University of North Carolina School of Medicine
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Medical Education Program Highlights
The University of North Carolina School of Medicine (UNC SOM) aims to serve North Carolina and beyond as one of the nation’s leading public medical schools. We aspire to excellence across the array of careers in medicine, allowing our learners to have access to varied role models and opportunities to inspire them on their way to a career of science and service. Diversity is a core value to our work and community. We admit a very diverse class (currently 21% of students come from backgrounds underrepresented in medicine) and intend that among our 190 graduates per year, many will specialize in primary care and other needed disciplines. Some will focus on careers geared toward scientific discovery, others focus on public and population health, some in medical education, and all working as leaders to improve health and well-being through their careers as physicians.

In 2014, UNC SOM implemented the Translational Education at Carolina (TEC) curriculum, which was built upon the following principles:
- Be student centered and patient based, while being population, public health, and globally inspired
- Facilitate translation and integration of basic, clinical, and population science to enhance human health and well-being
- Provide a strong foundation for entry into graduate medical education within the broad opportunities of medicine
- Be responsive to the changing health care environment
- Focus on promoting, supporting, and maintaining health, not just treating disease
- Incorporate strengths of the university, including opportunities for interprofessional and cross-disciplinary education
- Provide longitudinal engagement with faculty and robust mentorship
- Instill intellectual curiosity, developing an aptitude for critical thinking and lifelong learning
- Promote the development of leadership skills, professionalism, ethics, humanism, and service to others

The curriculum includes unique features such as:
- Threads to facilitate the translation and integration of basic, clinical, and health systems science to enhance human health and well-being
- Longitudinal outpatient experience incorporating a rigorous quality improvement experience
- Social and health systems science curriculum that spans all 4 years
- Opportunities to individualize learning such as scholarly concentrations, global health experiences, rural scholar programs, dual-degree programs (PhD, MPH, MBA, and others), and many opportunities for student leadership

Curriculum
Curriculum description
The 4-year curricular experience is divided into 3 phases: an 18-month foundation phase, 12-month application phase, and 14-month individualization phase. The foundation phase is divided into 3 courses: Medical Science, Patient-Centered Care, and Social and Health Systems. The application phase provides integrated clerkship experiences to enhance common learning themes. For example, one trimester highlights the vulnerable populations of pediatrics, obstetrics–gynecology, and psychiatry in a streamlined fashion, allowing synergy of perspective. The longer individualization phase allows students time to explore career options before submitting residency applications.

Curriculum changes since 2010
As of 2011, UNC SOM offered a traditional 2 + 2 curriculum with basic science courses in the first 2 years, 1 year of block clinical clerkships, and 1 year of monthlong electives.

In 2011, the faculty and leadership of UNC SOM recognized that the curriculum needed broadening, better integration, and a general rethinking. The newer competencies expected of today’s physicians were seen as perfectly congruent with the school’s population health mission but were not yet adequately addressed in the curriculum. There was little room for individualization within the medical education program, especially before the selection of residency field was required.

A strategic planning process was initiated. The new curriculum was conceived as 3 large curricular threads, each with identified faculty leadership:
- TEC 1: translation of medical sciences to the care of people (basic science)
- TEC 2: translation of medical sciences to the care of patients (clinical science)
- TEC 3: translation of medical sciences to the care of populations (health system science)

Class sizes have increased to 190 students per year beginning in 2018. UNC SOM has a long history working with the North Carolina Area Health Education Centers to provide training throughout the state and has 3 formal regional campuses. Asheville and Charlotte have been regional campuses since 2009.
and 2010, respectively, and in 2016, the campus in Wilmington was launched.


**Assessment**

Assessment is accomplished through direct observation and clinical assessment, objective structured clinical examinations, projects, peer feedback, reflective writing, and multiple forms of knowledge base testing. To better prepare our students for the USMLE Step 1 examination, customized NBME examinations for final block exams were initiated in the foundation phase and are being incorporated for the midterms during the 2019–2020 academic year.


**Parallel curriculum or tracks**

Even before the implementation of the TEC curriculum, the school offered 2 parallel tracks for the core clinical application phase: the Asheville longitudinal integrated clerkship and Charlotte longitudinal integrated curriculum (CLIC). What varies for students assigned to these programs is the structure of the core clinical application phase. The Asheville longitudinal integrated curriculum, launched in 2009, offers 8 months of integrated ambulatory clinical education and 4 months of inpatient course work for the now 31 students assigned to that campus. The CLIC program was established in 2010 and is offered at the Charlotte regional campus. For 2020–2021, 30 students were assigned to CLIC, which offers 6 months of integrated longitudinal ambulatory education. Another 6 months is dedicated to hospital-based inpatient education. The 2 programs use the same learning objectives, major assessments, and final grade breakdown as the traditional medical degree program.

In 2015, UNC SOM established a 3-year graduation pathway as a parallel track known as Fully Integrated Readiness for Service Training (FIRST). The focus of FIRST is to fast-track selected students into the family medicine residency program local to their campus site and encourage service in a rural area through loan repayment. FIRST students complete the same program objectives and assessments as the traditional medical degree program. The first cohort of students in this track is now completing residency and has been highly successful. The school is now expanding the track to other programs across the state including other disciplines such as psychiatry, general surgery, and pediatrics.

**Pedagogy**

In the foundation phase, there are a variety of pedagogical methods deployed, including small-group discussion with case-based learning, large-group lecture (which is now more interactive and case based), video podcasts as preparation for in-class sessions, laboratory sessions including peer teaching, and self-directed learning exercises. In addition, the physical examination course includes preceptorship, simulation, ultrasound skill teaching, standardized patients, and 1 week of clinical experience (either ambulatory or inpatient) per each of 3 semesters. The Social and Health Systems course includes small-group discussion as well as role playing in a health care reform exercise. In the application and individualization phases, pedagogical methods include a balance of ambulatory and inpatient clinical experiences with preceptorship as well as small-group and large-group case-based discussion, simulation, quality improvement project work, reflective writing, and standardized patients.

Additionally, we have an active Office of Academic Excellence that provides 1-on-1 and small-group help for students in need of more attention. Educators in this office assist in enhanced development of standardized test-taking skills, details of clinical performance, and other challenges that individual learners face.

**Clinical experiences**

We have worked to replicate longitudinal experiences for each of our students, believing in the benefits of continuity of place, peers, preceptors, and patients as illustrated in evaluation of the LIC model in Asheville1,2 and elsewhere. During the application phase, the Central (Chapel Hill, Greensboro, and Raleigh areas) campus and Wilmington have 16-week longitudinal clinical experiences in adult and pediatric ambulatory care. Asheville offers an 8-month longitudinal integrated outpatient experience with discreet inpatient experiences in surgery and adult inpatient care. Charlotte offers a 6-month longitudinal integrated experiences, which includes each clerkship discipline and 6 months of block inpatient experiences.

**Challenges in designing and implementing clinical experiences for medical students**

Clinical capacity is a challenge, especially as our class size has expanded. To address clinical capacity in the outpatient setting, we have worked to ensure that students add value. Our students help practices with quality improvement projects, and after the Centers for Medicaid and Medicare Services changes in documentation policy, they have a more active role in documentation. This has helped greatly with preceptor recruitment and retention. We have also invested in administrative support in our large practices to ease the burden of managing students. Finally, we have focused on faculty development through our Academy of Educators. We are also working proactively to address clinical capacity in the inpatient setting by working to develop teaching services in hospitals in our system that have not previously had learners.

**Curricular Governance**

The Education Committee has primary responsibility for the curriculum. The senior associate dean for medical student education chairs the committee, which is made up of elected and appointed faculty members, senior administrative staff, and medical students. Regional campus leaders are an integral part of this committee. There are 3 standing curriculum subcommittees.
representing the 3 phases of the TEC curriculum: foundation, application, and individualization phases. The subcommittee cochairs report to the Education Committee.

**Education Staff**
The Office of Medical Education provides logistical support for implementation of curriculum delivery. The office works with the director of educational scholarship to design evaluation tools to monitor student perceptions of the curriculum. The director of academic affairs oversees monitoring of the curriculum for quality improvement efforts. In addition to the typical support staff to facilitate student success, we have recently added wellness coaches to help build resilience and improve the mental health of our medical students.

See Figure 1—Organizational leadership chart.

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**Figure 1** Organizational leadership chart.
Faculty Development and Support in Education

The Office of Faculty Affairs and Leadership Development, housed within the Dean’s Office, exists to support the academic success of the faculty. The portfolio of programming aims to provide opportunities for personal reflection and growth for all faculty and to support the promotion and tenure process, to ensure individuals hired for leadership positions can develop the skills and ability to lead, and to address the unique needs of faculty subgroups. Program examples include the Academy of Educators, New Faculty Orientation, Coaching Skills for Leaders, Academic Career Leadership Academy in Medicine, and Making the Case.

The Office of Faculty Affairs and Leadership Development has also contracted with an external partner to develop a mobile app that guides faculty through career planning. Though not explicitly linked to promotion, the tool helps faculty develop a career mission and outline SMART goals and objectives to help them achieve that mission.

The Academy of Educators was founded in October 2006 as a part of the school’s strategic plan to enhance excellence in teaching through educational research and scholarship. The academy is for medical school faculty only. It offers robust programming at the central campus and at each of the regional campuses. Through online and in-person offerings and an engaged faculty council, the Academy of Educators is a vital component of faculty development for educators.

Regional Medical Campuses

An instrument we call the Campus Comparability Tool was developed by our Education Committee for tracking measures of comparison. The measures were derived from the LCME elements addressing comparability of regional campuses. Given the unique attributes of each campus, using these elements allowed us to agree on outcome measures while acknowledging contextual factors at each site.

See Table 1—Regional Medical Campuses.

### Table 1

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<tr>
<th>Regional campus name</th>
<th>Type</th>
<th>Student enrollment</th>
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<td>Asheville</td>
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<tr>
<td>Charlotte</td>
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<tr>
<td>Wilmington</td>
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<tr>
<td>Central campus (which includes teaching sites in nearby Greensboro and Raleigh in addition to Chapel Hill)</td>
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<td>124</td>
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References