

BY PAUL ZAKRZEWSKI

PHOTOS BY ROJ RODRIGUEZ

A new curriculum
replaces silos
with synergy

EVOLUTIONARY

LEAP

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WHEN KATHRYN HEINEMANN, MPH '14, heard about a new curriculum for incoming students at the Mailman School of Public Health, she knew she was in for surprises. What she didn't expect was that while learning the complexities of her chosen field, she'd also learn to interrogate her own biases and assumptions about the world and begin to reconcile her idealistic vision of public health with the pragmatic realities of working across sectors and specialties to make the world a better place.

In one class, Heinemann reviewed a case from the late 1970s, involving pharmaceutical giant Merck and a drug that could cure river blindness, a condition afflicting millions in developing countries. Up for debate: What benefit was there in bringing to market a compound that a population in need couldn't afford to purchase? And was the investment in research and development "worth it" if the company couldn't provide the drug at a price people could pay?

Heinemann was assigned to take the business's point of view, grappling with its prospects for covering the costs of development and production, as well as its obligation to shareholders. "It was just such a totally different perspective for me to think about," she says. "Learning to recognize what drives other sectors will inform my approach to working collectively for what's ultimately a mutual goal—enhancing public health."



NEW SCHOOL

- › life-course, prevention-based perspective
- › fresh, integrated content
- › team teaching
- › leadership, management, and innovation training
- › emphasis on diversity and inclusion
- › small group and cohort structure
- › certificate program

In September 2012, the Mailman School unveiled a radical overhaul of its curriculum, perhaps the most revolutionary change to public health education anywhere in the past 70 years. Sandro Galea, MD, DRPH '03, Gelman Professor and Chair of Epidemiology, led the faculty initiative to design the new curriculum and re-imagine the content. The new curriculum takes an interdisciplinary approach to its delivery that leaders in the field say is vital to address the complex public health concerns of the 21st century.

Mailman isn't alone in embracing the opportunity for change. Indeed, public health schools across the country are now considering significant modifications to content and methods of instruction in their own programs. The chance to share insights gleaned in that effort and to discuss the underlying challenges was the impetus for a daylong summit, "Innovations in Public Health Education," conceived and hosted by the Mailman School this past June.

Deans and associate deans from 43 of the 55 institutions in the Association of Schools and Programs of Public Health traveled to Manhattan for the event, gathering first for a reception and dinner hosted by Mayor Michael Bloomberg and Mailman School board member Diana Taylor, MBA, MPH '06. The next morning, Howard K. Koh, MD, MPH, the assistant secretary of health in the U.S. Department of Health and Human Services, gave the keynote address.

In her opening remarks at the summit, Dean Linda P. Fried, MD, MPH, expanded on the findings of a 2010 report of the Lancet Commission, *Education of Health Professionals for the 21st Century*, which found that public health students must be prepared differently from those of former generations to face new challenges. These include the health effects of chronic disease and obesity, globalization, climate change, longer lives, migration, and urban living. At the same time, public health graduates must demonstrate new types of leadership and technical skills.

"Innovation is critical," says Fried. "The demands of the 21st century are very different from those of the 20th century. Academic public health leaders know—we all know—that public health education has to evolve with the times. The ability to create the conditions for disease prevention and health promotion at every age and stage of the life course is the core of public health for the 21st century, along with the ability to effectively analyze complex problems and find efficient solutions."

Among the many significant transformations in the Mailman School's curriculum is the introduction of Integration of Science and Practice or ISP. At the heart of this yearlong course are case studies, such as the Merck example, in which groups of 20 students work together to consider historical and contemporary public health debates. Using an approach borrowed from business schools, students—who come from different academic departments—bring their individual perspectives to the conversation and consider those of each sector involved.

Ronald Bayer, PHD, a professor of Sociomedical Sciences who oversaw the subcommittee that revised the core curriculum, says that the best cases put students in the shoes of officials struggling with the myriad limitations of data collection and solution implementation in the real world. "When students leave the classroom

CASE STUDY

California Policy for Ill and Elderly Inmates



Open Case

In the case-based course Integration of Science and Practice (ISP), introduced as part of a holistic curriculum makeover in 2013, Mailman School students leap into debates at the fore of contemporary practice and make tough decisions based on competing visions. In the case “California Policy for Ill and Elderly Inmates,” students contend with the spiraling health-care costs associated with an aging prison population. Each of the 19 faculty who teach the case highlight different themes and elements.

OVERVIEW

PUBLIC HEALTH DISCIPLINES

1 THE BACK STORY
In the wake of California’s 1994 “three strikes” law, prison populations have swelled, with the percentage of prisoners aged 55 and over spiking 500 percent since 1990. Fewer than 1 in 10 prisoners in California are 55-plus, yet they occupy nearly 4 in 10 “medical beds.” As demand for health care grew, the system’s failings became egregious, raising human rights and quality of care concerns.

2 THE REFORMERS
In 2006, California put its broken prison healthcare system in receivership. Receiver Robert Sillen, a former healthcare executive, spent \$6 million to recruit better, and board-trained, doctors. In 2008, his successor, lawyer J. Clark Kelso, implemented more extensive reforms, bringing a managed care model to the state’s 33 prisons. He also introduced “compassionate release,” a review process for inmates with a life expectancy of six months or less, and “medical parole,” for those needing 24-hour care.

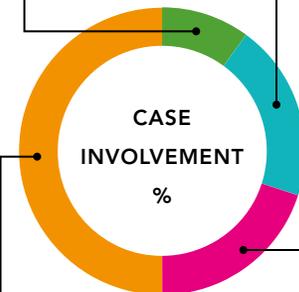
3 THE CRUX
Students weigh the medical parole of Carl Wade, 65, whose congestive heart failure and treatment for a lifetime of occupational and smoking-related pulmonary damage cost the state \$200,000 each year. “One could teach this case as a law professor, a criminologist, a sociologist, an ethicist, or an epidemiologist,” says Professor of Epidemiology Leslie L. Davidson, MD, MSc, who credits the best case studies with incorporating multiple perspectives. When she teaches this case, Davidson shifts students’ attention from Wade to systemic considerations, including California’s punitive “three strikes” law.

EPIDEMIOLOGY

Using epidemiological and statistical tools, students sketch out end-of-life scenarios across a prison population and refrain from forecasting individual outcomes. Then they weigh the efficacy of measures like medical parole and compassionate release for a single prisoner.

HEALTH MANAGEMENT

This case features the overhaul of a vast health network. Students evaluate the efficacy of various management styles.



POLICY & ETHICS

Analysis of the underlying causes of this case is a major focus in Davison’s class. Students consider arrest rates, long prison sentences, pervasive racism, and California’s “three strikes” law.

BIOSTATISTICS

Davidson’s students consider a graph documenting the loss of daily functions with age in different populations. Such data drives home competing interests in cases like that of Carl Wade.

A DEEP RESPONSIBILITY

In her speech to open the summit “Innovations in Public Health Education” conceived and hosted by the Mailman School in June, Dean Linda P. Fried reflected on the challenges and opportunities of training public health professionals for a fast-changing world.

and make decisions involving public health, they’re going to have to make decisions based on what they know, not what others ten years later are going to say about it,” he says. “The purpose here is to develop analytical thinking.”

It should come as no surprise that in a school where an entire department applies its intellectual prowess to the pursuit of statistical rigor, implementation of the new curriculum is being meticulously monitored and evaluated. Melissa D. Begg, SCD, vice dean of education and a professor of Biostatistics, randomly sampled 40 students in the incoming class and followed up with them every two weeks throughout the fall. To further bolster her data set, she distributed a parallel set of biweekly surveys to different random samples of incoming students and collected additional feedback from all students through course surveys and from faculty and teaching assistants.

Armed with this robust collection of data, Begg and her colleagues are fine-tuning the curriculum. And Begg says she’s not finished. We’re going to ask graduates what courses and requirements were particularly important and relevant to their careers,” she says, “as well as if they saw any gaps in what we taught them. Curriculum renewal is a dynamic process.”

This fall, Fried, Begg, Galea and other colleagues will detail what they’ve learned so far in two papers slated for publication in the *American Journal of Public Health*. One expounds on the rationale and motivation for the new curriculum, while the other delves into the specifics of Mailman’s new MPH degree.

“As the careers of our students unfold, they’ll need a robust tool kit that draws on multiple perspectives and approaches,” says Fried. “Our new curriculum helps students assemble that kit and refine their facility putting it to use. By learning to work across disciplines, using 21st century knowledge and skills, Mailman students are preparing for a future in which the field of public health and the challenges it confronts continue to evolve.”

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Santa Barbara-based PAUL ZAKRZEWSKI has written on contemporary culture for the New York Times, Boston Globe, and Washington Post.



THIS NATION’S SCHOOLS of public health, represented by the deans who are here, have a commitment to identifying the changing factors that affect the health of populations, designing the solutions that protect and promote public health, preventing disease and disability, and translating knowledge into impact. Part

of that impact, of course, is our deep responsibility to educate the next generation of public health leaders, professionals who will lead not just in 2020, but in 2050. Whatever they are doing, it’s not going to be work that we can imagine.

There are so many challenges we face. Health needs and scientific capabilities are changing. We are interdependent in ways never before imagined, and the issues we tackle must be addressed with increasingly interdependent solutions. Medical care systems are not up to the needs of our society, and we are not using the knowledge we have to optimally create health in populations or individuals.

While these challenges are daunting, they may also result in a perfect storm of opportunity, drawing schools of public health together even more closely to answer questions like these:

- What are the public health needs of the present and the future?
- Where does public health not just play a role, but take the lead, for populations and/or individuals?
- What will be the roles of future public health professionals in tackling these complex problems?
- What does this tell us about how students must be educated?

