Lead Story

The University of South Carolina School of Medicine (USCSOM) Greenville, located on Greenville Memorial Medical Campus of Greenville Health System (GHS), is providing medical students with an innovative education that broadens their view of health care and of community needs.

A New School of Thought

Increased clinical relevance and a long-term view of health care are among the goals of the curriculum.

The way the story has traditionally gone, a university adds a medical school to its campus, develops the scientific curriculum and faculty, then seeks clinical partners to provide third- and fourth-year students with rotation opportunities. But USCSOM Greenville went about that process almost backward. Instead of being located on a university campus, this medical school is situated at Greenville Health System, South Carolina’s most comprehensive health system.

In addition, USCSOM Greenville has the benefit of GHS’ two decades of working with third- and fourth-year students from the university’s medical school in Columbia, along with extensive experience with graduate medical education and training.

“Most people begin with the university and have all the basic science and then try to figure out what they’re going to do in the third and fourth years,” said GHS’ Paul Catalana, MD, MPH (Adolescent Pediatrics), assistant dean for admissions. “We’ve got residencies (Pediatrics began in 1970), we’ve got third- and fourth-year education (since 1991), and now we’re putting together a first- and a second-year curriculum that takes advantage of the system that’s already in place.”

The decision to expand the existing program to include first- and second-year medical students was made in 2009 and, in July 2012, USCSOM Greenville welcomed its charter class.
Focus on the Clinical
One way the curriculum takes advantage of its integration within GHS is through increased clinical opportunities in the pre-clinical years and greater clinical relevance in the classroom setting. Each week during the first year, students learned a new type of patient exam, then practiced the exam in small groups, along with a clinician and a standardized patient, in the Clinical Skills Lab.

Curriculum structure also supports the focus on clinical relevance, balancing basic science courses such as cellular and molecular function with courses like "Medicine and Society," which prepares students for the multi-faceted aspects of clinical medicine by honing their skills in everything from physical diagnosis and diagnostic testing to effective communication and professionalism.

Perhaps what most profoundly increases students’ early exposure to the clinical setting is the requirement that all students become trained as emergency medical technicians (EMTs) in their first six weeks and then work EMT shifts throughout their four years of medical school (see story, page 16).

Such efforts have not gone unnoticed by the school’s charter class. Just one year into their training, these students know they are part of something unique.

“One thing I can be certain of is that my medical school is preparing me to be a good doctor, not just an encyclopedia of medical knowledge,” said first-year student Matt Eisenstat. “The third year of medical school often is a trial by fire, but USCSOM Greenville is doing its best to make sure that every one of us can walk into our clinical years with more confidence.”

In addition to being clinically relevant, the curriculum is integrated. As opposed to the more typical block courses such as physiology, pharmacology and microbiology, components of each topic are included within individual modules that begin with cellular and molecular function and proceed through structure and function, neurologic control and immunology.

“It is a newer, more non-traditional approach to medical education,” noted Dr. Catalana. “The whole process is to continually reinforce and to try to reinforce it in such a way that it has ongoing clinical relevance.”

A Shifting Healthcare Paradigm
These students are training in a setting that integrates a variety of healthcare professionals. When working in the simulation center, medical students are learning

USCSOM Greenville offers a unique curriculum structure that strives to give students regular exposure to the clinical setting.

GHS Vision: Transform health care for the benefit of the people and communities we serve.
GHS Mission: Heal compassionately. Teach innovatively. Improve constantly.

Advancing GHS’ Vision and Mission
GHS’ academic vision entails engaging with in-state academic partners to enhance the quality and quantity of locally trained healthcare workers. More than 5,000 students receive academic training at GHS annually, including students from Clemson University (its primary research partner), USC (its medical education partner), Furman University and Greenville Tech.

“USCSOM Greenville is built for a new generation of community health needs,” said USCSOM Greenville Dean Jerry Youkey, MD. “Clinical training will be conducted in a hospital environment all four years of the program, rather than only in years three and four as with most other medical education programs.”

He continued, “Our students will be masters of evidence-based medicine, where physicians gather facts and options and rate them according to scientific soundness. They will be taught to constantly question procedures and treatments, rejecting a ‘because that’s the way we’ve always done it’ approach in favor of scientific thinking and application. They will be prepared to solve problems, contain costs, reduce errors, and innovate and implement process improvements.”

As part of their training, students will identify an aspect of GHS’ healthcare delivery that could be enhanced and develop a research project to improve care while taking into account the cost, risk and efficacy of the proposed solution.

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<tr>
<th>Charter Class Profile</th>
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<tr>
<td>1,445 applicants</td>
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<tr>
<td>53 accepted students from 17 undergraduate institutions</td>
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<tr>
<td>77% from South Carolina</td>
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<tr>
<td>29 females, 24 males</td>
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<tr>
<td>8 under-represented minorities</td>
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<td>Median age: 23</td>
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Table 2:

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<tr>
<th>South Carolina’s Physician Workforce</th>
<th>Number:</th>
<th>Rank:</th>
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<tr>
<td>Physicians per 100,000 population</td>
<td>215.8</td>
<td>37</td>
</tr>
<tr>
<td>Primary care physicians per 100,000</td>
<td>77.4</td>
<td>39</td>
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<tr>
<td>Physicians retained from undergraduate medical education</td>
<td>49.2%</td>
<td>10</td>
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<tr>
<td>Physicians retained from undergraduate and graduate medical education combined</td>
<td>76.6%</td>
<td>9</td>
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Age Breakdown:
<40: 18.1%
40-60: 57.9%
60+: 24%

Source: 2011 State Physician Workforce Data Book, Association of American Medical Colleges

Alongside pharmacy and certified registered nurse anesthetist (CRNA) students, along with nursing students and other emergency personnel, reinforcing the concept of the healthcare team.

“We’re focusing on and emphasizing the importance of interprofessional education because medicine is an interdisciplinary profession,” Dr. Catalana stated. “Our attempt is to help students understand how the interdisciplinary team can provide better, more comprehensive care for a patient than any individual professional can.”

The requirement to train and work as EMTs also reinforces this concept, along with another big paradigm shift that faculty members at USCSOM Greenville hope to pass on to students.

“We are using that experience as one of many efforts to begin to address medical education from the standpoint of moving it away from acute, episodic care, to a paradigm of more long-term, preventive care,” said Dr. Catalana.

Jerry Youkey, MD, dean of USCSOM Greenville, often notes that a patient’s illness neither begins in the emergency room nor ends at discharge. Insights medical students gain about their community and the quality of life of their patients through these regular EMT shifts highlight the truth of that statement.

Benefits Reach Statewide

Like the rest of the nation, the Palmetto State is experiencing a physician shortage. In 2010, the state ranked 37th in the number of physicians per 100,000 in population and 39th in the number of primary care physicians per 100,000 in population (see Table 2). Many small and rural communities already lack a sufficient number of doctors. A recent Kaiser Family Foundation study found that 1,190,097 South Carolinians live in an area with a shortage of primary care health professionals (physicians in general or family practice, internal medicine, pediatrics or OB/GYN). That amounts to 25% of the state—the national average is 19%.

“There is a conscious attempt to continually relate topics being discussed in the classroom in a clinically relevant way, to answer the question, ‘Why am I studying this?’” —Dr. Catalana
Many factors contribute to this problem: an aging population, rate of physician retirement, limited number of openings in regional medical schools and competition for talented young students. Plus, the state has seen an 11.7% increase in population in the past decade. As the population grows, and especially among retirees settling along the coast or in the mountains, the need for physicians also grows. In the meantime, the physician population in South Carolina is getting older, with nearly 60% of active physicians currently between ages 40 and 60.

The good news for residents is that medical students who study in the Palmetto State tend to stay put for their eventual practice. South Carolina ranks 10th in the nation in the number of active physicians who attended medical school in the state and ninth in the number who both attended medical school and completed residency here.

“Our hope is to retain a fair number of these medical students for residency training at GHS,” Dr. Catalana pointed out. “It’s been clearly shown that where you train is oftentimes where you practice, so certainly one of the reasons behind the establishment of this new school is to address looming healthcare shortages.”

Those who grow up in South Carolina also seem to prefer attending medical school in their home state. For the 2010-11 academic year, South Carolina ranked second in the nation in the number of first-year medical students attending school in their state of legal residence. USCSOM Greenville opens up a new option for young men and women to receive high-quality medical education and training without leaving the area. This year’s charter class includes 53 students, with 77% of those students hailing from South Carolina. By 2015, USCSOM Greenville will enroll 100 medical students a year, which will help alleviate the region’s physician shortage.

In addition to increasing the in-state physician pool, the medical school is likely to attract some hard-to-find subspecialists to the area, thanks to the draw of being involved in teaching.

“New biomedical science and clinical faculty generally come along with a new medical school, and oftentimes those clinical faculty members are subspecialists who would be available to the practicing community,” Dr. Catalana explained.

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