THE GOOD FIGHT
MARY BASSETT CAMPAIGNS FOR EQUITY
This year’s Grand Rounds brings a variety of visionary speakers to the Mailman School to discuss what we, as a society, must do to ensure population health. Renowned public health voices in technology, urban health, public health systems, environment, and more will challenge thinking on global challenges and help set the stage for the future of public health.

FOR SCHEDULE OF SPEAKERS OR TO WATCH GRAND ROUNDS VIA THE SCHOOL’S LIVESTREAM CHANNEL, VISIT MAILMAN.COLUMBIA.EDU/EVENTS/GRAND-ROUNDS.
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A Team Approach

In 1915, a Rockefeller Foundation commission recommended the formation of schools of public health to study and promote prevention of disease and disability, encourage good health for whole populations, and educate future leaders in the field. While governments and nonprofits have been steadfast champions ever since, the lion’s share of the responsibility for science and education has resided with schools of public health.

Meanwhile, complex new challenges like obesity, climate change, and heart disease have emerged, even as long-standing issues like tuberculosis, maternal mortality, and air pollution persist. Greater commitment and innovation are necessary to overcome these mounting obstacles. As the Institute of Medicine has advocated, improving public health in the 21st century demands the energy of a broad coalition that is radically more inclusive of all the sectors that shape health.

Many sectors have already aligned their core missions with efforts to improve population health. The media industry has become an indispensable ally, crafting creative public information campaigns to raise awareness and clarify facts—to promote the use of condoms, for example, and discourage cigarette smoking. Philanthropy has reinvented itself, forging partnerships with scientists and governments to eradicate disease. Increasingly, for-profit concerns are developing business models to integrate social value and profitability. To paraphrase Becton Dickinson executive Gary Cohen, some corporate leaders have shifted their attitude from “not our problem” to “no problem—an opportunity to create social good by identifying areas of shared value.”

A sterling recent example, CVS Health’s decision to cease selling tobacco products, is cause for celebration. I note with pride the advocacy of CVS’s chief medical officer, Troyen Brennan, MD, a member of the Mailman School Board of Overseers (see page 34). While CVS may face a temporary loss of revenue, the company stands to gain far more as a credible source of health services and information. By removing harmful, albeit lucrative, products from its shelves, the company is leading its industry to a promising new business model as a fully vested ally to improve population health.

To achieve this mission in the 21st century and beyond, every sector of society must accept responsibility for population health and collaborate with the other sectors to achieve it.

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During fast moving epidemics like this year’s Ebola outbreak, a rapid, accurate diagnosis can mean life or death. With such vague, early symptoms as fever, headaches, and muscle pain, an accurate differential diagnosis has high stakes. Should a patient be quarantined on suspicion of Ebola, or further tested and treated for influenza, mononucleosis, or even measles? While clinical tests for Ebola exist, they are available only at the Centers for Disease Control and a handful of other high-level laboratories. Compounding the difficulty, no single test exists to simultaneously assess one sample for the various bacteria, fungi, and viruses—including Ebola virus—that are implicated in human disease.

In March, investigators at the Mailman School’s Center for Infection and Immunity, the CII, received a five-year, $31 million grant from the National Institute of Allergy and Infectious Diseases to establish a National Center of Excellence for Research in Diagnostics and Discovery. The multi-institution project—featuring five teams comprised of scientists at seven institutions—brings together experts in microbial and human genetics, engineering, microbial ecology, and public health.

Scientists in the new National Center of Excellence for Research in Diagnostics and Discovery are developing rapid-response techniques to identify pathogens.

The collaborators intend to develop a suite of tools. A team from CII and Columbia’s School of Engineering are developing an instrument to simultaneously test for multiple pathogens in a single sample. Another team will streamline the labor-intensive sample preparation process. Other projects include methods to boost the signal of an infectious agent even when its presence is minimal in a sample; a peptide array that uses the presence of antibodies to reveal an infectious agent; and a technique for capturing an individual’s immunologic history.

“Knowing what microbes a patient has encountered will allow doctors to make better decisions about treatments or whether to vaccinate,” says W. Ian Lipkin, MD, the John Snow Professor of Epidemiology and director of the Center for Infection and Immunity. “It will also facilitate pre-deployment testing of frontline responders. Depending on the disease, prior exposure could confer protection or result in increased vulnerability.”

Honor Roll

A Sampling of Faculty Awards

- Mary Travis Bassett, MD, MPH, associate professor of clinical Epidemiology, awarded the Haven Emerson Lifetime Achievement Award of the Public Health Association of New York.
- Alwyn Cohall, MD, professor of Sociomedical Sciences, and the Harlem Health Promotion Center, recognized for exceptional HIV/AIDS work by the NYC Department of Health and Mental Health.
- Y. Claire Wang, MD, ScD, assistant professor of Health Policy and Management, and Roger Vaughan, PhD, professor of Biostatistics and Columbia President’s Award winner, elected into the New York Academy of Medicine.
- Miriam Laugesen, PhD, assistant professor of Health Policy and Management, honored with a 2014 Len Robins Best Paper Award from the American Political Science Association.
COMMUNITY CHECKUP

UNDER THE AFFORDABLE CARE ACT, hospitals now have a broader responsibility not only to their patients but also to the communities where they live. To help them meet this mandate, Mailman School scientists are conducting a “community diagnosis” of the nearby Washington Heights neighborhood under the auspices of the School’s Global Research Analytics for Population Health, or GRAPH, program, launched last year.

The GRAPH team will map the area’s disease burdens alongside health resources such as primary care clinics, health screenings, and the availability of nutritious foods. At the completion of the two-year, $1.7 million project, NewYork-Presbyterian Hospital will have a menu of cost-effective options to promote health and reduce hospitalizations. The researchers anticipate that this approach can be applied in other locales. “Communities, like people, can benefit from a rigorous health diagnosis, and adoption of health promotion interventions that have the highest impact,” says Roger D. Vaughan, PhD ’97, a professor of Biostatistics and a GRAPH principal. On the global front, GRAPH researchers are undertaking an ambitious, two-year, Rockefeller Foundation-supported project to assess the full public health armamentarium of preventive interventions. They will analyze the research literature to understand the relative merits and costs of, for example, peer education for sex workers or a comprehensive ban on alcohol-related advertising. Building on GRAPH’s ongoing research in prevention science as well as the School’s Better Health Systems Initiative (see page 36), this work will give countries interventions attuned to their population’s unique health needs.

COMMUNITIES, LIKE PEOPLE, CAN BENEFIT FROM A RIGOROUS HEALTH DIAGNOSIS.

MASTERS OF THE (HEALTHCARE) UNIVERSE
NEW PROGRAM FOR EXECUTIVES

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HEALTHCARE EXCHANGES. MEDICAID EXPANSION. LINKING PAYMENT TO QUALITY. Since its passage in 2010, the Affordable Care Act has reshaped the healthcare system with a dizzying array of technical policies. “The healthcare industry faces major changes with the introduction of the Affordable Care Act,” says Michael Sparer, PhD, JD, chair of the Department of Health Policy and Management. “There has never been a greater need for management professionals who balance business acumen with healthcare expertise.” To fill this need, the department has designed a Master of Healthcare Administration degree with full-time, part-time, and executive formats. This fall, more than four-dozen students are learning traditional leadership and management skills within the context of public health, health policy, and the healthcare system, including the many byzantine corners of the ACA.

COMMUNITY CHECKUP

GRAPH CHARTS WASHINGTON HEIGHTS

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COMMUNITY CHECKUP

GRAPH CHARTS WASHINGTON HEIGHTS

"Communities, like people, can benefit from a rigorous health diagnosis."
On a sunny Saturday in June, several hundred New Yorkers marked the tenth anniversary of Hike the Heights, an annual foray by citizens to reclaim the parks of Washington Heights and beyond for physical activity and civic engagement. Mindy Fullilove, MD, a professor of Sociomedical Sciences, led the first Hike the Heights. In the intervening decade, the once-dangerous and drug-riddled event route has become a community treasure. This year, participants trekked from the top of Central Park through Morningside Park, St. Nicholas Park, and Jackie Robinson Park, to a wooded trail through Highbridge Park. Organized by Ben Sporer, MPH '14, and Celeste Russell, MPH '14, the event welcomed participants including members of a Boy Scout Troop and a Brazilian dance group.

Top: Yekaterina “Kate” Gluzberg (left) of the NYC Parks Department with Laura Juan Carlos and her father, Juan Carlos Gonzalez.
Bottom: Participants gathered along the route at sites including the bandshell at Jackie Robinson Recreation Center.
LIFESPAN PSYCHOLOGIST Ursula M. Staudinger, PhD, the Robert N. Butler Professor of Sociomedical Sciences, directs Columbia’s Robert N. Butler Aging Center. Her research investigates the systemic quality of aging—how human biology interacts with context and personal attitudes and decisions.

“We need to know much more,” she says, “so we can design useful interventions to optimize aging trajectories.” We asked for her take on the challenges and opportunities of living longer.

How relevant is chronological age? After age 50 or 60, it tells you almost nothing. Someone at age 70 might have a level of cognitive function equivalent to that of the average 30-year-old. But you can also have a 40-year-old who operates at the average level of a 70-year-old.

Is age-related cognitive decline inevitable? We know from empirical work that we can slow cognitive decline. But it doesn’t come automatically. We need to preserve our physical health, and we need an environment that is exciting and enriching.

Can we count on getting wiser? Sad but true: It is not enough to grow older to become wiser.

How does wisdom emerge? We need exposure to many difficult life situations. We need a mentor to help us to make sense of these things and come up with good solutions. And we need to be open to new experiences, so that we continue to challenge our own insights.

Usually when we grow older we see a decline in openness to new experiences. But this isn’t set in stone. We showed in one study that if incentives change and if we prepare older people for the new environment, they love it and want more of it. Wisdom has as much to do with how we engineer our society as it has to do with aging.

You’ve said that longer lifespans present real opportunities. Please explain. Soon there will be about the same number of people in each age bracket—young, middle-aged, and old. This is a very different kind of society than we have now. To prepare, we need increased participation in the labor force by those above age 55, and by women, and migrant populations. That means we also need to educate people of all ethnic backgrounds, genders, and age groups. If we manage to take advantage of these productive resources, we can maintain our welfare system and our living standard.

What can individuals do to increase their odds for success as they age? “Challenge it or lose it.” You have to be prepared to continuously challenge yourself to some degree on many different levels—physically, cognitively, but also with regard to your value system and your preferences. Whenever we stop doing that, it’s the beginning of the end.

Beyond the personal cost of cancer, diabetes, and heart disease, chronic diseases threaten the nation’s “economic competitiveness, national security, and position as a world power,” according to Investing in Prevention: A National Imperative, a report released in June by the Vitality Institute Commission on Health Promotion and the Prevention of Chronic Disease in Working-Age Americans. Dean Linda P. Fried, MD, MPH, was among 25 leaders from the corporate sector, foundations, nonprofits, government, and academia, who provided the foundation for the report’s findings. “Investing in health provides the greatest return on investment for individuals, businesses, the economy, and society as a whole,” says Fried. “This report provides a detailed blueprint for making the prevention of disease a top national priority and shifting our country toward a culture of health.”
In 2004, the Chinese government closed the Tongliang coal-fired power plant, launching a natural experiment to reveal the effect of air pollution on prenatal growth and early childhood cognitive development. From 2002 to 2005, Deliang Tang, MD, DrPH, an associate professor of Environmental Health Sciences, and colleagues monitored two groups of mother-child pairs in the district. In one group, the mothers had been pregnant while the power plant was still operating; in the other, pregnancy followed the plant’s closure.

In March 2014, the journal *PLOS ONE* published the team’s finding: Decreased exposure to air pollution in utero is linked with improved childhood developmental scores and higher levels of brain-derived neurotrophic factor, or BDNF, a key protein for brain development. A second longitudinal study of particulate matter and adult health in Shanxi province, published in *Environment International*, demonstrated significant savings associated with decreased air pollution levels. “The key to limiting the health impacts of environmental exposures is policy change supported by scientific evidence,” says Tang, who leads the China studies at the Columbia Center for Children’s Environmental Health. “These findings indicate that regulation can rapidly decrease exposure and improve health outcomes among the most sensitive populations.”
Independent Agents

“The perk matters more than the paycheck.”

Using data collected in the wake of Medicaid changes in Tennessee, Assistant Professor of Health Policy and Management Tal Gross, PhD, projects that between 500,000 and 900,000 people may choose to stop working due to the implementation of the Affordable Care Act. “There are many people out there who look for work simply because they need health insurance,” says Gross. “For them, the perk matters more than the paycheck.”

Gross’ analysis—a collaboration with economists from Northwestern University and the University of Chicago—was published in March by the Quarterly Journal of Economics. In its Budget and Economic Outlook: 2014 to 2024, the Congressional Budget Office cited the study as a clue for predicting how changes to Medicaid precipitated by the healthcare law might affect childless adults. “Historically, health insurance in the United States has been tightly linked to employment,” says Gross, “and the ACA weakens that link.”

More recently, Gross and his collaborators have turned their attention to another facet of the Tennessee data for clues about the law’s effect on hospitals, which must provide care regardless of a patient’s ability to pay. “A lot of people who have been receiving care for free will be covered by insurance due to the ACA, and hospitals will face a lower burden,” says Gross. “We’re trying to quantify how many billions of dollars are at play; there’s been surprisingly little research.”

Immune Response

THE PRIMARY IMMUNIZATION SCHEDULE for young children in the U.S. can require as many as 20 unique doses spanning at least four separate visits to a healthcare provider. By the time they turn 19 months old, only 75 percent of children have received all of their immunizations. Those who miss out risk illness, as well as restricted access to day care and school.

To boost kids’ prospects, Melissa Stockwell, MD, MPH ’07, an assistant professor of Population and Family Health, and Sally Findley, PhD, a professor of Population and Family Health and Sociomedical Sciences, surveyed parents for insights. “This study,” they write in the resulting Clinical Pediatrics report in which they detail their findings, “highlights factors that may help urban families keep immunization visits: open communication with providers, flexibility in scheduling appointments, and individual and community education.”

Hate Kills

LESGIAN, GAY, AND BISEXUAL PEOPLE LIVING IN COMMUNITIES WITH HIGH LEVELS OF ANTI-GAY PREJUDICE have a shorter life expectancy of 12 years on average, compared with their peers in the least prejudiced communities, according to a paper published in Social Science & Medicine. “Our results were comparable to differences that have been observed between individuals with and without a high school education,” says lead author Mark Hatzenbuehler, PhD, an assistant professor of Sociomedical Sciences.
A Simplex Take on Big Data

In a paper published by the journal *Advances in Data Analysis and Classification*, Sara Lopez-Pintado, PhD, and co-authors detail a new approach to ordering multivariate functional data—such complex observations as height and weight measurements of children over time. “We wanted to find a way of measuring how extreme a particular curve is within a sample,” says the assistant professor of Biostatistics, “and use this method to detect the most representative data and the outliers.”

Lopez-Pintado’s concept—dubbed simplicial band depth—builds a set of three-dimensional tubes, each determined by three different curves from the sample, and quantifies the depth of a given curve by measuring how many of the tubes contain the curve. “It’s very important to have a tool to find outliers when the data is multivariate and complex, since there are many types of outliers and they are not easy to identify visually,” says Lopez-Pintado. She is now collaborating with R. Todd Ogden, PhD, a professor of Biostatistics (in Psychiatry), to apply the proposed method to functional magnetic resonance imaging of healthy and depressed research participants. “In the past, with univariate data, you could see outliers just by looking at them,” says Lopez-Pintado, “With such complex observations as functional imaging data we need new tools.”

Viral Vectors

An estimated three-quarters of camels in Saudi Arabia have evidence of infection with the Middle East respiratory syndrome coronavirus, the bug behind human cases of MERS, according to a coalition of scientists that includes researchers at the Mailman School’s Center for Infection and Immunity. Their work both establishes for the first time that direct camel-to-human transmission is possible and provides a pathway to control the spread of the disease.

The journal *mBio* published two reports on the investigation, which was a collaboration with scientists at King Saud University, the National Institutes of Health, and EcoHealth Alliance. Since the first documented case in Saudi Arabia in September 2012, more than 800 people have developed the illness, whose symptoms include fever, cough, and shortness of breath; 319 have died. In the last two years, cases have since been reported throughout the Arabian Peninsula. Cases related to travel to the Middle East have been reported in France, Germany, Italy, and the United Kingdom. The source of the disease had been a mystery.

“Camels carry the same MERS virus that infects humans, which indicates that they have the potential to transmit the virus directly to humans,” says study co-author Thomas Briese, PhD, an associate director of the Center for Infection and Immunity and an associate professor of Epidemiology who in 2013 co-authored a study that implicated bats in MERS transmission. “The roles of bats and camels in human infection remain an area of active research for our group.”
Water Worries

At a high enough dose, arsenic kills. Even at trace amounts, the element leaves its mark. Among schoolchildren who ingest nearly imperceptible doses in household well water, for example, the element wrecks its havoc on cognitive function. In data from three Maine school districts, Joseph Graziano, PhD, a professor of Environmental Health Sciences, has confirmed effects comparable to those his team had previously documented in Bangladesh.

Using the Wechsler Intelligence Scale for Children, the researchers documented decreased scores on indices for working memory, perceptual reasoning, and verbal comprehension among children exposed to more than 5 parts of arsenic per billion of household well water, even after adjusting for such factors as maternal IQ and education. The report was published in Environmental Health.

“Our findings in a U.S. sample gives confidence to the generalizability of findings from our work in Bangladesh, where we also observed a steep drop in intelligence scores in the very low range of water arsenic concentrations,” says Graziano. “Collectively, our work in Bangladesh and in Maine suggests that aspects of intelligence, particularly perceptual reasoning and working memory, are compromised by exposure to arsenic in drinking water.”

Soda Studies

Approximately 40 percent of young children consume at least one soda every day. Among teens, the habit is associated with aggression, depression, and suicidal thoughts. The picture is no prettier for younger kids. They exhibit aggression, withdrawal, and attention problems, according to research by Assistant Professor of Epidemiology Shakira Suglia, ScD, published in The Journal of Pediatrics.

“We found that the child’s aggressive behavior score increased with every increase in soft drinks servings per day,” says Suglia, who worked with colleagues at the University of Vermont and Harvard University to assess approximately 3,000 5-year-olds living in 20 large U.S. cities. “Soda consumption among children is also associated with health problems such as obesity; limiting or eliminating it from children’s diets may be best for their health.”
PTSD Piles on Pounds

Women with post-traumatic stress disorder risk another hazard beyond the flashbacks, insomnia, depression, numbness, and disrupted memory associated with PTSD. According to a report published in *JAMA Psychiatry*, women with PTSD also gain weight more rapidly and are more likely to be overweight or obese than women who experienced trauma but did not develop PTSD.

Karestan Koenen, PhD, a professor of Epidemiology and the study’s senior author, collaborated with investigators at Harvard University to analyze data collected from 50,504 participants in the Nurses’ Health Study, a longitudinal study of women aged 22–44, conducted between 1989 and 2009.

“PTSD is not just a mental health issue ... Along with cardiovascular disease and diabetes, we can now add obesity to the list of known health risks of PTSD.”

One in nine women will develop PTSD at some time over the course of her lifetime—at twice the rate of men. Women are also more likely to experience the kinds of extreme traumatic events that carry a high risk for the disorder.

Aging, Delayed

**Research to Delay Aging** and its associated infirmities would have better population health and economic returns than advances in treatments for individual fatal diseases such as cancer or heart disease, according to an analysis published by the journal *Health Affairs*. Investigators including John W. Rowe, MD, a professor of Health Policy and Management and chair of the MacArthur Foundation Research Network on an Aging Society, assumed research investment leading to a 1.25 percent reduction in the likelihood of age-related diseases in their calculations. With even such modest investment, an additional 5 percent of adults over the age of 65 would be healthy rather than disabled every year from 2030 to 2060. Such delayed aging would mean 11.7 million more healthy adults over the age of 65 in 2060. In contrast to treatments for fatal diseases, slowing aging would have no health returns initially, but would have significant benefits over the long term.

Counseling Conundrum

Brief counseling of all clients at the time of a rapid HIV test was not effective for reducing new sexually transmitted infections during the subsequent six months, according to the *Journal of the American Medical Association*. “Without evidence of effectiveness, counseling as an essential adjunct to routine HIV testing cannot be considered an efficient use of resources,” says lead author Lisa Metsch, PhD, Stephen Smith Professor and chair of Sociomedical Sciences. “A more focused approach to providing information at the time of testing may allow clinics to use resources more efficiently, potentially detecting more HIV cases earlier and linking and engaging HIV-infected people with care.”
On Message

Media Matters in the Classroom

By Alla Katsnelson
Remember Vince and Larry, the crash test dummies? They made their debut in 1985, in print, radio, and television ads nationwide that promoted the use of seat belts. “You can learn a lot from a dummy,” the duo told anyone who would listen. And a lot of people did: In the first year of the campaign, seat belt use almost doubled, jumping from 23 percent to 39 percent in a 19-city survey. (Today, mandatory seat belt laws have brought that number up to about 85 percent.)

In the late ’90s, another public health campaign became a cultural touchstone when Hollywood joined forces with researchers to promote the concept of the “designated driver” by planting it in shows running on prime-time television. In four years, drunken driving fatalities dropped by 25 percent.

These are just two examples of public health messages that successfully reached their intended audiences. Getting the message out—through a city-wide campaign promoting exercise, for example, or a news story about a study on asthma and pollution—is a key part of efforts to translate public health research into strategies that improve people’s well-being. Yet in this age of information overload, public health researchers often are ill-equipped to engage with people beyond academia’s ivory tower.

“It’s very daunting for a lot of scientists to talk publicly about their work, for fear peers will think they’re ‘dumbing down’ the science,” says health journalist and editor Jordan Lite, MPH ’13, who teaches a weeklong course, Communicating Public Health in the Media, for the Epidemiology and Public Health Summer Institute at Columbia. “But it’s very important for students to get the reminder that public health affects real people and that not everyone is automatically going to understand the work they do.”

The Mailman School has placed a premium on public outreach since its founding in 1921 through the bequest of Joseph DeLamar, a wealthy Dutch-born sea captain whose will directed his beneficiaries to disseminate their research findings “by popular publications, public lectures, and other appropriate methods” so that the fruits of their labors could benefit everyone. Efforts on this front have only intensified in recent years. Several initiatives launched as part of the School’s 2012 curriculum redesign integrate communication training early in the master of public health program; additional opportunities
are available to students throughout the School. In May, Dean Linda P. Fried, MD, MPH, announced plans to launch the Lerner Center for Public Health Promotion—to pursue health communication science across the life course—established with a $6 million gift from Sid and Helaine Lerner (see page 16).

“Ultimately, we can do all the science we want, but public health is about the translation of the science,” says Matthew S. Perzanowski, MPH, PhD, an associate professor of Environmental Health Sciences. “One of the most important things that a master’s in public health graduate should be able to do is take divergent primary research, review it, and synthesize it—that is, come up with a critical analysis of the scientific evidence to date—and then translate that to a lay audience through the media, community organizations, or directly.”

This past spring, Perzanowski began co-teaching a module on communication in Integrating Science and Practice, a foundational two-semester course required for all first-year MPH students. Developed by Perzanowski and Tim Paul, a Mailman School science editor and associate director for strategic communications, the module explores a series of case studies, such as the debate that led to New York City’s ban on trans fats in 2006 and the city’s response to Hurricane Sandy in 2012. Students write a press release about a public health decision made by the city, then hold a mock press conference based on the release, with the rest of the class simulating a corps of reporters from such media outlets as The New York Times, BuzzFeed, and Al Jazeera America. Says Perzanowski: “They really had to stand and defend the decisions they had made.”

Students also see what happens when messaging stumbles. In one of the press conferences, on evacuation efforts in the wake of Hurricane Sandy, a student playing the part of New York City Mayor Michael Bloomberg declined to detail how evacuation efforts would proceed. “Mayor says he is spearheading efforts but doesn’t provide specifics,” read a “reporter” student’s mock headline. “We couldn’t have planted a better experience,” says Perzanowski, who has begun integrating concepts from the module into the curriculum in his own department. This year, master’s students in the capstone course for Environmental Health Sciences were asked to simulate presentations targeted to either a community health group or a grade 12 science class. “In the end,” says Perzanowski, “what we were trying to show them is how difficult it is to get across a message, and then equip them with the tools to communicate that message—even when it is complicated.”

In September 2012, the Department of Epidemiology launched the 2x2 project to give students real-world training in tactics for timely and effective communication about emerging public health science. “We were all circling around the idea that we need to do something like this because nothing comparable exists,” says Dana March, MPH ’03, PhD ’10, the project’s editor-in-chief and an assistant professor of Epidemiology. “I think a number of prospective students are really drawn to the School because of it.”

Run like an online magazine, the 2x2 project gives four fellows hands-on experience applying the lessons they and their classmates covered in Lite’s Communicating Public Health in the Media course. “One thing I emphasize,” says Lite, “is that people who do journalism and people who do public health have a shared social justice mission to promote an informed public.” Beyond
Mondays Maven

As a Boy Scout during World War II, Sid Lerner heard the newscasts and saw the posters in which President Franklin D. Roosevelt exhorted the country to avoid eating meat one day each week to conserve it for the troops. As a young professional in the booming postwar economy, Lerner landed the proverbial $45-a-week mailroom job at an advertising agency. It was 1955: Television was just 8 years old, and a generation of would-be artists was thronging to the medium with wild ideas for selling anything and everything that the era’s consumer could possibly want.

Lerner steadily worked his way up the ranks, writing ads for cigars, perfume, bras, and cosmetics. Then in the mid-’60s, he hit the big time—managing the “Don’t Squeeze the Charmin” campaign featuring George Whipple, a fictional grocery store manager who for two decades scolded customers for fondling a brand of toilet tissue made by Procter & Gamble.

By the early 2000s, Lerner was semiretired and doing pro bono work. He had just begun taking Lipitor when he attended a scientific conference about fat and cholesterol. Americans eat about 15 percent more meat than they need, said a presenter. Lerner’s inner ad man kicked in, as did his childhood memory of FDR’s exhortation. He would stage a comeback for the meatless day, pitched with an alliterative twist: Meatless Monday.

Critics warned that “meatless” would turn people off, suggesting “Healthy Monday” instead. “I said, ‘Well that’s great,’” Lerner recalls, “but I can’t sell it; it’s too intangible, doesn’t say what we want people to do.’” So he stuck to his guns.

Twelve years later, Lerner’s campaign has spread to 36 countries. “Turkey, Israel, and Iran all agree on one thing: Meatless Monday,” he says. The campaign’s success has proved the power of shining advertising’s spotlight on public health and Lerner’s nonprofit, The Monday Campaigns, now champions a range of health-promoting behaviors.

As a campaign partner, the Mailman School helped launch Man Up Monday, which encourages young men to get tested for STIs, and Kids Cook Monday, to promote weekly family dinners. “We’re trying to augment the DNA of the public health community with promotion-minded people,” says Lerner, a member of the Mailman School’s Board of Overseers, “so that research can be translated to the public in a meaningful way.”

© The Monday Campaigns, Inc.

photo by LEE RUBENSTEIN
philosophy, she adds a heavy dose of mechanics—what makes news, how to pitch a story, how to translate scientific jargon into accessible language, and how to effectively use social media. Says Lite: “The way that the sausage is made in the newsroom is very eye-opening to them.”

Fellows spend about 15 to 20 hours a week writing longform journalism for the2x2project.org, which aims to engage audiences beyond the Mailman School in issues relating to public health. (Fellows receive a $7,500 stipend for the year.) March, who worked briefly in advertising before embarking on a public health career, is quick to explain that the project’s goal is not to provide health education. The site, which gets about 83,000 visitors annually, presents an eclectic mix of topics—from gun violence to gambling addiction—informed by current events. “We cover certain issues that are overtly public health issues, but we also draw out the public health relevance of issues that aren’t traditionally viewed that way,” says March. “I think we have a responsibility of making it clear that public health issues are everywhere.”

Through weekly idea lab meetings, fellows work on story ideas with intensive coaching from March and her team: Josh Brooks, MPH ’12, a member of the project’s first cohort who stayed on as a senior fellow, and journalist Elaine Meyer, the associate director of communications in Epidemiology. Fellows are encouraged to stretch themselves as they develop their voices and select topics.

“I came into it thinking I would want to write about all the things I was doing research on,” says former 2x2 fellow Christopher Tait, MPH ’14, a doctoral student at the University of Toronto. “But I also saw it as a chance to delve into areas I normally wouldn’t touch upon.” One of the pieces he’s proudest of focused on suicide prevention—a topic far afield from his scholarship developing epidemiological models for chronic diseases. Coincidentally, the connection Tait made with a scientist he interviewed for the story was later instrumental in his PhD application process. “One of the things we didn’t anticipate is that it would be an enormous opportunity for people to network,” says March. “It’s played out for every single one of the fellows in very particular ways.”

The2x2project also takes a very active approach to social media. Fellows take weeklong rotations staffing the project’s Twitter feed and Facebook page, making sure not just to promote their own work but to add to the online conversation. In November, the crew headed to Boston to live-tweet the 2013 American Public Health Association annual meeting, garnering hundreds of new followers for the2x2project. That was great for the website, which March hopes to expand further this year, and it was also great for the students.

Whether through a Twitter account, an op-ed for a newspaper, a presentation to a community group, or a policy brief that aims to describe a health strategy to public officials, Mailman School graduates will increasingly be called upon to communicate with the public. “Whether I’m talking to scientists who know my field or to a lay audience,” says Tait, “I think I’m now just a much more effective communicator.”

No one in public health would reduce the pursuit of health to the pursuit of healthcare. To be healthy means to have a healthy everyday life.

The Best Policy

Health Commissioner
Mary Travis Bassett

By Andrea Crawford

There it was on New York magazine’s “approval matrix” listing current events on a despicable-to-brilliant spectrum: a key piece of public health news ranked as only slightly less despicable than the jail- ing of journalists in Egypt, Iraq’s violent meltdown, and the 50 percent increase in public college tuition since 2004. “Diabetes lobby’s final victory over Bloomberg’s big-soda ban,” quipped the magazine, invoking the June decision by New York State’s highest court that the portion cap rule exceeded regulatory authority. Mary Travis Bassett, MD, MPH, the new commissioner of New York City’s Department of Health and Mental Hygiene,
takes issue with some of those words. For starters, don’t call it a ban. “We just can’t get away from that word, right?” she says with a disarming laugh. “It was not a ban. It was a portion cap.”

And it was hardly a final victory. “It was a victory for the beverage industry, and in that sense, a defeat for us—on the one hand,” Bassett says. “That we had a public debate,” she adds with emphasis, “in itself is a victory for us.” People now know more about how sugary drinks affect their health, she notes. New York’s assessment of the ruling proves her point.

Six months after former Mayor Michael Bloomberg left office, politicos might interpret the court’s ruling as a brake on the work of an administration that had reinvigorated, if not redefined, the role of a department of public health. But with Bassett, a veteran of that administration, taking over, and with members of Mayor Bill de Blasio’s administration citing public health as an area in which Bloomberg particularly excelled, the ruling will more likely induce a downshift into a more powerful gear. When de Blasio appointed Bassett, a longtime associate professor of clinical Epidemiology at the Mailman School, he signaled both the direction in which the department would continue to move and the approach he values.

The mayor could not have made a better choice, says David Rosner, MPH, PhD, the Ronald H. Lauterstein Professor of Sociomedical Sciences. Bassett “sees the inequalities of this society as the root cause for disease itself,” he says. “She comes from a tradition of seeing public health as part of a larger effort to address social justice.”

The origins of that vision reside in Bassett’s upbringing—raised in Washington Heights, she is the daughter of civil rights activists. After earning her MD from Columbia’s College of Physicians and Surgeons in 1979, Bassett trained at Harlem Hospital, where she was chief resident. Though she’s worked around the world since, she never saw sicker patients than she did in Harlem during the early ’80s. Despite their efforts, Bassett realized she and her colleagues weren’t doing much for the people they served. “We were patching them up and sending them out,” she says. On home visits, the young doctor saw patients living in abandoned apartments with rigged electricity and no running water. “It was impossible,” Bassett says, “not to see the way in which inequity and poverty drive health.”

After earning her MPH at Washington State University, Bassett moved to Zimbabwe, where she stayed for 17 years, working on AIDS prevention. There, she says, “I had the privilege of seeing how quickly health can improve—which is something that doesn’t happen all the time—when a government really commits itself to advancing the health of its population. I also got to see how quickly that could be unraveled.” By the early 2000s, the country had descended into political turmoil and violence under Robert Mugabe. Bassett began looking toward home. “I leapt at the opportunity,” she
says, “to come back to New York City and work at the premier urban health department, I would argue, in the country or maybe the world.”

In 2002, Bassett signed on as deputy commissioner for health promotion and disease prevention under Bloomberg’s new commissioner, Thomas Frieden, MD, MPH ’86. “He was putting together an eclectic team,” says Bassett, “and he certainly allowed me to put together an eclectic team.” International experience was a common credential among recruits. “When you work in a resource-constrained environment, people become much broader ranging in their ideas of what they can tackle,” says Bassett. Moreover, in much of the developing world, government plays a vital part in public health. “People who’ve worked in that setting have a keener understanding of how important the role of government can be,” she says, providing services, and “setting the policy agenda and affecting the structural determinants of health.”

Under the leadership of Frieden and then Thomas A. Farley, MD, MPH, who took over in 2009 when Frieden became director of the Centers for Disease Control and Prevention, the Bloomberg-era DOHMH instituted ambitious reforms to address the health challenges of the modern world, setting a new bar for national and even global health policy. “If you can do it in New York City, you can do it anywhere,” says Frieden, invoking Frank Sinatra’s paean to the Big Apple. “California had gone smoke-free, but then [the movement] kind of stalled. Once New York City went smoke-free, it really changed the global conversation and triggered global progress.”

Throughout his tenure at DOHMH, Frieden made clear his belief that state and local health departments were doing a great job fighting the diseases that killed Americans a century ago, but when it came to the diseases that account for 80 percent of deaths today, health departments were, as he put it in the title of a 2004 editorial in the American Journal of Public Health, “Asleep at the Switch.” Hiring Bassett was part of Frieden’s wake-up call.

Associate Professor of Sociomedical Sciences James Colgrove, MPH ’01, PhD ’04, author of Epidemic City: The Politics of Public Health in New York, says the Bloomberg-era DOHMH established an impressive legacy of innovation. Frieden and Farley “really pushed the limits of what public health should do,” particularly in the area of chronic noninfectious diseases, he says. “Mary Bassett was part of that.” She spearheaded the trans fat ban and calorie labeling in restaurants, which, says Colgrove, “was really quite innovative and set a model for other cities and states.”

It was innovative because it had to be. Fighting chronic noninfectious diseases is much more difficult than fighting infectious diseases. The old but effective tools of public health—vaccines and quarantines, for example—don’t work against heart disease, cancer, and stroke. Such conditions have multiple causes that spread among social
networks, develop for decades before symptoms manifest, and in some cases remain disputed or at least confusing to the general public. (Consider how the low-fat trend of the 1980s gave way to the more nuanced good fat versus bad fat understanding that has prevailed of late.) “It’s not like you identify a single microbe and you can control the disease,” Colgrove says. “You have to intervene at a lot of different points.”

Such multifocal intervention can get contentious, and the Bloomberg administration’s efforts attracted the ire of industries and a generous dose of mockery. Says Farley, a former Mailman School board member who is now a distinguished fellow in public health at Hunter College: “We were always breaking new ground, which is what you need to do if you want to make a big difference. That aroused a lot of opposition from companies that were making money by selling things that were unhealthy.” Fighting typhoid is easier, he says. “There isn’t a company out there selling typhoid.”

That there’s no pro-typhoid or pro-Ebola lobby is an analogy often used to explain the difficulties public health officials face from the pro-tobacco and pro-sugar lobbies. And yet, the analogy can imply that tough battles haven’t been waged and won before.

For more than a century, New York City’s department of public health led the way in fighting diseases like tuberculosis—taking on landlords to improve living conditions—promoting milk pasteurization, combating HIV, and
banning lead paint, which it did in 1960, some 18 years before the federal government followed suit. “The lead industry and the paint industry fought that hard,” says Farley. “But the city was courageous and it saved many, many children from brain damage.” And it did so despite arguments similar to the “nanny state” criticisms of today. Says Bassett: “The language of personal responsibility has been tried out for many things. It was used as an explanation for why children became lead-poisoned: Parents—those black and Latino parents—didn’t keep their children from eating paint chips or dust. ‘If only the parents behaved better, we wouldn’t have a lead poisoning problem,’ when the lead was in the paint and it didn’t have to be there.”

Such actions have always been within the scope of public health, says Colgrove. “If the leading causes of sickness and death are rooted in things like what people eat,” he says, “then that is absolutely within our purview.” Bassett and her two predecessors, says Rosner, “represent an arm of public health that has been, in some sense, under attack for a couple of generations.” Theirs is an ethos grounded in late 19th-century Progressive Era values, when reforms were aimed at wide targets such as improving housing, building city infrastructure, and ending homelessness. When it comes to controlling pervasive environmental risks—whether housing conditions implicated in the spread of TB or modern-day compounds implicated in heart disease or diabetes—regulations tailored to the city scale make sense.

In 2008, Bassett published a commentary in *JAMA* likening the public’s current distrust of the food industry to the public outcry about sanitation a century ago, when unregulated slaughterhouses infused the food supply with contaminants. “The most rapidly growing food-related threat to health today is not microbes, but overconsumption of calories, sugar, salt, and unhealthy fat,” she wrote with Lynn Silver, MD, MPH, then her DOHMH colleague. “To have a substantial effect on diet-related health problems, as did public health measures in response to microbial threats, stronger actions are needed.”

**Bassett instituted some of those stronger actions.** “I’m very proud of the ways in which we reintroduced the notion of an activist health department that used its tools to make policy changes,” she says of her years with the Bloomberg administration. She endorses how her predecessors used the tactics of government—among them, regulation, taxation, and procurement—to promote health. “These are ways,” she says, “in which government can use its might to level the playing field.”

**De Blasio and Bassett** have already declared their intention to escalate the fight against health disparities, deploying
of the affected communities,” he recalls her saying. And as Bassett looks back at the previous administration, she admits, “We didn’t succeed in ensuring that the communities we sought to benefit understood and had the opportunity to give us feedback on the strategies that we were adopting. We need both a favorable policy environment and a public that is educated and activated to pursue its health.”

To promote those conditions, Bassett has already begun reinvigorating the district public health offices she established ten years ago. “Neighborhoods really should be seen as the unit of intervention in this city,” she says, noting that by taking a granular approach DOHMH can focus its limited resources on the most highly burdened areas and partner with organizations already committed to those neighborhoods.

In May, Bassett announced new initiatives, such as a Center for Health Equity, precisely to address disparities.

As she sits at the large conference table in her office discussing her vision, Bassett learns that a longtime Columbia colleague suggested she was “always too honest for other jobs.” The commissioner laughs with delight at the observation. “Honesty

A Full-Court Press

“People laugh at the soda serving-size issue as if, you know, that’s the magic bullet to prevent obesity and promote healthy weights,” says Andrew G. Rundle, MPH ’94, DrPH ’00, an associate professor of Epidemiology. “But nobody’s arguing that it is. That’s just part of a full-court press, a multilevel program to promote healthy lifestyles.”

Mailman School faculty, students, and staff work closely with Department of Health and Mental Hygiene officials to maintain that full-court press. Rundle has worked with DOHMH researchers for more than a decade, studying how neighborhood characteristics influence health by analyzing everything from walkability to traffic to air quality—even people’s perception of safety. His work influenced the city’s adoption of “active design guidelines,” the DOHMH and Department of Transportation’s joint effort to promote physical activity.

A number of Mailman School faculty are analyzing policies of the Bloomberg administration. Ryan T. Demmer, MPH, PhD, and Gina S. Lovasi, MPH, PhD, received a New York Community Trust grant to evaluate the extent to which chronic diseases have been prevented. Peter A. Muennig, MD, MPH ’98, received funds from the Robert Wood Johnson Foundation to investigate the effects of Bloomberg administration policies on increases in life expectancy. And Miriam J. Laugesen, PhD, in a separate investigation supported by the Robert Wood Johnson Foundation, studied how the administration evaluated evidence and built public support for its policies.

This spring, DOHMH Commissioner Mary Travis Bassett, MD, MPH, visited the Mailman School at Fried’s invitation to hear presentations by the winning teams. “The future of public health rests on our ability to deploy scholarly expertise in the real world,” says Fried. “The long-standing relationship between the Mailman School and DOHMH demonstrates the synergy possible when scholars and policymakers work together.”
is always the best policy!” she says. “My job as health commissioner is to base my judgments on the best available data and on my understanding of the best tools at our disposal to address them,” she says. “So sometimes that will mean things that are not politically popular. My job is to identify the best way to promote the health of the people of the city and to convince the political leadership that it’s worth the bangs it will take.”

**If the vehement fight over soda** serving size is a clue, the bangs will come hard and fast. The commissioner seems to have already girded herself for the inevitable battles. “A pursuit of public health almost always means tackling issues that relate to social justice. That’s why our work is often controversial,” says Bassett. “No one in public health would reduce the pursuit of health to the pursuit of healthcare. To be healthy means to have a healthy everyday life.”

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**ANDREA CRAWFORD** writes about the health of people and the planet for Slate, Psychology Today, and other publications.
Prison Pandemic

Public Health Confronts the Incarceration Epidemic

By Sharon Tregaskis
with additional reporting by Alisa Roth

Illustration by Alex Nabaum
In 1972, 300,000 Americans were incarcerated. Crime rates have tumbled in recent years, yet today more than 3 million Americans are locked up. Another 6 million are on probation or parole. Nationwide, 68 million Americans have criminal records and one in 28 children—about 2.7 million kids—has a parent behind bars. In recognition of that sobering fact, the Sesame Workshop has introduced to its cast Alex, a green-nosed, blue-haired Muppet whose dad is in jail.

For Americans, contact with the criminal justice system is pervasive; the public health implications are profound. Our incarceration epidemic transforms communities and wreaks havoc that persists for generations—from the agony of ruptured family bonds to the exacerbation of conditions that precede incarceration: grinding poverty, homelessness, poor education, joblessness, physical and mental illness, substance abuse, and violence.

“Public health has a responsibility to look at incarceration in the same way it addresses air pollution, depression, and infection,” says medical sociologist Lisa Metsch, PhD, the Stephen Smith Professor and chair of Sociomedical Sciences. “Our scholarship is focused on prevention; if public health learns how to prevent an individual’s first exposure to criminal justice and the deluge of negative outcomes that follows, we’ll be able to interrupt a cycle that causes tremendous damage to individuals, families, communities, and society as a whole.”

That cycle has deep roots. The war on drugs declared by President Richard Nixon in 1971 transformed addiction from a medical condition into a criminal offense and has brought millions of people—particularly poor African-Americans and Hispanics—into the criminal justice system on low-level charges. In the 1980s, three-strikes mandatory sentences are jailed at much higher rates than whites, poor communities of color are disproportionately affected, especially in the realms of education, housing, and health.

Work to understand what’s going on and interrupt the cycle has a rich legacy at the Mailman School, which hosted the two-day symposium “A Public Health Approach to Incarceration: Opportunities for Action” in June. Sponsored by The Tow Foundation, whose motto in which the signatories pledge “to work collectively to introduce incarceration in our curricula and research, to raise awareness and concern, and to inspire and support our fellow scholars.” The symposium emerged from work by a think tank convened in 2012 by Metsch and Ernest Drucker, PhD, author of the book A Plague of Prisons: The Epidemiology of Mass Incarceration in America. Metsch and Drucker, an adjunct professor of Epidemiology, co-direct the School’s Incarceration and Public Health Initiative, collaborating with faculty from their departments, as well as Health Policy and Management and Population and Family Health, to determine how public health approaches might alleviate the burden of incarceration—from interrupting the “school-to-prison pipeline” to improving access to healthcare and higher education in correctional institutions. “Our group focused on a range of contributing factors, and we tried to emphasize primary prevention approaches and new solutions that cut across health systems,” says Metsch, “as well as current alternatives to incarceration, including diversion programs, probation, and community and drug courts.” Metsch is a co-principal investigator, with Nabila El-Bassel, PhD, a professor at Columbia’s School of Social Work, on a new National Institute of Drug Abuse grant to train predoctoral and postdoctoral students in research techniques appropriate to investigating...
Last year, a Department of Health and Mental Hygiene STI clinic sent a patient to Alwyn Cohall, MD. It was not, he says, “an unusual referral.” This 19-year-old was like a lot of the patients Cohall sees: African-American, overweight, hypertensive, pre-diabetic, and newly HIV-positive.

But the man’s story stuck with Cohall, an HIV expert and specialist in adolescent medicine who is a professor of Sociomedical Sciences and of Population and Family Health. The young man had recently done a stint at Rikers Island, the city jail. He’d been HIV-negative when he arrived, but like a lot of people who have been incarcerated, says Cohall, upon release, “he was making up for lost time,” using drugs and having unprotected sex. A 2007 New England Journal of Medicine study suggests the young man was relatively lucky. In the two weeks after their release, former prisoners were nearly 13 times more likely to die than those in the general population; the most common causes of death were drug overdose and heart disease.

New York City offers discharge plans for prisoners with HIV and some other health conditions, to make sure they get medical treatment—and other help they need—once they are released. But many HIV-negative prisoners leave without such referrals—a huge missed opportunity.

Young men, particularly low-income men of color, are much less likely to seek medical attention. They are also much more likely to be involved in the criminal justice system. So why not use contact with the criminal justice system to facilitate connections with the healthcare system?

Cohall, founder of Project Stay, which provides comprehensive healthcare for high-risk and HIV-positive youth, partnered with Young Men’s Clinic founder Bruce Armstrong, DSW ’84, an associate professor of Population and Family Health, and Renee Cohall, LCSW. Working with community groups that serve justice-involved youth, they provide screening and counseling for HIV, STIs, and other health issues.

After helping this young man start HIV treatment, reducing his viral load to undetectable levels, the team also helped him address his weight and blood pressure. But, says Cohall, his patients’ chaotic lives often turn progress—medical or otherwise—into a case of two steps forward, one step back. Feeling stress from a loved one’s illness, the young man increased his marijuana consumption; the team redoubled their efforts to help him adopt more health-promoting stress management techniques. “Behavior change is difficult,” Cohall says. “It’s an ongoing process. That’s why these programs need to exist, and must be continually supported.”

— Alisa Roth

With support from institutional seed funds, the think tank’s first order of business was to frame key research questions. In its second phase, supported by the Robert Wood Johnson Foundation, the group facilitated several new educational initiatives, including a course for MPH students taught by Drucker. Think tank member Monica Sweeney, MD, MPH ’92, an adjunct assistant professor of Sociomedical Sciences, led a clinical practicum for faculty.

A monthly series—co-sponsored by Metsch and Dean Linda P. Fried, MD, MPH—extended the think tank’s reach, bringing in experts on solitary confinement, sentencing policies, racial disparities, and welfare reform for seminars open to faculty and students throughout the School. Drucker gave the inaugural address before a standing-room-only audience in 2013. “This new epidemic exhibits all the characteristics of an infectious disease—spreading most rapidly by proximity to prior cases,” he says. “It is a public health catastrophe—because of its scale, the severity of the effects it has, the size of the populations it affects. And it warrants the attention we would give other catastrophes in public health, like HIV.”

Incarceration also compounds more conventional public health risks: People in jail and prison have higher rates of infectious diseases like HIV and hepatitis B and C, as well as higher rates of chronic disease such as hypertension and diabetes.
Drug-resistant tuberculosis, antibiotic-resistant staph infections, syphilis, and scabies are all on the rise among people who are incarcerated, and nearly 50 percent have a diagnosable mental health disorder. Necessarily, prisons and jails have become de facto providers of an array of health services once the domain of community clinics. Ten times as many severely mentally ill individuals are housed within the criminal justice system as are housed by state psychiatric hospitals.

As a health advocate intent on disentangling the relationship between mental illness and criminal justice, David Cloud, JD, MPH ’14, enrolled at the Mailman School to augment his legal training. “I knew the criminal justice system was broken and I wanted to do something about it, but I didn’t want to use a criminology lens,” says Cloud, who works for the Vera Institute of Justice as a senior program associate in the substance use and mental health program. “Public health gives us a paradigm to engage not just the classic American conception of health as healthcare, scanners, and stethoscopes but the health of a population—including health departments, criminal justice, courts, employment, and education—in our search for answers.

Jails and prisons, forthcoming in the American Journal of Public Health. “If you start to look at the populations affected,” says Cloud, “you see the intergenerational aftermath of young, poor minorities plucked from the system, the disruption to their family systems, and the inequalities in their health outcomes.”

Often, says Robert E. Fullilove, EdD, associate dean of Community and Minority Affairs and a professor of Sociomedical Sciences, “people return from a period of incarceration in poorer health than when they left.” The synergy between HIV infection and mass incarceration is particularly stark. In a paper published in the Ohio State Journal of Criminal Law, Fullilove writes that a concentration of HIV infection in poor communities of color, coupled with high incarceration rates in those same neighborhoods, has fueled the rise of HIV infection nationwide. “The greatest engine driving the epidemic,” he writes, “was the cycling of inmates in and out of prison and in and out of their communities of origin.”

Through its destabilizing effect on communities, incarceration also further speeds the spread of HIV and other diseases among young people. “This is a vacuum,” says Fullilove. “There isn’t a doctor, make an appointment, call a pharmacy, and even take their medications.

The challenges are immense, says Cloud, yet cause for optimism remains. “Policymakers...increasingly turning to solutions that prioritize access to healthcare, education, and economic opportunity to prevent crime,” he writes in a March 2014 editorial for the American Journal of Public Health. “The current alignment of funding opportunities, political will, and technical capacity to provide coordinated services across systems creates a momentous opportunity for public health to reinvigorate its core values in social justice to improve the health of poor, underserved communities afflicted by mass incarceration.”
In 2010, 43 percent of cigarette smokers quit for a day or more. More than 60 percent relapsed.

The biochemistry of nicotine addiction is, of course, at the heart of the matter. And then there’s the pull of the habit, the ritual: slide a smoke from the pack, ignite it, tuck it between the lips, inhale. E-cigarettes—unlike the patch, nicotine gum, or prescription pills—furnish a proxy for the experience of lighting up, without the same level of harmful chemicals and tar found in conventional smokes.
For many, it’s the verisimilitude of these battery-powered liquid nicotine vaporizers and their alluring flavors that fuel concern. Will “vaping” reel in young people? Should e-cigarettes be banned due to the risk of abuse or embraced as a less harmful alternative to cigarettes? And how harmful is that nicotine, anyway?

This spring, the Food and Drug Administration announced plans to regulate e-cigarettes. The proposed rules would limit purchases to those 18 and older and mandate warning labels. The public comment period on the proposal ended August 8.

Soon after, the debate intensified: The World Health Organization, American Heart Association, American Lung Association, and American Cancer Society each released statements declaring their concerns about the hazards of e-cigarettes. Then a Centers for Disease Control and Prevention report confirmed that a growing number of non-smoking teens have tried vaping and that the experience predisposes them to experimentation with conventional smokes. Smoking cessation researchers, however, continued to champion a nuanced approach to regulation.

HARM REDUCTION

In January, anticipating the FDA proposal, faculty members Amy L. Fairchild, MPH ’90, PhD ’97; Ronald Bayer, PhD; and James Colgrove, MPH ’01, PhD ’04, published an essay in the New England Journal of Medicine advocating that regulators use a light hand. “Given the magnitude of tobacco-related deaths—some 6 million globally every year and 400,000 in the United States, disproportionately among people at the lower end of the socioeconomic spectrum,” they write, “an unwillingness to consider e-cigarette use until all risks or uncertainties are eliminated strays dangerously close to dogmatism.”

E-cigarettes hold great promise for smokers. Vaping offers the possibility of a less toxic, tar-free nicotine buzz and—for those intent on weaning themselves from the habit—a tool for stepping down. E-cigs also clearly pose risks—from undisclosed ingredients to the hazard of recruiting new users—especially for kids.

THE ROAD TO ADDICTION

Professor of Sociomedical Sciences Denise B. Kandel, PhD ’60, has devoted four decades to studying the use of nicotine and other drugs among adolescents. In September, the New England Journal of Medicine published her analysis—with her husband and research collaborator, Nobel laureate Eric Kandel, MD, a University Professor and the Kavli Professor of Brain Science at Columbia—of the molecular basis for nicotine as a gateway drug and its implications for the debates over legalized marijuana and e-cigarettes. “While e-cigarettes eliminate some of the health

WHEN IT COMES TO CONVENTIONAL CIGARETTES, THERE’S NOT MUCH TO DEBATE. Finding anyone who’d advocate smoking would be tough, probably impossible—even among smokers.

As giant retailers go, however, no entity has gone as far as CVS Health, the nation’s largest pharmacy chain, to discourage it. In September, CVS stopped selling all tobacco products in its 7,000 retail stores. The company’s chief medical officer is Troyen Brennan, MD, JD, MPH, a member of the Mailman School Board of Overseers.

CVS, he says, is becoming less a convenience store with a pharmacy attached than a healthcare provider. Then why ban tobacco sales yet allow space on the store’s shelves for sugary drinks and fatty foods?

“Tobacco is unalterably bad; the calories in junk food or soft drinks, in and of themselves, aren’t bad,” Brennan says. “You can drink a coke and it’s not necessarily going to have any ill effects on you. You can’t say that about smoking a cigarette, as regards yourself or those around you. In many ways, tobacco is a category of one.”

As for those pharmacies that have not or will not follow CVS’s lead, Brennan says, “Others talk that talk [of being a healthcare provider], but over time I think it will become corrosive if they don’t walk the walk. Some may still feel that they’re a retailer, but we are committed to being a healthcare provider.”
effects associated with combustible tobacco,” she says, “they are still nicotine-delivery devices.”

Denise Kandel originated the “gateway hypothesis”—the idea that use of illicit drugs like cocaine or heroin is preceded by exposure to such substances as alcohol, tobacco, and marijuana—in a 1975 Science paper. Three decades later, she issued a call to action in JAMA. “A developmental sequence of involvement in drugs is one of the best-replicated findings in the epidemiology of drug use,” she wrote. Scientists, she urged, must turn their attention to the biological underpinnings of the gateway hypothesis, bringing light to the heated policy debates in which it has featured for decades.

The scientist has since embraced her own charge. Working with Eric Kandel and Columbia psychiatrist Amir Levine, MD, she developed animal models to explore the behavioral, electrophysiological, and molecular genetic effects of particular drug-use sequences. Using these specially engineered mice, the team was able to delve into the mechanisms by which nicotine, in particular, fuels addiction. In a series of experiments, the researchers demonstrated that mice exposed first to nicotine exhibited a heightened response to cocaine. Exposure first to cocaine had no effect on nicotine response.

In 2011, Science Translational Medicine published the team’s report, which also details the molecular mechanism underlying the data: nicotine has an irreversible effect on the FosB gene, known to promote addiction. The Kandel team had demonstrated how nicotine primes the cocaine-addiction pump. “In addition to the flavoring and other factors that make e-cigarettes more attractive to youth, people don’t take into account that nicotine affects brain biology,” she says. “E-nicotine use will increase the risk of addictive behavior.”

Based on their own research, the Kandels would have the FDA take a much harder line than the agency does in its 2014 rules and make e-cigarettes available, by prescription only, exclusively to smokers weaning themselves from the habit. Fairchild, a professor of Sociomedical Sciences who has detailed her position in op-eds for The New York Times and The Huffington Post, favors more permissive regulation.

“There is evidence suggesting that [e-cigarettes] are at least as good as other nicotine-replacement therapies, if not better,” says Fairchild, who advocates an approach on a par with the over-the-counter availability of smoking-cessation products—such as patches or gums—that decouples nicotine exposure from the behavioral elements of addiction. “There’s this assumption that [vaping] is going to lead people to tobacco cigarettes or sustain people who smoke tobacco cigarettes as something they do in lieu of smoking in public. I tend to think not. Even among smokers who have no intention of quitting, using e-cigarettes causes their tobacco smoking to go down.”

Yet the possibility that e-cigarettes might swell the ranks of conventional smokers bears further investigation, says Bayer, a professor of Sociomedical Sciences and co-director of the Mailman School’s Center for the History and Ethics of Public Health. While the market has ballooned to $2.5 billion annually (among 466 brands) and new vaping shops are popping up throughout major metropolitan markets, the product only entered the public consciousness about a decade ago; its medium- and long-term effects are unknown.

Bayer, who has also analyzed the effect of warning labels for conventional tobacco products and investigated the extent to which science informs regulations banning cigarette smoking in public venues, advocates more thorough studies. To exceed the FDA’s proposal and aggressively constrain access to the product without that hard evidence, he says, would be to deny the public a tool to limit tobacco-related deaths among smokers.

“No one thinks [e-cigarettes] shouldn’t be regulated,” says Bayer. “The question is whether these regulations are going to be used as a pretext for banning e-cigarettes or whether they’re going to serve their two stated goals: trying to prevent toxins from being included in the liquid nicotine and not making them available to children.”

Stopping short of prohibition still leaves plenty for regulators to sink their teeth into. At the moment, pretty much anyone can whip up a batch of e-cig “juice” in the bathtub, ensuring that consumers are none the wiser about exactly what’s in there, including contaminants and carcinogens. Anyone can buy them; in many states, there’s no age-related regulation at all. And some of the flavors—cotton candy, bubblegum, and gummy bear—seem tailored to beguile youthful consumers. The same goes for the ads, which make “vaping” look pretty cool.

“E-cigarettes are used by two very different populations,” says Denise Kandel. “The issues are very different, depending on the population you focus on—chronic smokers who want to stop smoking or young people, who are using the product at a time when their brains are very vulnerable.”

Considering the undeniably pernicious effects of tobacco use, says Fairchild, the public interest might best be served if vaping remains broadly available to current smokers—even if all the information is not yet in. “The harm-reduction potential of e-cigarettes is going to be debated for decades, but conventional cigarettes are already out there in the open,” she says. “Tobacco is probably the greatest man-made killer of all time, and that’s the harm we’re talking about reducing.”

Hard Evidence

JOE MIKSCH writes about science and medicine in Pittsburgh.
When health systems scientist Margaret E. Kruk, MD, MPH, started her research in sub-Saharan Africa almost a decade ago, she encountered small Tanzanian health clinics in disrepair. No privacy screens shielded patients from one another. Beds lacked sheets. Health workers struggled to provide the best care possible—despite minimal training, broken equipment, and no running water. Many pregnant women avoided the clinics altogether and instead gave birth at home. Today, women in Tanzania are 15 times
more likely than their counterparts in the United States to die of preventable causes related to pregnancy and childbirth.

Tanzania is not alone in its dire public health situation. Throughout the developing world, preventable deaths—from causes including childbirth complications and infectious diseases—prevail, even as wealthy countries enjoy increasingly extraordinary advances in longevity and quality of life.

Preventable Death

These preventable deaths—and the vast health gap between rich and poor—could be drastically reduced, according to the report “Global Health 2035: A World Converging Within a Generation,” published by The Lancet in December 2013. Authored by 25 global health experts and economists—including Kruk—the report makes a case for investing in health and furnishes a road map. By 2035, the authors argue, as many as 10 million premature deaths could be averted every year in low-income and lower-middle-income nations.

“We’re at a turning point,” says Kruk, an associate professor of Health Policy and Management. “Countries are growing economically, and many have made big gains over the past decade. But now the questions are, What’s next? How do we translate the gains we’ve made into better health?”

Broad Investments

The answer, in part, lies with health policies and systems implemented at the national level, says Kruk, whose research has also taken her to Ghana, Mozambique, and Uganda, among other countries. Broad
investments, including improved primary care and better hospital services such as surgery and obstetrics, are high priorities. “We need to invest in robust health systems and health insurance,” says Kruk. “All people need to be able to access appropriate services when needed and not face bankruptcy as a result.”

But the prospect of launching universal healthcare is daunting in any country just beginning to chip away at staggering infant and maternal mortality, infectious diseases, and other health problems. To pursue universal healthcare, Kruk and her coauthors endorse the theory of progressive universalism.

“It starts with the poor,” says Kruk, “by including their health needs in the benefit package and by extending them health insurance ahead of wealthier groups.” When countries cannot afford health coverage for everyone, they must begin by offering services to the poor and most vulnerable. Those services should specifically target life-threatening problems, such as diarrhea and malaria, experienced disproportionately by impoverished people. And the services must be free, because even the smallest payments discourage access. Without this type of “pro-poor” approach, says Kruk, the benefits of health investments often flow disproportionately to wealthier consumers.

Progressive universalism will be costly: in the first decade, between $23 billion and $38 billion worldwide. But Kruk says that every country offers some sort of insurance—often to civil servants—and can begin by expanding that coverage to the most vulnerable members of society. Chile and Costa Rica have already expanded services as funds became available and have experienced significant health gains as a result. Additional funding sources include fossil fuel...
subsidies and taxes on harmful products like tobacco. “No matter how poor the country,” Kruk says, “now is the time to get started on universal healthcare.”

According to the *Lancet* report’s authors, the logic is sound. Previous estimates attributed 11 percent of recent economic growth in developing countries to reductions in mortality. Analyses that incorporate quality of life and good health show even greater returns—as much as $20 for every dollar invested.

If countries do invest in healthcare, the authors suggest, preventable deaths from childbirth complications and infectious diseases could plummet by 2035. Rwanda proves the point. Between 1992 and 2012, the country experienced the steepest decline in mortality of young children in recorded history, from 156 deaths per 1,000 children annually to just 54. Such examples, say the authors, prove that major gains are possible.

**GLOBAL POLICY**

But just what steps will be most effective? How should countries design their health systems? What do health clinics need to succeed? How do (or don’t) people use insured services? What are the main reasons for out-of-pocket costs in countries with universal coverage? Providing relevant answers to such questions for global policymakers is a primary goal of the Mailman School’s Better Health Systems Initiative, announced in February at a panel discussion of the *Lancet* report.

The core faculty of the initiative, led by Kruk, includes Professor of Population and Family Health Lynn P. Freedman, JD, MPH ’90, and Abdulrahman El-Sayed, MD, PhD, an assistant professor of Epidemiology. El-Sayed plans to use global data sets to identify what health coverage is available in various countries, examine how that coverage is offered and to whom, and determine the implications for health outcomes. One approach will deploy simulations to compare countries within a region to reveal what reductions in mortality and improvements in quality of life might have been achieved had health investments been made. “It’s important,” El-Sayed says, “to think deeply about the questions we’re asking and then answer them in ways that are real and lasting.”

After seeing the Tanzanian health clinics in disrepair, says Kruk, she understood why women avoided them: All people demand quality, relevance, and responsiveness in their healthcare. With National Institutes of Health funding and the collaboration of the Tanzanian Ifakara Health Institute, she’s testing interventions in maternal and newborn health for their effect on the quality of care and analyzing whether they lead women to better utilize the nation’s health system and realize better outcomes for themselves and their children.

Drawing on her own scholarship and that of her *Lancet* report co-authors, Kruk has also taught a series of seminars for the U.N., the World Bank, UNICEF, and the Rockefeller Foundation on universal health coverage, tactics to curb noncommunicable diseases, and approaches to enhance policymaking around health issues. “The report offers key steps toward reducing avertable deaths in low-income countries,” says Kruk. “It is a matter of global justice that we apply known technologies to solvable problems.”

Throughout sub-Saharan Africa, preventable deaths due to childbirth complications and HIV could be reduced.

**Health and environment reporter ALISON FROMME contributed to The Science Writers’ Handbook.**
Within our brains, more than 100 billion neurons release their rapid-fire signals, punctuated by pauses of just milliseconds. Increasingly, scientists can log the resulting patterns of activity using neuroimaging. Yet decoding the data—to discern how our brains work and what goes awry when disease takes hold—remains a heavy lift.

DuBois Bowman, PhD, chair of Biostatistics, has embraced such intellectual challenges since his undergraduate days. “We’re at a paradigm shift,” says Bowman, who joined the Mailman School in January. “Merely collecting big data will not be enough to enhance public health.”

Scientists need robust tools to sift through vast reams of data and detect often barely perceptible changes—whether in clinical imaging, population-scale electronic health records, or pharmaceutical assays. In 2005, Biostatistics published Bowman’s algorithm to reveal how our brains enlist two nonadjacent areas on a common task. He and colleagues subsequently gleaned new insights into schizophrenia and addiction; the brain, they found, rewires itself to regain lost function. As founding director of Emory University’s Center for Biomedical Imaging Statistics from 2007 through 2013, Bowman garnered $1.9 million in grants from the National Institutes of Health to squeeze even more meaning from neuroimaging data.

With the right formula, says Bowman, the payoff for public health can be huge. As a principal investigator for a $900,000, multicenter study of Parkinson’s disease, he is now working to compile data from 1,600 patients to reveal changes in brain function and other clinical precursors to the disease, years before the hallmark symptoms manifest. “This approach can have a tremendous impact on our understanding,” he says, “and also on clinical practice.”

Bowman discovered the field of biostatistics as an undergraduate at Morehouse College, analyzing the effect of psychological stress on hypertension in African-American males. “It was a magical moment,” he says. “For me to find an area where I could use my quantitative abilities to impact health.”

As an African-American, Bowman has often had to blaze his own trail. “When I started out, I could count on one hand the number of underrepresented minority faculty in biostatistics,” he says. He’s since created a diversity workshop for the International Biometric Society, for which he serves as president, and is an active mentor. “We have to be concerned if our perspective is too narrow,” says Bowman. “No two people look at problems the same way.”

Meanwhile, the appeal of collaborations to harness big data is only growing. Medical device, pharmaceutical, and tech companies all seek to leverage the quantitative revolution, setting the stage for innovative partnerships. Says Bowman: “We’re just scratching the surface.”
By the Numbers

Clinicians Get a Hand from Biostatistician Josh Kriger.

Josh Kriger, MS '14, is a hands-on kind of guy. He’s good in the classroom, but excels on the job. As a Mailman School student, the former tech entrepreneur and CEO devised algorithms to fine-tune a Web-based diagnostic tool for mitochondrial disease, evaluated the prognostic value of artificial nutrition and lung bypass among critically ill infants, and designed a clinical trial to evaluate anesthesia dosages for children awaiting stitches in the emergency department. “I tend to want to solve problems,” says the 29-year-old, “to know there’s a need and develop the skills to be useful.”

Kriger’s first post-commencement appointment—as full-time program manager for a Mailman School team analyzing clinical trial data from an experimental treatment for acute heart failure—is an extension of his studies with Professor of Biostatistics Seamus Thompson, PhD. “There are many clinicians on this campus who don’t have statisticians to help them,” says Thompson, who developed a program in which junior clinical faculty at Columbia University Medical Center can partner with ambitious biostatistics students for help with study design and data analysis. “When you have students who are as talented as Josh, you don’t have to be terribly smart to match the need with the ability.”

Kriger was 21 when he dropped out of college to launch his own company. By the time he was 25, he’d commercialized a mobile phone software system of his own invention, successfully overseen a round of investment financing, and landed a gig as vice president of sales and marketing for a multinational tech firm. And then he walked away. “I wanted to do something that was hard science and gives value to people,” says Kriger, who finished his bachelor’s in 2011. “I’ve been able to use the same drive and dedication that infused my work as an entrepreneur to work on my projects here at the Mailman School.”

In June, Kriger attended the United Mitochondrial Disease Foundation annual meeting to present his work with Columbia neurologist Michio Hirano, MD, and colleagues, to refine an online diagnostic tool. Mitochondrial diseases—cellular glitches that manifest in every organ system throughout the body—are rare, debilitating, and often fatal. “If you can diagnose people correctly and standardize the process,” says Kriger, “you can run a worthwhile clinical trial testing interventions in a patient population.”

Also this summer, the Journal of Pediatric Gastroenterology, Hepatology, and Nutrition published Kriger’s work with former Columbia pediatric gastroenterology fellow Anne Pierog, MD, to predict the vigor of infants born with herniated diaphragms. Often detected during a woman’s 20-week ultrasound, the congenital malformation compromises gastrointestinal and pulmonary development during gestation. At its most extreme, the condition kills. For children who survive long enough to allow for surgical repair at 12 months, clinicians need reliable indicators to inform families’ expectations and guide long-term treatment. Says Kriger: “It’s amazing to be co-authoring papers that are changing people’s lives—especially for these sick patients—while you’re still in school.”

Having such broad experience during his studies has galvanized his commitment to his new career, says Kriger. “To participate in writing the protocol, looking at the safety issues, going through the institutional review board process, writing a statistical analysis plan, putting together the grant proposal for review and approval—this is the big leagues,” he says. “And I got to do it in a real-life setting.”

Honored

Regina Santella, Mentor

This year, Dean Linda P. Fried, MD, MPH, had to convene a second selection committee when the time came to evaluate nominees for her annual Excellence in Mentoring Award.

In addition to the many impressive nominees submitted to Vice Dean of Faculty Affairs Regina Santella, PhD, who coordinates the nominating process, there was a complicating factor: a letter signed by nine professors and forwarded directly to the dean to propose that Santella herself receive the honor. “Their nomination letter was particularly poignant,” says Fried, who read excerpts as part of her State of the School address in May. The award’s presentation was a complete surprise for Santella, a professor of Environmental Health Sciences who joined the Mailman School faculty in 1983 and oversees the School’s mentoring program for junior faculty. “Regina is the reason why so many of our Columbia faculty can successfully integrate biomarkers into our research portfolio—because we have all trained with her and we have all benefited from her biomarkers class,” wrote the nine faculty. “She is also the reason why so many of us have been successful with grant funding, as she actively collaborates with us, reading our grant applications and providing valuable scientific expertise; this is essential for all of us during this tight funding climate.”

In closing their letter, the faculty—from three Mailman School departments—wrote, “Dr. Santella inspires so many of us every day to work harder, think more, and give more to our entire School. She is the finest example of leading by example.”
From a restaurant named Heaven to an entry in the annual anthology *The Best Writing on Mathematics*, Mailman School scholars engaged an array of topics in these tomes published during the past academic year.

* A Thousand Hills to Heaven: Love, Hope, and a Restaurant in Rwanda* by Josh Ruxin, MPH ‘94, PhD, assistant professor of Population and Family Health. Ruxin relates how he and his wife settled in Rwanda to do public health work and unexpectedly founded Heaven, a job-training facility and gourmet restaurant in Kigali. The memoir follows Heaven’s trajectory as well as Ruxin’s work as director of Health Builders (formerly the Access Project), which provide health systems expertise to more than 90 facilities in Rwanda.

* Introducing Global Health* by Peter A. Muennig, MD, MPH ‘98, associate professor of Health Policy and Management, and Celina Su, PhD. This overview of the major issues in the field explores strategies to optimize population health, emphasizing the integration of health-system, education, anti-poverty, infectious-disease, urban-development, governance, and incentive-based policies. Technical concepts—such as the incidence and prevalence of disease—are presented within the context of more accessible topics, such as global poverty.

* Epidemiology Matters* by Katherine Keyes, MPH ‘06, PhD ‘10, assistant professor of Epidemiology, and Sandro Galea, MD, MPH, DrPH ‘03, professor of Epidemiology. This introductory textbook incorporates extensive illustrations to make concepts and technical vocabulary accessible to students. A companion website with comprehensive reading lists and a lively Twitter feed carry forward its reach.

* The Best Writing on Mathematics 2013*, essay by Prakash Gorroochurn, PhD, associate professor of Biostatistics. In “Errors of Probability in Historical Context,” Gorroochurn discusses how the common-sense approach deployed by the field’s earliest proponents generated a series of “blunders and fallacies,” some of which persist today. Examples include the work of the Italian Renaissance physician and mathematician Gerolamo Cardano and Gottfried Wilhelm Leibniz, the German mathematician and philosopher who co-invented differential calculus.

* The Biostatistics of Aging: From Gompertzian Mortality to an Index of Aging-Relatedness* by Gilberto Levy, MD, DrPH ‘11, and Bruce Levin, PhD, professor of Biostatistics. To investigate the biomedical and public health relevance of declaring that a condition is related to aging, the authors present a new quantitative method—a marriage of the evolutionary explanation of senescence in aging and the statistical theory of extreme values—for examining the relative contributions of genetic and environmental factors to mortality and disease incidence in a population.

* Enigmas of Health and Disease: How Epidemiology Helps Unravel Scientific Mysteries* by Alfredo Morabia, MD, MPH, PhD, professor of clinical Epidemiology. Morabia investigates the role of epidemiologists in shaping our understanding of population health issues. Using examples including breast cancer and swine flu, he helps readers make sense of the health information disseminated by the mainstream media.

* Diabetes Mellitus and Oral Health: An Interprofessional Approach* by Ira B. Lamster, DDS, MMSc, professor of Health Policy and Management and dean emeritus of the Columbia University College of Dental Medicine. This tool for dentists, dental hygienists, and primary care providers reviews medical and dental considerations when treating people with diabetes.

* The Transplant Imaginary: Mechanical Hearts, Animal Parts, and Moral Thinking in Highly Experimental Science* by Lesley A. Sharp, PhD, senior research scientist in Sociomedical Sciences. A medical anthropologist, Sharp extends her investigation of the cultural power of organ transplantation to the moral thinking of scientists seeking alternatives to a pressing conundrum: The clinically promising field is plagued by a shortage of human organs. Sharp applies an ethnographic approach to the quest for cross-species and bioengineered organs.
In the City of Peace

Building Bridges in Geneva, Switzerland

This summer, six Mailman School students traveled to Geneva, Switzerland, to complete practicum experiences as part of their MPH training. As host to the United Nations, the World Health Organization, the World Economic Forum, and the International Committee of the Red Cross—plus dozens of consulting companies and myriad lesser known international nonprofits and nongovernmental organizations—the city hums with opportunities for young professionals in public health.

To help Mailman School students leverage those possibilities, longtime Geneva residents Jessie Schutt-Aine, MPH ’94, who works for the WHO, and Columbia MBA Barbara Bulc, founder and president of the boutique consulting firm Global Development, have joined forces with staff in the offices of Career Services, Alumni Relations, and Integrative Practicum Experience.

In May, Schutt-Aine and Bulc hosted a videoconference to answer students’ questions about global health work in Geneva. In June, they welcomed students at a networking event hosted by the Geneva chapter of the Columbia Alumni Club. Schutt-Aine organized a second event specifically for students working with the WHO. Bulc has posted multiple employment opportunities for Mailman School students and alumni.

“Geneva is a great training ground for students interested in working in international health,” says Schutt-Aine. “Mailman School students bring to their work solid public health skills—including epidemiology, monitoring and evaluation, and project management—all of which are highly valued and critical to international health.”

Commencement Kudos

Class of ’14

In May, the Class of ’14 became the first to graduate with MPH degrees earned through the Mailman School’s interdisciplinary curriculum, launched in 2012. Geriatrician John W. Rowe, MD, chair of the School’s Board of Overseers and a professor of Health Policy and Management, gave the commencement address. Pediatrician Noe’ Duran Romo, MS ’14, delivered remarks on behalf of the graduating class.

The 334 MPH graduates earned certificates of specialization in 20 fields, including health of an aging society, climate and health, and humanitarian assistance. Thirty-three Master of Science and eleven doctoral degrees were also awarded in May. An additional 188 graduates received their diplomas in October 2013 and February 2014.

As a student, Mark Kaplan, MPH ’14, grappled with large data sets in the classroom and as an intern in the Department of Health and Human Services’ Office of Inspector General. He now works as a technical research analyst at a New York City nonprofit, applying behavioral economics research to programs that serve poor families in the United States.

Kaplan is in good company. By September, the Class of ’14 was well on its way to matching the six-month job placement stats achieved by the Class of ’13, with 85 percent of the class employed in the fields of public health or healthcare. The graduates in the Class of ’14 had further cause for celebration: A median increase of approximately 44 percent in their starting salaries.

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“The two things that drive my life are passion and compassion. My biggest goal is helping people who need it.” — CHRISTIN GILMER

Christin Gilmer, MPH ‘14, could easily have been at the Tucson, Arizona, scene where in 2011 a gunman killed six and injured fourteen, including then-U.S. Representative Gabrielle Giffords. A volunteer for the congresswoman, Gilmer had taken the day off. Three of her friends were shot, two fatally.

The next day, when Gilmer learned that a hate group planned to disrupt the memorial service of the youngest victim, she set out to organize a “divine guard.” Thousands of volunteers, dressed as angels with 8- to 10-foot wings, shielded mourners at the service. “It was so beautiful,” Gilmer remembers. “It was one of the most touching moments of my life.”

In May, Gilmer was honored with the 2014 Gorman Humanitarian Award for demonstrated excellence in commitment to the humane care of individuals and communities, and in advancing consideration of human rights and values in healthcare and prevention.

As a junior high school student inspired by ACT UP, Gilmer started speaking out about AIDS and volunteering for global HIV/AIDS groups. As an undergraduate, she interspersed her studies with work in the fashion and music industries and in 2007, added full-time advocacy to the mix. She helped raise more than $1 million for the Southern Arizona AIDS Foundation, founded a health organization, and organized opposition to anti-gay and anti-immigrant legislation.

For her practicum in the Global Health track at the Mailman School, Gilmer traveled to Denmark, where she worked on HIV prevention with the World Health Organization, and South Africa, where she was a field manager on a University of Oxford study of youth at risk for the disease. In July, the 29-year-old began her studies at Harvard University for a doctorate in public health.

Gilmer is also in the exploratory phase of starting a nonprofit in South Africa for children with HIV. “The two things that drive my life are passion and compassion,” she says. “My biggest goal is helping people who need it.”

In his fifth year as a doctoral candidate in Biostatistics, Gary Yu, DrPH ‘14, joined with faculty in the department of Sociomedical Sciences to investigate HIV risk among young gay men in Vietnam who use drugs. The study, which used a statistical model Yu developed as part of his graduate studies, eventually took him to the country where his parents were born and from which they were forced to flee in 1975. Along with its professional rewards, says Yu, the experience fulfilled a lifelong dream to visit his homeland.

Yu, who was born in Northern California, studied bioengineering as an undergraduate at the University of California, Berkeley. After enrolling in a summer program in biostatistics for first-generation college students, he changed course, earning a master’s in public health at Boston University.

As a first-year doctoral student at the Mailman School, Yu embraced the opportunity to teach quantitative methods, first to students in Health Policy and Management, and later in Sociomedical Sciences and Epidemiology. By the time of his graduation, Yu had published papers with eight faculty members in four departments on topics from employment outcomes for people in China with schizophrenia to analyses of humanitarian aid workers in Uganda. “It’s such an asset being able to bounce around ideas with people from multiple disciplines,” he says.

In May, Yu was honored for the breadth of his contributions with the School’s Bernard Challenor Spirit Prize, named to honor a professor who taught in every one of the School’s departments. Faculty nominating Yu for the prize highlighted his passion for making the Mailman experience accessible to underserved students.

In 2008, Yu helped to create and secure funding for the Biostatistics Enrichment Summer Training Diversity Program, BEST. Over the ensuing six years, Yu taught close to 100 students through BEST and its sister program, the Columbia Summer Institute for Training in Biostatistics, even living with some of them at International House for two summers. “I see it as my responsibility,” says Yu, “because of the investment that others have made in me.”

Since graduation, Yu has continued working on the Vietnam study with funding from the U.S. Department of State.
Leaders

Global Health at Home

Sten Vermund, PhD ’90, Puts Prevention First

As a pediatrician-in-training in 1970s New York City, Sten Vermund, MD, PhD ’90, lamented that many of the medical conditions he saw in patients were preventable. Forty years later, Vermund is a leading figure in HIV and cancer prevention for women and children in the U.S. and abroad. “I am a hopelessly prevention-oriented guy,” he says. “I’m so inspired when we can avoid illness altogether.”

Vermund, who is director of Vanderbilt University’s Institute for Global Health, is this year’s winner of the Mailman School’s Allan Rosenfield Alumni Award, given in recognition of outstanding achievements and leadership in public health. The award is named in honor of the late Allan Rosenfield, MD, who served as dean of the school from 1986 to 2008 and was a cherished mentor and friend to Vermund.

Like many of his colleagues in New York City in the 1980s, Vermund’s career was rocked by the emergence of AIDS. His own patients were dying and with limited therapeutic options, he turned his attention to preventing transmission from mother to child during pregnancy. “I got a sense that it was a historic moment,” he says, “and that because I had trained in infectious disease epidemiology, I could make a difference.”

Vermund went on to work for the National Institutes of Health, applying epidemiologic approaches to intervene in HIV, and later at the University of Alabama, Birmingham, as head of geographic medicine in the School of Medicine and as chair of the department of epidemiology at the School of Public Health. Overseas, he participated in the creation of a program to train health professionals in Zambia to develop screening programs to diagnose and treat HIV and cervical cancer.

“We really focused on trying to keep things pragmatic,” says Vermund, “for implementation in low-resource settings.” He has since worked on similar programs in China, India, Pakistan, and Mozambique. The “Red Ribbon, Pink Ribbon” campaign—a partnership of government, nonprofits, and pharmaceutical companies inspired by the Zambian cervical cancer screening program—has informed the integration of cervical and breast cancer prevention efforts into existing healthcare programs in sub-Saharan Africa, Asia, and Latin America.

In what he calls “global health at home,” Vermund applied the same principles he used in Zambia to create a program in rural Alabama, Mississippi, and Louisiana to help people in low-income settings better utilize healthcare. “You get a bigger bang for your buck when you’re working with people who are disadvantaged. There’s just more benefits to accrue in those populations whose life expectancies aren’t as high—where we worry about disproportionately high infant mortality, child mortality, maternal mortality,” he says. “If a patient is privileged, the health system may invest a lot of resources for a little gain, whereas if your clientele is not in great shape, you can put in those same resources for a lot more gain.”

To the Next Level

Alumni Board Expands its Vision

In fall 2013, Kathleen Crowley, MPH ’01, PhD ’13, assumed the presidency of the Mailman School Alumni Board. Her first order of business was a listening tour. “I thought it would be helpful to consult board members for their ideas and input,” says Crowley, who is associate vice president of Environmental Health and Safety at Columbia University.

First and foremost, board members championed a more active role in their relationship with the School. “I’m excited that we’re taking the board to the next level,” says Crowley, who used the insights she gleaned to develop themes and a road map to guide the board’s efforts over the next five years.

The 29-member board plans to expand its partnerships with students; provide more alumni networking opportunities; extend the School’s presence nationally and internationally; and take a more purposeful approach to such internal board governance issues as forming an executive committee, providing an orientation for new members, and hosting guest speakers as a board educational opportunity. “We’ve already accomplished a lot,” says Crowley, “because of the energy of all of the committee chairs and the board members.”
Kirby Bumpus, MPH ‘10

Kirby Bumpus, MPH ‘10, sees the possibility in small steps. As a student in the Department of Sociomedical Sciences, Bumpus honed her skills as a sexual health counselor for young people. Working with the Harlem Health Promotion Center, she visited alternative high schools and juvenile rehabilitation programs to talk about safer sex. Says Bumpus: “There were ‘Aha!’ moments when I’d see a light bulb go off in a young woman’s head when we’d talk about condom negotiation and ways she could have a conversation with her partner.”

Often, those conversations served as a prelude to more global discussions about health and wellness, even as opportunities to connect individuals with the larger healthcare system. Says Bumpus: “It allowed us to link to a population that was falling through the cracks and hadn’t taken control of their health.”

With the 2008 election of President Barack Obama, Bumpus saw a window of opportunity. After years of explaining to confused friends just what a master’s in public health was, prevention and health awareness were finally coming into their own. The new president had pledged to deploy resources in areas like community health and health prevention. Perhaps a role within the federal bureaucracy would provide Bumpus a broader platform to extend her efforts, especially among disadvantaged communities.

So in 2011, soon after passage of the Affordable Care Act, Bumpus left a job she loved at the Robin Hood Foundation in New York City and headed to the nation’s capital to work at the Department of Health and Human Services. “There is no better way to learn about the nation’s health than to work at the federal level on public health issues,” says the 28-year-old.

It didn’t take long for Bumpus to hit her stride in D.C. After a scant two years as a special assistant to the Assistant Secretary for Health, she accepted a policy portfolio of her own that included adolescent and women’s health, LGBTQ issues, and HIV. Then in 2014, a call came from the White House inviting Bumpus to apply for a post working with First Lady Michelle Obama on “Let’s Move,” the ambitious program dedicated to solving the epidemic of obesity within a generation.

“I feel especially driven to help communities of color because that is where health disparities are typically greatest,” says Bumpus. “As a public health professional, I feel obligated to educate and help people learn how to live healthier lives.”

Rates of childhood obesity, which have tripled in three decades, are especially high in African-American and Hispanic communities, where some 40 percent of children are overweight or obese. Let’s Move provides outreach to parents, schools, elected officials, faith communities, and even chefs, encouraging efforts to educate all Americans about nutrition and exercise and promote sustainable habits to last a lifetime.

For Bumpus, a self-taught cook who admits that eating is one of her great pleasures in life, taking control of the kitchen has become a centerpiece of her own quest for lifelong health. “So many of us eat food on the go and have no clue what we are putting into our bodies,” she insists. “When people cook at home, they are more in control of what they are eating and can teach their kids better habits at a young age.”
Each summer, MPH students on the cusp of their second year of classes disperse around the world, putting to the test the lessons they’ve studied in the classroom. This summer, their hosts—in 50 nations—included federal and local governments, nonprofits, corporations, and philanthropies.

1 **Iran’s Lake Urmia** was once the largest saltwater lake in the Middle East, teeming with wildlife. In the last two decades, rapid desertification has turned it into a desolate health hazard. Ali Sadeghi, MPH ’15, traveled to Lake Urmia as a research associate for the Environment and Water Research Center. A Sociomedical Sciences major, he documented the health effects of salt dust swept from the lake’s dried surface and created interactive maps to inform strategies for remediation.

2 **In Paris, France, Navid Fallahi, MPH ’14**, worked at the Cochrane Institute. An aspiring medical administrator who intends to integrate his training in Epidemiology with the clinical insights of an MD, Fallahi created a statistical algorithm to analyze demographic features of research participants, information vital for evaluating the external validity of a clinical trial.

3 **In Mahanoro, Madagascar, Shayla Durrett, MPH ’15**, worked with USAID and a local organization intent on increasing use of community-based primary health care services. A former Peace Corps volunteer, Durrett used her fluency in Malagasy, the local language, to draft a handbook for community health workers to use in the field to diagnose, treat, and refer people in their villages.

4 **Michelle Jackson, MPH ’14**, traveled throughout Indonesia, doing a household survey in 32 villages to assess barriers to birth registration and education, social assistance, and health outcomes. “In our coursework, we learn many of the ‘hard skills’ needed to collect high quality data,” she says. “In Indonesia, I took skills I had developed in the classroom and actually put them into practice to collect the data needed to inform policies and priorities around child protection.”
“I want to make a difference at the Mailman School, but as a recent graduate, I don’t have a lot of money to spare. I was thrilled to find out that I can be a leader at the School by making monthly gifts of less than $50.”

Carlos Cuevas, MPH ’12

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