





PREPARING FOR TAKEOFF

Medicine is changing, and medical education is changing with it. A pilot program at Geisel is testing a new approach to the first-year curriculum to give students more time with a faculty mentor and a long-term outlook on primary care.

BY AMOS ESTY | PHOTOS BY ELI BURAKIAN (D'00)



"I DON'T HAVE TO GO SEARCH FOR A MENTOR; I HAVE ONE RIGHT HERE."

On Doctoring has long been perhaps the favorite course among first-year medical students at Geisel. After spending hours studying for anatomy, physiology, and other basic science classes, the students have a chance in On Doctoring to apply their knowledge by spending time in the clinic working with patients.

But despite the popularity of On Doctoring, the faculty who lead the course are now making some significant changes to it. A new pilot program that started this year has put 16 first-year students and four faculty members into an alternative version of On Doctoring to test new approaches to teaching clinical skills.

The pilot program is part of the ongoing curriculum redesign effort, which will culminate in 2015 with the introduction of a new medical curriculum. But the Medical School's leadership and faculty aren't waiting for 2015 to evaluate and experiment.

"The On Doctoring program is a very solid, well-received course," says Roshini Pinto-Powell, M.D., an associate professor of medicine and a co-director of On Doctoring. "But as part of the new curriculum development we are looking for ways to make this a truly longitudinal experience."

Nancy Cochrane, M.D., an associate professor of medicine and also a co-director of On Doctoring, says that one reason for making changes to the course is that medicine itself has changed. "As medicine is moving increasingly toward patient-centered medical homes and accountable care organizations, it is increasingly being practiced in a team-based way," she says. "We've struggled for years to try to figure out a way to integrate the students from the very beginning of medical school in a meaningful way into patient care teams." She and Pinto-Powell believe that the pilot program marks a step in the right direction.

TGIT

First-year medical student Oluwayinka Igberase says that the highlight of his week comes on Thursday afternoons,

when he leaves campus and heads across the Connecticut River to White River Family Practice. Over the course of the afternoon, he and three of his fellow first-year students work with family physician Sean Uiterwyk, M.D.—and often with fourth-year student Matt Mackey, as well. They start by going over fundamental clinical skills, such as taking a history or performing a physical exam, and practicing those skills with each other. Then it's time to see patients and to work on the skills they had practiced earlier. Uiterwyk observes the students and provides extensive feedback, and the students regroup to discuss how things went.

These Thursday afternoon sessions are the central part of the On Doctoring pilot program. Igberase isn't the only one enthusiastic about the class. The students understand the importance of learning anatomy, physiology, and other basic science material, but what gets them excited is applying that knowledge by working with patients.

"It's easy to forget that you're studying medicine for the purpose of treating people," says first-year Aaron Steen, who, like Igberase, works with Uiterwyk.

"It's a break from med school and a reminder why you're here," echoes Juliet Han, a first-year student who works with Pinto-Powell.

The pilot program is very similar to the traditional On Doctoring course in many ways. In the traditional course, students meet in groups of eight with a faculty member, called the facilitator. These small-group sessions are spent working on clinical skills. Every two weeks, each student spends an afternoon working with a physician—



called the preceptor—at one of a number of sites around the region, from primary-care providers at DHMC to family physicians at small community practices.

But there are a few key differences that those involved in the pilot program think could make a big difference. One obvious difference is that the students meet in groups of four rather than eight, giving the faculty members they work with that much more time with each student. Another important change is that the stu-

dents work with the same person for both the classroom time and the clinical practice. “We thought if we married these roles—the facilitator and the preceptor—we could really get to know students in a whole different light and be able to mentor them better,” Pinto-Powell says.

Cochran, Pinto-Powell, and Uiterwyk all serve in this role, as does Cathleen Morrow, M.D., an associate professor of community and family medicine.

These changes foster a closer relationship between students and their preceptors. “I think that’s one of the most important things we can do for our students,” says Richard Simons, M.D., the senior associate dean for medical education. “They can have a strong relationship with a faculty mentor who can help mold them, so to speak, and also have the joy and satisfaction of seeing the same patients over a period of time.”

Aaron Steen has enjoyed having a chance to work so closely with Uiterwyk. “I love having the opportunity to try to build a relationship with our preceptor,” he says. “I don’t have to go search for a mentor; I have one right here.”

Uiterwyk has served as a preceptor for the traditional On Doctoring course before, and he says the changes in the pilot program have given him more time with the students. “My ability to observe them is much better than it was in the traditional On Doctoring,” he says. “The opportunity to give good feedback is much better.”

Traditionally, the On Doctoring course has been part of the first- and second-year curriculum. But Cochran and Pinto-Powell hope to extend the pilot version into the third and possibly even fourth years of medical school. That change, combined with the chance to work with one faculty member in both the classroom and clinic, makes the pilot program a more longitudinal experience, which is one of the primary goals of the program.



First-year medical students Ian Engler (left) and Juliet Han (above) practice their burgeoning clinical skills by working with patients at DHMC.

By returning to the same site and working with the same preceptor year after year, the students will have a chance to get to know patients over the long term. “Students rarely get to see the evolution of a disease,” says Simons. “They get to see a snippet of disease and how patients are cared for in the acute setting, which is great, but what they miss is a longitudinal perspective on patients.”

Morrow has practiced family medicine for years, and she has spent a lot of time thinking about how to improve the exposure medical students get to primary care. “How can we create for students the continuity of relationship over time, which is at the heart of primary-care medicine?” she asks. Students get a glimpse of primary care in their third- and fourth-year clerkships, she says, “but they don’t get to see what it means to be someone’s physician over time.”

Another change has been the involvement of fourth-year students, who have helped teach clinical skills and observed students in the clinic. “Seeing how competent the fourth-years are has been really wonderful,” Cochran says. “Both sides love it. The fourth-years because they recognize how much they’ve learned, how much they’ve grown, how much they have to offer. And the first-years because they have hope that they’re going to get through and be that masterful.”

THE NEW APPRENTICESHIP

Despite the success of the program thus far, there are some clear challenges to continuing and expanding it. “What it has shown us, to be honest, is that it’s a tremendous amount of work,” Pinto-Powell says. The faculty preceptors have all spent a great deal of time preparing for class meetings, in addition to the time spent creating the program and evaluating its strengths and weaknesses. They also all mention the importance of their colleagues in their practices at making the program work.

“It has been sobering for us to confront how challenging it is to give students good experience over time . . . and make sure their educational needs are attended to while we also make sure the needs of patients are attended to,” Morrow says.

A second challenge is finding other physicians who are able and willing to serve as preceptors for the course, given the additional time and responsibilities. Cochran says this

will take faculty development. “Most doctors are not taught how to teach,” she says. Although they may have a lot of experience giving lectures, they may not have been trained to facilitate small-group learning. “It’s a totally different style of education,” Cochran says.

Morrow agrees. “There’s this assumption in medicine that if you’re a good doctor you can teach, but that’s not necessarily true,” she says.

Still, all the faculty involved in the pilot program would like to see it continue and expand. “We’re so enthusiastic about it, and we really feel like it’s working,” Cochran says. “We feel like this is the right way to teach clinical medicine.”

“If we want to be a medical school that’s providing the right kind of education for students, this is something we must do,” Simons says.

Cochran compares the pilot program to a very old model of medical education: apprenticeship. But, she adds, there are some important differences. “It’s much more deliberate,” she says. “That’s what this pilot emphasizes—you can’t just walk in and talk to someone. You’re modifying your approach with every patient you meet. You have to be so deliberate and so self-reflective, and you have to get a lot of feedback.”

It sounds like the students are already learning that lesson. “I’d obviously heard about the shift to patient-centered medicine, but I’d heard it from discussions in articles,” Igberase says. “But actually coming here to medical school—our mentors are all talking about involving the patient. It’s a great step forward.”



Before meeting with patients, students in the pilot program work with faculty and more experienced trainees. Above, DHMC resident Jeremy Whyman (right) works with Ian Engler. At right, first-year student Shelsey Weinstein (left) talks with Roshini Pinto-Powell, one of the leaders of the On Doctoring pilot program.



First-year student Christiaan Rees, who works with Morrow, has also been impressed by this emphasis. “I kind of came in with the idea that if you studied hard enough and you got perfect grades and did well on the boards, that would make you a great doctor,” he says. “That’s certainly true to an extent. But if you don’t have the ability to sit down with a patient and understand what they’re saying and understand their concerns, I don’t think you’ll ever really connect with them.” ★

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EDUCATING iDOCTORS

Until last summer, Virginia Lyons, Ph.D., an associate professor of anatomy, didn’t own an iPad, or any other tablet for that matter. But over just the past several months she and her colleagues have introduced into the first-year anatomy course components that require the use of an iPad. They were able to do so because of an initiative being tested with the Class of 2016 in which every student is given an iPad when they arrive at Geisel.

Lyons says that the use of the tablets has already enabled the anatomy faculty to rethink much of the course. One change has been that the faculty have posted recordings of lectures, slides with learning objectives, and other materials, expecting the students to have gone over them before they arrive at class. Class time is then used to answer questions and work on activities that apply and reinforce the materials.

Leslie Fall, M.D., a professor of pediatrics and the associate dean for faculty development, has helped lead the introduction of iPads into the first-year curriculum. “The most important thing in using technology in education is recognizing that education comes first and technology should enhance the education,” Fall says. “You shouldn’t use technology for technology’s sake.”

Some textbooks are available on the iPad, as are “apps” used in classes to follow along. One anatomy app, for example, allows the students to see the movement of muscles as the professor discusses them.

Fall says that the iPads have also made it easier to provide feedback to students as they practice clinical skills. The practice sessions can be recorded, and then the student and faculty member can go over the interaction together. The app used to provide feedback was initially developed for

use by coaches in sports, but it has proved very useful in teaching clinical skills. “It’s much harder to give feedback to someone in real time, because you’re working off your memory,” Fall says. “It really has created a way to have a conversation about physical skills and history-taking that you didn’t have before.” She is now thinking about how to integrate use of the iPads beyond the first year.

“The iPad program fits into the overall scheme of using technology to improve students’ learning,” says Richard Simons, M.D., the senior associate dean for medical education. “Traditionally in medical school classroom activities were used to transmit information, like the lecture. And we really want to move to a model where we have a lot of interaction with the students.”

Although many faculty members are new to the technology, Fall says that the introduction of the iPads has been fairly seamless. “There’s a bit of a learning curve, but once you figure it out it’s pretty easy,” Fall says. And, she adds, the students have picked it up quickly.

“I like it because it keeps everything centralized for me,” says first-year Aaron Steen. “All my notes, all my coursework, everything is on my iPad. And it’s very mobile. I can take it anywhere I go.”

Lyons, who is the assistant dean of the first-year curriculum, is now thinking about how to make even more use of the iPads in future semesters, and about what the tablets mean for the curriculum more generally. “You can get into a rut where you’re doing the same old thing,” Lyons says. “It really got us thinking again about our course and about how we teach it and what things we could do that we never thought we could do before.”