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## Training for transformation

By Richard J. Simons, M.D.

**T**he current model of medical education has served this country well, but it is now in need of profound change. The traditional system, which was created in the early 1900s, has many strengths: it has strong roots in the biomedical sciences, and it is thoughtfully organized, rigorous, and highly regulated by the profession and by society. However, given the challenges facing our health-care system—including rising costs, an aging population, the prevalence of chronic disease, and the need for greater attention to the quality of care and to patient safety—reform of both health care and medical education is necessary. Indeed, the president of the Association of American Medical Colleges has called for “revolutionary overhaul” in the training of the health-care workforce.

As the new senior associate dean for medical education at Geisel, I am excited to be working with faculty colleagues, staff, and students to lead the curriculum reform initiative, an effort that I believe will position Geisel as a national leader in medical education. I will describe here several of the major changes being developed for the new curriculum to address the shortcomings of the current system of medical education and the challenges posed by modern health care.

One major problem with medical education is that foundational knowledge of the biomedical sciences, which is usually taught in the first two years of medical school, is poorly linked to clinical experiences, which typically occur in the third and fourth years of medical school. So students often struggle to see the relationships between the biomedical topics they learn in the classroom and the clinical problems they later encounter. Although most medical schools have some clinical exposure early on in the educational experience, these efforts often lack clearly defined roles for the students.

The future curriculum envisioned for Geisel students will attempt to integrate basic and clinical science across all four years of medical school. This will include the creation of a longitudinal clinical experience, which will foster both patient-centeredness and learner-centeredness by formally establishing the opportunity to form connections with patients and with a faculty mentor. Longitudinal clinical experience is so important in the training of our future physicians, because the most powerful motivator for learning is a deep sense of commitment to patients. It is also important to create rich connections between students and a faculty mentor. Close relationships between students and mentors facilitate the development of shared goals for coaching, promote effective feedback, and enhance clinical performance through competency assessment.

Another longstanding problem in medical education is the use of the lecture as the dominant pedagogy for the first two years. Medical schools have traditionally overemphasized factual medical knowledge



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at the expense of intellectual curiosity, clinical problem-solving, and critical thinking. Although lectures are a very efficient way to transmit information to a large group of learners, they rarely engage students in building conceptual understanding.

Accordingly, we envision the future curriculum at Geisel having a menu of educational activities that will stimulate active learning by medical students. These activities might include, but would not be limited to, case-based learning, team-based learning, small-group discussions, Web-based modules, and simulated and real clinical experiences. We

have already taken steps in that direction. This year, all first-year medical students have been provided with iPads with the goal of enhancing education through the many “apps” that promote active engagement with course content. Recruitment is underway for faculty members with expertise in instructional design and educational technology to assist with the design and implementation of the new curriculum.

It is clear that there is an urgent need to train future physicians “to continually improve the delivery of health care to realize, sustainably, its fullest potential benefit to the health and well-being of the population,” in the words of Donald Berwick, M.D., the former head of the Centers for Medicare and Medicaid Services. Armed with the expertise of the Dartmouth Institute for Health Policy and Clinical Practice and the Dartmouth Center for Health Care Delivery Science, Geisel is one of the few medical schools in the country that is truly capable of educating medical students in the sciences of improvement, health-care delivery, and population health, which are often neglected at most medical schools.

As part of the new curriculum, we see medical students taking part in an experiential component with a defined health-care improvement project that might take place during the longitudinal clinical rotation. As Berwick has said, “A physician equipped to help improve health care will not be demoralized, but optimistic; not helpless in the face of complexity, but empowered; not frightened by measurement, but made more curious and interested; not forced by culture to wear the mask of the lonely hero, but armed with the confidence to make a better contribution to the whole.”

What we envision is a curriculum that is vested in modern educational theory and that will train the next generation of physicians to be not only outstanding clinicians but also leaders who can help transform our health-care system for the better. Groups of talented, innovative, and committed faculty members are hard at work developing the new curriculum at Geisel, which we expect to launch in August 2015. For now, as stated by Dean Souba in his recent state of the medical school address, “Full steam ahead!”