Rethinking Public Health Education

This fall the Mailman School rolled out a revolutionary new MPH curriculum. Here’s how it got done and why.

by Jon Marcus

photos by Roj Rodriguez
From his office on the 15th floor of the Mailman School of Public Health, Sandro Galea, MD, DrPH, can see the graceful arc of the George Washington Bridge and sturdy tugboats pushing barges up the Hudson River. But he hasn’t had much time to enjoy the view. Less than two months after he arrived from the University of Michigan in January 2010 to chair the Mailman School’s Department of Epidemiology, Galea found himself invited to the 14th floor to hear an extraordinary request from the dean.

Public health education, Dean Linda P. Fried told him—their school’s stock in trade—was not adequately preparing graduates to address the complex public health issues of the 21st century. “And yet,” she noted, “we’re teaching people who will be leading the field far into the future—in 2030 and 2050.” She’d been thinking, she said, as a scientist and an educator, about how this had to change. After all, she told Galea, public health leaders “have to have a bifocal vision—with their eye on both the short term and the long term.” That vision needs to take into account “what’s best for the field, what society needs from us to protect and improve millions of lives, and what a great school must do to get us there.”

Galea’s assignment, should he choose to accept it: Lead a process with the faculty to create a new road map for public health education. “We need to put on those bifocals and completely reenvision the Master of Public Health,” she said.

It was going to make pushing a barge up the Hudson look easy.

While there had been many calls for reform over the decades, the basic model of public health education hadn’t changed substantially in a century. It dated, in large part, from a time when industrialization and urbanization were still new and the dominant health issues were safe water and food, infectious diseases, and workplace safety.

Public health, meanwhile, had been changing fast. HIV/AIDS, SARS, and other rapidly emerging diseases demanded global action, a variety of scientific perspectives, and the collaboration of public, private, and nonprofit part-
“We must teach students to examine population health not only across disciplines but from the perspective of ensuring health at every age and stage of life.”

— DEAN LINDA P. FRIED

Challenges such as these were on Dean Fried’s mind as she spoke with Galea about the world Columbia’s public health graduates were entering. These very issues were central to the School’s strategic plan that she had developed with faculty. It was clear that to address these challenges, students would need interdisciplinary training and more hands-on experience in applying theory to everyday practice. They would also need education in leadership, teamwork, and negotiation similar to what’s offered at business schools.

This kind of education would better serve employers who were pressing for graduates equipped with broad knowledge and leadership skills. It would answer calls from the National Institutes of Health for more interdisciplinary research and scientists trained to lead it. And it would respond to students and their families seeking cutting-edge, career-ready training in return for their considerable investment in a Master of Public Health (MPH).

“We’re not the first people to notice the need to do things differently,” says Melissa D. Begg, ScD, vice dean of education and a professor of Biostatistics at Mailman. “The people who employ our graduates have been talking about it. And when we looked at our MPH graduates, the most successful ones have the broadest skill sets.”

In academia, however, change is always difficult and it’s usually resisted. When Galea returned to his office and began to tackle the project, “he didn’t come in and say, ‘I know how to do this,’” says Begg, who worked closely with Galea on the curriculum and then took on the job of implementing it. “It would have been faster if he told people what to do, but it would have failed.”

This fall, after two and a half years of painstaking diplomacy, hard work by ten committees, innumerable discussions involving some 200 members of the faculty, staff, and students, and several million dollars of investment, the Mailman School introduced some of the most sweeping changes in U.S. public
These two approaches to reform were largely about content. Medical and public health trainees would have their heads filled with knowledge they could call upon to do their jobs. In the ensuing century, there have been some adjustments to this model; in the 1950s, for example, schools of public health and medical schools added problem-based instruction. But there things largely stayed.

Major reports in 2002 and 2003 by the Institute of Medicine urged, among other things, that schools of public health become interdisciplinary both in education and their research. An expert committee made a list of skills required of applied epidemiologists—financial management and planning, for example, and cultural competence—and reported that many weren’t being taught. "We found gaps," says Denise Koo, MD, MPH, who helped lead the committee and who directs the Scientific Education and Professional Development Program Office at the Centers for Disease Control and Prevention. "Schools of public health don’t consistently teach surveillance, for instance. They weren’t nec-
By the time an international commission was convened in 2010 to review the education of public health professionals in the 21st century, it found “a slow-burning crisis.” The resulting report, published in The Lancet in late 2011, said that public health education—along with medical and nursing programs—relied on “fragmented, outdated, and static curricula that produce ill-equipped graduates.”

The same problems existed at one school of public health after another, the commission concluded. “If you’ve seen one school’s core curriculum, you’ve seen practically all of them,” says Ian Lapp, PhD, who was recruited from the Mailman School to become the associate dean for strategic educational initiatives at the Harvard School of Public Health and launch a similar curriculum revision there next year to coincide with the school’s 100th anniversary. “Schools and programs in public health have grown rapidly in number in recent years, but there has been a process of replicating what already exists, rather than pausing to ask, What’s next?” That’s the question Columbia’s Mailman School would be the first to try to answer.

TEARING DOWN THE WALLS
The first step was to define core knowledge for the 21st century and then to ensure that all MPH students shared it: to teach the social sciences students to calculate, the biostatisticians to manage, and the healthcare managers to identify patterns of disease. “In the past, Health Policy and Epidemiology students took almost completely different courses during their time with us,” says Galea, who is the Anna Cheskis Gelman and Murray Charles Gelman Professor of Epidemiology. “And since you hang out mostly with the people you take courses with, a health policy student hardly ever met an epidemiologist.”

As an MPH student, “one of my frustrations was that there was no communication across departments,” says doctoral student Catherine Richards, MPH ’08, who cochaired one of the ten curriculum-review committees: “You could be learning the same things [in different courses], and nobody would bring them together. There was a lot of overlap and redundancy.”

To bring people and ideas together, Galea and Dean Fried created a task force of senior faculty and staff representing every department. Beginning in March 2010, it met every Friday at 8 a.m. for two hours. Ultimately, members chaired subcommittees on such topics as leadership and innovation. Galea also scheduled more than a dozen open houses to solicit input from other faculty and staff over coffee and cookies, and he’d always stay until the last question was answered. Updates and presentations were made at monthly school assemblies.

When a plan started to emerge, it was posted on a password-protected website for the faculty and staff to review and discuss. Employers, alumni, and students were also surveyed. This elaborately inclusive process gave a large swath of the Mailman faculty pride of co-authorship in the new curriculum.

THE NEW WORLD
The resulting Columbia MPH program breaks with tradition in its vision, content, structure, and pedagogy. Students enter in groups of 100 drawn from all departments. In their first semester, each group moves together through 18 core “modules” that stack together like interlocking blocks, in five broad areas of interdisciplinary study: foundations of public health, which includes history and ethics; biological and environmental determinants of health; social, behavioral, and structural determinants of health; health systems; and research methods. Fully half the credits toward the MPH will come from outside students’ chosen academic department.

“In public health, problems aren’t solved through a single discipline,” says Dean Fried. “Students have to understand the language and the perspective that come from different disciplines shining their light on the same problems.”

Take obesity. Its causes, says Galea, include globalization, cheaper prices for commodities, larger portion sizes, poor health education, increased reliance on cars over physical activity, and industrialization that produces calorie-dense foods. “All the public health disciplines deal with these.”

In smaller groups of 20, first-year students from various academic departments work together in a two-semester course called Integration of Science and Practice. Using an approach borrowed from business schools, they consider historical and present-day case studies, weighing competing points of view, writing policy briefs, and learning such skills as persuasion,
“The public health professional can no longer sit in her or his office and have big thoughts in isolation. Teamwork is the way public health gets done.” — Sandro Galea

SETTING THE TREND

The Association of Schools of Public Health has convened a task force that will mark the 100th anniversary of the Welch-Rose report with a blueprint for the next 100 years of public health education. But like Columbia and Harvard, other schools of public health aren’t waiting for its scheduled release in 2015. They, too, are reviewing or revising at least some aspects of their curricula.

The University of Michigan School of Public Health, for example, is testing a new interdisciplinary core curriculum. The University of North Carolina’s Gillings School of Global Public Health last year began requiring a new interdisciplinary introductory course. “There’s so much talk in higher education about creating students that are innovative, and in order for them to be innovative they need to cross disciplines,” says Anna Maria Siega-Riz, PhD, associate dean for student affairs at Gillings.

At Columbia, applicants voted with their feet. Applications for the class pioneering the new curriculum were up more than 20 percent over the previous year. Some of that may have resulted from targeted recruiting and the advent of a common application for public health, says Marlyn Delva, associate dean for student affairs. “But there was definitely enthusiasm. People are very interested in the changes we’re making. And the feedback we have been receiving in the opening weeks of the program has been extremely positive.”

“It’s a bold experiment,” says Galea. “What Columbia has done and Harvard will be doing is challenging the status quo. It’s an enormous but essential undertaking, and one thing is certain: There will be no appetite for going back.”

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