to produce physicians to care for the population of Nebraska and the surrounding regions.

Curriculum
Curriculum description
Our curriculum is divided into 3 phases: foundations of medicine, clinical applications, and career preparation.
• Foundations of medicine (first 18 months) is organized by organ system to cover basic sciences, pharmacology, and clinical reasoning.
• Clinical applications (12 months) consists of 6 core clerkships (family medicine, internal medicine, obstetrics–gynecology, pediatrics, psychiatry, and surgery).
• Career preparation (13 months) provides students the opportunity to further their clinical skills in a career specialty track with robust advising.

Clinically based topics known as “coils” are woven into the curriculum throughout all phases and include communication skills, physical exam, evidence-based medicine, point-of-care ultrasound, inquiry, interprofessional education, and health systems science.


Curriculum changes since 2010
Our curriculum has undergone a complete redesign, implemented in 2017. We have changed from a traditional 4-year design to 3 phases as described above. Three principles drove our curricular change:

• Enhancing the last year of medical school to best prepare students for residency
• Integrating clinical medicine and basic science throughout the entire 4 years
• Introduction and incorporation of health systems science

In our redesigned curriculum, the final phase of training extended the fourth year of medical school by 3 months (total of 13 months). This allows for further career exploration before submitting residency applications. Once students choose a specialty, they are assigned to a career track so that their last year of training can be more tailored to their future career.

Throughout the entire curriculum, we have integrated clinical topics (coils) so that students get early and consistent exposure to these topics and skills over the course of their education. Content centered around each coil is covered in each block during the first phase of school and revisited during clerkships to allow students to apply what they have learned in a clinical environment. During the third phase, these skills are revisited again in more structured small-group settings to reflect on experiences and explore new opportunities for growth.

The introduction of health systems sciences as a distinct longitudinal curricular thread was an important addition to our curriculum. The domains of social determinants of health, population health, advocacy, quality and patient safety, teamwork, leadership and health care financing are introduced during Phase 1 and reflected on in Phases 2 and 3. Recognizing these as an integral part of training before clerkships better prepares students to navigate the health care landscape and appreciate the challenges that both physicians and patients face in trying to provide the best possible care in our current system.

As we enter the third year of our new curriculum, our goals are to progress from lecture-based learning to more active learning modalities. While our curriculum has changed significantly in the last 10 years, class size has remained fairly steady, last changing in 2012 when we increased from 130 to 132 matriculants.

Assessment
Our medical education program objectives are based on the ACGME, and specifically follow their domains: medical knowledge, patient care and clinical skills, practice-based learning and improvement, communication and interpersonal skills, professionalism, systems of health care, interprofessional collaboration, and personal and professional development.

With our curricular revision, we transitioned to a pass/fail grading model in Phase 1. The Phase 2 clerkships and Phase 3 career tracks are still graded on an honors/high pass/pass/marginal/fail system. We have instituted systems to increase formative grading opportunities during Phase 1 to de-emphasize summative multiple-choice tests.
Parallel curriculum or tracks
UNMC does not have any parallel tracks or offer a 3-year MD degree program. There is currently no plan to offer these. Multiple students do independently pursue additional degrees in public health (MPH) or business administration (MBA) at UNMC or affiliated institutions during the course of the MD training.

Pedagogy
We use a variety of pedagogical methods within our program to facilitate learning:

• During Phase 1, lecture, laboratory, problem-based learning, simulation, standardized patients, small-group discussion, and video modules are used to provide multiple options for students to master the material.
• Phase 2 is experiential (ambulatory and inpatient), with lectures, case-based learning, and procedure labs intermixed.
• Phase 3 is primarily made up of clinical experiences tailored to assist student with choosing a future specialty and then providing a robust clinical experience before residency training. Additionally, there are 2 months of classroom-based education focused on residency preparation. These months are spent with more simulation, standardized patients, small-group discussion, and case-based learning.

Clinical experiences
Students at UNMC are exposed to a variety of clinical sites during their training. Most of their time is spent at Nebraska Medicine, our primary clinical partner located at the UNMC campus in Omaha, Nebraska. These experiences are for both inpatient and ambulatory clinical learning. Students also train at the Omaha Veterans Administration Medical Center, Children’s Hospital and Medical Center, and other nonacademic institutions and clinics within Omaha and the surrounding region. Students on their family medicine clerkship are placed at rural clinic sites across the state of Nebraska. Collectively, our students are afforded the opportunity to experience both private and academic settings, as well as urban and rural experiences.

Students have early clinical experience during Phase 1 through the Longitudinal Clinical Experience program. Each student is assigned to a local preceptor in the Omaha metro area. They meet with their preceptor 8 times during Phase 1, and have the opportunity to see and examine patients, as well as spend time with the clinic staff to observe clinic operations and gain appreciation of the many different roles that are required to make a clinic function. These visits start in the second semester of the first year of training. Students also have the opportunity to volunteer at our student-run SHARING clinics during Phase 1.

Currently, our biggest challenge is finding enough clinical sites/preceptors to accommodate all of our students. As demands on physicians’ time continue to increase, the ability to educate an emerging physician, properly evaluate, and provide feedback can be one of the easiest things to cut out of the day. Other expected challenges common to clinical rotations include standardizing experiences for all students and providing equivalent evaluation practices among faculty.

Curricular Governance
The COM Curriculum Committee is the central governing body for our medical school. Each phase has a leadership team including a director who oversees issues pertinent to that level of training. The directors also work closely with the assistant dean for medical education and the senior associate dean for academic affairs. While each of these bodies function somewhat independently, all are ultimately under the jurisdiction of the Curriculum Committee.

Phase 1 organization and governance is centralized within the college with academic support provided by the Office of Medical Education (OME). For Phases 2 and 3, academic support comes from a mixture of clinical departments and the centralized OME. Teaching is provided by basic science and clinical faculty located within each of the academic departments. Financial resources

See Table 1—Program Objectives and Assessment Methods.

Table 1
Program Objectives and Assessment Methods

<table>
<thead>
<tr>
<th>Medical education program objectives</th>
<th>Assessment method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical knowledge:</strong> Students will apply and recall knowledge of human structure, function, development, pathophysiology, and psychosocial development.</td>
<td>Multiple-choice tests, Step exams, NBME Clinical exam, OSCEs, Clinical evaluations.</td>
</tr>
<tr>
<td><strong>Patient care and clinical skills:</strong> Students will demonstrate and use their knowledge, procedural and cognitive skills in the diagnosis, management, and prevention of health problems encountered in patient care.</td>
<td>OSCEs, Clinical evaluations.</td>
</tr>
<tr>
<td><strong>Practice-based learning and improvement:</strong> Student will identify gaps in understanding, recognize personal limitations, and demonstrate habits of self-directed learning to acquire or improve knowledge and skills.</td>
<td>Problem-based learning small groups, Self-evaluation, Clinical evaluations.</td>
</tr>
<tr>
<td><strong>Interpersonal and communication skills:</strong> Students will employ effective listening, verbal, and written communication skills with patients, family members, colleagues, and other health professionals to promote optimal health outcomes.</td>
<td>OSCEs, Clinical evaluations, Standardized patient formative feedback.</td>
</tr>
<tr>
<td><strong>Professionalism:</strong> Students will employ and exemplify altruism, accountability, excellence, duty, service, honor, integrity, and respect for others into all aspects of their professional lives.</td>
<td>Clinical evaluations.</td>
</tr>
<tr>
<td><strong>Systems of health care:</strong> Student will analyze health care delivery settings and systems to advocate for patients, identify opportunities for quality improvement, and optimize patient safety through open communication of errors.</td>
<td>Clinical evaluations.</td>
</tr>
<tr>
<td><strong>Interprofessional collaboration:</strong> Student will prepare to function effectively in teams and within organization, applying community and other resources to medical problems for individual patients and groups.</td>
<td>Clinical evaluations.</td>
</tr>
</tbody>
</table>
for teaching endeavors in all phases are controlled by the senior associate dean for academic affairs.

Assessment is managed at the block, clerkship, and track level. Written examinations are administered and overseen by course leadership. Simulated clinical exams are administered by course leadership with the assistance of the OME and the simulation labs. Clinical evaluations are managed by clerkship and track directors with the support from departmental administrators.

See Figure 1—Curriculum governance structure.

**Educational Staff**

The OME consists of 9 staff members who are responsible for the scheduling, coordination of online learning systems (Canvas, Oasis, etc.), website maintenance, curriculum distribution, testing support/administration, and general logistics of the curriculum.

The dean of the COM oversees both the educational and research activities of the college. The senior associate dean for academic affairs is most directly in charge of the educational aspects of the COM. All assistant and associate deans report to the senior associate dean. (See Figure 1 for specific personnel in each role.) The Office of Faculty Affairs is responsible for faculty development and serves all colleges at UNMC.

The role of the OME is primarily limited to undergraduate medical education and oversight of accreditation and other administrative tasks for each phase. The Office of Admission and Student Affairs is separate from the OME and involved primarily in recruitment, admission, and career planning. Graduate medical education has a separate administrative and academic support staff. Both UME and GME report to the senior associate dean for academic affairs.

See Figure 2—Organizational design.

**Faculty Development and Support in Education**

The Office of Faculty Affairs offers development opportunities throughout the year on various educational topics. They have single-session, lecture-style events, as well as more longitudinal offerings—short courses that can be enrolled in over 1–2 months and meet multiple times.

Education is highly valued in the promotion and tenure process at UNMC, being 1 of the 4 domains (education, research, service, and patient care) in which promotion criteria are organized. Particular emphasis is placed on the creation of new or innovative teaching methods; mentoring of faculty, staff, or students; evidence of teaching effectiveness (evaluations); and educational scholarly activity.

UNMC also has the Interprofessional Academy of Educators, which aids in faculty development and educational mentorship. Members are selected from the College of Nursing, College of Pharmacy, COM, College of Allied Health, and Graduate Studies. Its function is to promote the use of best practices by all educators, foster and disseminate educational research and innovation, and mentor early career faculty and preceptors in their development to become effective teachers and scholars.

![Curriculum governance structure](figure1.png)

**Figure 1** Curricular governance structure.
Figure 2 Organizational design.