

Preparing medical students for a changing profession

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.

So what would the Geisel graduate in 2020 look like?

Geisel graduates need to understand all the pathophysiology and treatment of disease,



Dr. Timothy Lahey

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.

Whatever our graduates do, whether they're 100% clinician or 100% researcher, or some mix, they will be leaders and scholars. They'll be the ones who develop new knowledge, whether they teach it to somebody else or educate their patients or discover some new drug. So they need the skills to be leaders.

A neglected part of medical education everywhere is ethics and humanities. And so one vein of the curriculum redesign is going to be to work on professionalism and physician well-being and physician ethics, without which all the science is worthless.

Could you talk about the implementation of a master's program? Would every graduate end up with a master's degree?

Our goal is first to create a master's program that's available to a subset of students who choose it. It's elective, not mandatory. Eventually the master's program will become available to every medical student, and we expect it will be of such high quality that students will clamor to enroll.

How would you fit all this into four years?

That's the million-dollar question. I think it depends on how you think about medical knowledge. There is one model, and I think of this as the outdated model, that starts with a core set of facts and concepts that must be memorized, and as every year goes by the number of available related facts and concepts grows. With that model you get to a point where eventually there is too much to know, and adding in new components, such as a master's program, feels infeasible.

Another way is to think about the set of skills, concepts, and knowledge that medical students have to have when they exit Dartmouth. There are some facts I have to know as a physician, but I look up something on the computer multiple times every day. You just can't memorize it all. So you have to teach students how to think and analyze and hypothesize, and to acquire facts when they need them. That's the shift. How do you fit a master's program? You move some of the extraneous facts out of the curriculum, and you build in high-value teaching.

"Whatever our graduates do, they will be leaders and scholars."

Why did you get involved in the redesign effort?

I was a medical student not too long ago. I remember how hard it was to sit passively in a classroom and memorize things all day. The opportunity to change that is really enticing. Similarly, now my students show up idealistic and impassioned and ready to change the world and I watch them struggle with the challenges of medical school. Challenges are a good thing—medical school is hard, and it should be hard. That's appropriate. But under the name of being challenged, medical students have been stuffed with facts, pressed for time, and exposed to inconsistently professional role models. Some of them walk out well trained but perhaps with the sense that medical school could have prepared them better for their careers. I love the idea of watching them walk out of medical school still idealistic, still empowered, but so much more skillful than before.

President of Kosovo visits Dartmouth, bestows honor on Strickler

The strong ties between Dartmouth and Kosovo were forged even before the young nation gained its independence in 2008. In March, those ties grew even stronger when the president of Kosovo, Atifete Jahjaga, visited Dartmouth, meeting with faculty and students and speaking about the challenges her country has faced.



Atifete Jahjaga, the President of Kosovo, presents James Strickler with the Humanitarian Medal of Mother Teresa.



Jahjaga talking with Dean Souba.

During her visit, Jahjaga also honored Dr. James Strickler, a professor and former dean of the medical school, with the Humanitarian Medal of Mother Theresa. Strickler became involved in Kosovo in 1999, when he began working with the International

Rescue Committee in refugee camps to help those affected by the Serbian conflict. When the war ended, he led the creation of exchanges that have now seen more than 200 Dartmouth and Kosovar students and faculty learn from each other. And in recent years, Strickler has helped start the process of rebuilding Kosovo's health-care system, which was decimated by war.

"We are grateful to you for all you have done for the people of Kosovo," Jahjaga told Strickler.

For a **WEB EXTRA** with more stories and photos from the visit, see dartmed.dartmouth.edu/sp12/we02