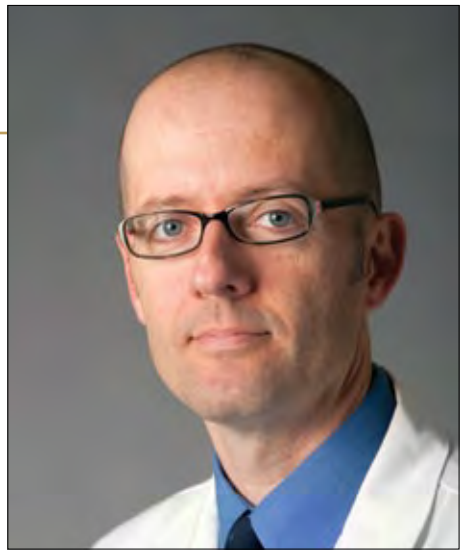
Preparing medical students for a changing profession



Dr. Timothy Lahey

Geisel School of Medicine is rethinking how to carry out one of its most basic missions: turning first-year medical students into the physicians of tomorrow. Redesigning the medical curriculum is a difficult but vitally important task, says Dr. Timothy Lahey, a member of the executive leadership team charged with overseeing the process. He spoke with *Dartmouth Medicine* about the effort.

Why does the medical school need to redesign its medical curriculum?

It's a combination of changes in medical practice and changes in medical education. Medical practice is just really different than it was a hundred years ago when medical education took its present form. Back in 1910, when Abraham Flexner proposed a structure for medical education, there wasn't the current emphasis on high-tech, high-throughput care. Inpatient stays were much longer. There wasn't the same level of team care. It was more of the country doctor doing house calls, not the multidisciplinary team medicine that we practice now.

These changes beg for a change to the way we educate our students. There are also new national recommendations about the proven effective ways of educating our students—with less lecture time, more interactive teaching approaches, and more clinical time from the get-go. To make huge changes of approach like that, we have to redesign the curriculum.

Where does the effort stand now?

It's really early. An important piece of redesigning a curriculum correctly is to engage the whole community around the redesign. You need to take the time to engender a lot of faculty and student buy-in, get feedback on the process, get a draft out, revise, and go back and forth. We need to have conversations about what our medical students should be. What is the critical core of medical knowledge? What kind of an institution do we want the medical school to be? What do we want to accomplish? What exactly would be different about the medical student who graduates in 2020 compared to now? That conversation is where we are now.

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So what would the Geisel graduate in 2020 look like?

Geisel graduates need to understand all the pathophysiology and treatment of disease, and they need to know how to translate that knowledge into clinical care. But they also have to be able to update their knowledge and test hypotheses independently. We want to improve their ability not only to be exposed to facts and be exposed to clinical scenarios but to be able to hypothesize explanations to clinical problems and devise methods to answer questions.

The second piece is flexibility. It's important to recognize that there isn't just one type of graduate. You're going to have students who elect to do basic science plus clinical science. There will be students who do only clinical work. There will be students who teach. There will be students who do health-care delivery science. There will be people who do clinical trials. There are lots of different careers possible.

Adding bioinformatics expertise

Dr. Amar Das

Two experts who work at the intersection of biology and informatics are joining the faculty of the Geisel School of Medicine. Amar Das, M.D., Ph.D., comes to Geisel from Stanford, where he developed computer technology to help clinical researchers access, manage, analyze, and visualize health-care data. Das, who was an assistant professor of medicine and psychiatry at Stanford, also helped develop a web-based visualization tool that presents patient data as a timeline; researchers can use the tool to study how specific cohorts of patients respond to treatments.

Christopher Amos, Ph.D., comes to Geisel from M.D. Anderson Cancer Center, where he was a professor of bioinformatics and computational biology and of epidemiology. Over the course of his career, he has studied genetic causes of prostate, head and neck, lung, and colon cancers, as well as Peutz-Jeghers syndrome, which increases the risk of polyps and multiple cancers.

To read an interview with Das about his background and research, and to find out more about Amos, see dartmed.dartmouth.edu/sp12/we04.