Columbia Public Health

Columbia Public Health is the annual magazine of Columbia University’s Mailman School of Public Health. View the online version at mailman.columbia.edu/CPHmagazine, where you will find special features—links to a video of our incoming students, other multimedia extras and related articles.

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Welcome
to Columbia Public Health magazine, the new annual publication of the Joseph L. Mailman School. I am delighted you are here.

In these pages you will glimpse some of the exciting and consequential work our school is doing to create a future of good health for all. Our impact is broad and deep, global and local. It ranges from making dramatic progress in battling the HIV/AIDS epidemic in sub-Saharan Africa to confronting dangers in the air people breathe right here in our own upper Manhattan neighborhood. It includes transforming how public health is taught in order to better prepare tomorrow’s leaders.

Never before has there been such an exciting or important time for public health leadership. We live in an increasingly interconnected world, facing common concerns that include climate change, modern epidemics of both infectious and chronic diseases, and the challenge of preserving good health throughout lives that have grown dramatically longer. All of this demands a transformation in how we work together—south and north, urban and rural, rich and poor.

For those of you who are not public health insiders, let me explain just a little about what we do. Our mission is lofty but simple: to improve the well-being of people everywhere by understanding health challenges, discovering solutions to prevent or resolve them, and devising changes in policy and practices at a population level, whether local, national, or global.

How do we do this at Columbia? By taking a “life-course approach” to health. This means that—together with experts in medicine, public policy, business, philanthropy, and other sectors—we must work to prevent disease and disability and promote good health at every age and stage of life, understanding that what happens at one juncture influences health later on. In this issue you will read, for example, about how exposure to air pollution during the prenatal period sets the stage for asthma, cognitive problems, and even obesity later in childhood and for cancer further down the line. You will learn how cigarette smoking primes the brain, on a molecular level, for other addictions, particularly to cocaine. Insights like these make it clear that our policies, practices, and investments in the realm of health must consider and address each issue at its roots and causes throughout life.

Research by our faculty addresses an extraordinary number of public health concerns, from how lead exposure damages brain cells to how a tax on soda pop would impact the prevalence and healthcare costs of obesity. I’m proud to lead a school that is just bursting with extraordinary scientists conducting research on every level from cells to society, and creating on-the-ground programs that save lives all around the globe.

As a school, nothing we do is more important than educating the next generation of public health leaders. This fall we proudly debuted a groundbreaking approach to public health education. Nearly three years in the making—and a top priority for me from the moment I arrived as Dean in May 2008—our Columbia MPH curriculum offers a new vision for how we train public health scientists, practitioners, and thought leaders. Nearly 200 members of the faculty worked to make it a reality. At the heart of the redesigned curriculum is the life-course approach, along with many other innovative features. I hope you’ll enjoy reading about it and other aspects of the vital work we do.

Yours in health,

Dean Linda P. Fried
Obesity, addiction, chronic fatigue syndrome, and the mental health impact of an economic recession—these are just a few of the subjects of research studies published by Mailman School faculty over the past year. Here's a sampling of recent findings that advance public health science and have important implications for policy and practice. More information on these and other studies is available on the School's website.

Penny Soda Tax Promises Payoff in Less Obesity

A penny-per-ounce tax on sugar-sweetened drinks has huge potential to reduce obesity, diabetes, and heart disease, saving more than $17 billion in healthcare costs over ten years, according to a study led by Y. Claire Wang, MD, ScD, assistant professor of Health Policy and Management. Such a tax would also generate about $13 billion a year in revenue. Americans drink more than 13 billion gallons of such beverages a year, making them the largest source of added sugar and excess calories in the American diet. While many states impose a sales tax on soda, experts believe these taxes are too low to impact consumption. The authors estimated that a higher tax of a penny per ounce would cut consumption by 15 percent and thereby reduce the prevalence of obesity, diabetes, and cardiovascular disease. The findings were published in Health Affairs.

Blood-Thinner Battle Ends in a Tie

Neither aspirin nor warfarin was superior for preventing a combined risk of death, stroke, and cerebral hemorrhage in heart-failure patients with normal heart rhythm, according to a landmark clinical trial published in the New England Journal of Medicine.

The ten-year trial was the largest double-blind comparison of these medications for heart failure ever undertaken, following 2,305 patients at 168 study sites in 11 countries. In the head-to-head comparison, the combined risk of death, stroke, and cerebral hemorrhage was 7.47 percent per year for patients taking the blood thinner warfarin, widely known by its brand name, Coumadin, and 7.93 percent per year for those taking aspirin—a difference that is not statistically significant. Clinical Professor of Biostatistics John L.P. “Seamus” Thompson, PhD, was statistical principal investigator for the study; Columbia University Medical Center’s Shunichi Homma, MD, was clinical principal investigator.

Nicotine ‘Primes’ the Brain for Cocaine Use

Cigarettes and alcohol serve as entry-level drugs that can pave the way for the use of marijuana and then cocaine and other illicit substances. This progression is called the “gateway sequence” of drug use—a long-term research interest of Sociomedical Sciences Professor Denise Kandel, PhD. A study in Science Translational Medicine by Kandel, Eric Kandel, MD, Amir Levine, MD, and colleagues provides the first molecular explanation for the gateway sequence. It shows that nicotine causes specific changes in the brain that make it more vulnerable to cocaine addiction—a discovery made by using a novel mouse model. The authors found that pretreatment with nicotine greatly alters the response to cocaine in terms of addiction-related behavior and synaptic plasticity in the striatum, a brain region critical for addiction-related rewards. The relationship between nicotine and cocaine was found to be unidirectional: Nicotine dramatically enhances the response to cocaine, but cocaine has no effect on the response to nicotine.
Your Brain on Lead

Exposure to lead wreaks havoc in the brain, with consequences that include lower IQ and reduced potential for learning. But the precise mechanism by which lead alters nerve cells in the brain has remained largely unknown. Research led by Tomás R. Guilarte, PhD, Leon Hess Professor and Chair of Environmental Health Sciences, and postdoctoral research scientist Kirstie H. Stansfield, PhD, used high-powered fluorescent microscopy and other advanced techniques to painstakingly chart the varied ways lead inflicts its damage. The paper, published in the journal *Toxicological Sciences*, provides the first comprehensive working model of the ways in which lead exposure impairs synapse development and function. “Lead attacks the most fundamental aspect of the brain—the synapse. By better understanding the numerous and complex ways this happens, we will be better able to develop therapies that ameliorate the damage,” says Guilarte.

For Young Girls, a Stressful Home Boosts Risk for Obesity

A stressful home life predisposes young girls to early-onset obesity, according to one of the first studies examining obesity risk factors in young children. Interestingly, the study did not find a similar association for boys. Assistant Professor of Epidemiology Shakira Suglia, ScD, and co-investigators looked at 1,605 preschool-aged children, obtaining reports from their mothers on various stressors the children may have experienced at ages 1 to 3, such as intimate-partner violence, substance use, a mother’s depressive symptoms, or a father’s incarceration. At age 5, girls were twice as likely to be obese if their mothers had reported two or more stressors at age 3. “Particularly for girls, when you’re seeing these patients coming in as obese children at age 5, there is probably more going on than what they’re eating and what their physical activity is,” notes Suglia. The results were published in *Pediatrics*.

Chronic Fatigue Syndrome Is Not Linked to Suspect Viruses

A multisite blinded study led by W. Ian Lipkin, MD, John Snow Professor of Epidemiology and director of the School’s Center for Infection and Immunity, put to rest the notion that the viruses XMRV (xenotropic murine leukemia virus–related virus) and pMLV (polytropic murine leukemia virus) were behind chronic fatigue syndrome—sometimes called myalgic encephalomyelitis. Two earlier studies had pointed to the viruses as potential culprits, but the findings were not replicated in subsequent studies. Questions lingered, however, because the latter research had not examined a large enough sample of well-characterized patients. To definitively resolve the issue, the new study was commissioned by the National Institute of Allergy and Infectious Diseases and conducted under the auspices of the Center, in partnership with the Centers for Disease Control and Prevention, the Food and Drug Administration, the National Cancer Institute, and NIH Clinical Center of the National Institutes of Health. The research appeared in *mBio*. 
When the Economy Slides, Suicides Rise

New evidence on the link between suicide and the economy shows that from 1990 to 2006 the monthly suicide rate in New York City was 29 percent higher at the economic low point in 1992 than at the peak of economic growth in 2000. “Economic hardship can hurt a person’s self-worth and limit the availability of social resources, including mental health care,” observed senior author Sandro Galea, MD, DrPH, Gelman Professor and chair of Epidemiology. White men under the age of 45 were the driving force of the association between economic activity and suicide, according to the study. Galea says that while the reasons are not fully understood, one possible explanation is that white men are in occupations that are more exposed to economic vagaries than those of nonwhites and women. The results appeared in the American Journal of Epidemiology.

Life Grows Shorter for High School Dropouts

The gap in life expectancy between Americans with higher education and those without a high school diploma is growing wider, according to a study by the MacArthur Foundation Research Network on Aging, which is chaired by John W. Rowe, MD, professor of Health Policy and Management. More shocking still, life expectancy is falling for white men and women without a diploma: Such a woman could expect to live 78 years in 1990, but only 73 years by 2008. White men, meanwhile, lost three years. The biggest gap, however, persists between college-educated whites and blacks who don’t complete high school. “Less-educated individuals have not participated in the remarkable gains in life expectancy we’ve seen in those with 12 or more years of education,” says Rowe. “This is not a strategy for success as a society.” Rowe and Dean Linda P. Fried, MD, MPH, were among the coauthors of the paper, which appeared in the journal Health Affairs.

Add Unwanted Pregnancy to Travails of Women in War-Torn Lands

A study led by Therese McGinn, DrPH, associate professor of clinical Population and Family Health, quantified the alarming gap between the desire of women in war-torn areas to limit their childbearing and the availability of resources and knowledge to enable them to do so. The situation leads to unintended pregnancy among women already contending with the stresses of violence and, in many cases, displacement. The researchers surveyed married women at six sites in Sudan, northern Uganda, and Congo. They showed that 30 to 40 percent of the women did not want to have another child in the next two years, and that an additional 12 to 35 percent of the women did not want any more children. Despite these numbers, the portion of women who were using modern contraception was under 4 percent at four of the sites, and 12 percent and 16 percent at the other two sites, where there had been some prior family planning services. Findings were published in the online journal Conflict and Health.
Rethinking Public Health Education

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

by Jon Marcus

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

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

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

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

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

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

— DEAN LINDA P. FRIED

ners. Chronic conditions such as diabetes, heart disease, and obesity were on the rise around the world; they, too, required new kinds of cross-disciplinary approaches. The second half of the 20th century brought sweeping changes with complex implications for public health: climate change, rapid urbanization in the developing countries, and longer life spans that meant health systems around the world were facing big increases in elderly populations.

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

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

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

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

This fall, after two and a half years of painstaking diplomacy, hard work by ten committees, innumerable discussions involving some 200 members of the faculty, staff, and students, and several million dollars of investment, the Mailman School introduced some of the most sweeping changes in U.S. public
A SLOW-BURNING CRISIS

Abraham Flexner never went to, or taught at, a medical school, but his influence on the field was epic. A hundred years before Galea was called downstairs by Dean Fried, Flexner got a similar summons from the Carnegie Foundation, which hired him to study the state of American medical education and propose reforms. It was Flexner who, in 1910, urged doing away with private apprenticeships for medical students in favor of two years of intensive review of the biomedical sciences followed by another two years of clinical apprenticeships in teaching hospitals. This change, linking science to clinical practice, transformed American medicine and medical schools.

In 1915, physician William H. Welch of Johns Hopkins Hospital and Wycliffe Rose of the Rockefeller Foundation coauthored a similar plan for the nascent field of public health. It called for “institutes of hygiene”—Welch would almost immediately go on to found the Johns Hopkins School of Hygiene and Public Health—to conduct scientific research in collaboration with medical schools.

These two approaches to reform were largely about content. Medical and public health trainees would have their heads filled with knowledge they could call upon to do their jobs. In the ensuing century, there have been some adjustments to this model; in the 1950s, for example, schools of public health and medical schools added problem-based instruction. But there things largely stayed.

Major reports in 2002 and 2003 by the Institute of Medicine urged, among other things, that schools of public health become interdisciplinary both in education and their research. An expert committee made a list of skills required of applied epidemiologists—financial management and planning, for example, and cultural competence—and reported that many weren’t being taught. “We found gaps,” says Denise Koo, MD, MPH, who helped lead the committee and who directs the Scientific Education and Professional Development Program Office at the Centers for Disease Control and Prevention. “Schools of public health don’t consistently teach surveillance, for instance. They weren’t nec-
COLUMBIA PUBLIC HEALTH

By the time an international commission was convened in 2010 to review the education of public health professionals in the 21st century, it found “a slow-burning crisis.” The resulting report, published in The Lancet in late 2011, said that public health education—along with medical and nursing programs—relied on “fragmented, outdated, and static curricula that produce ill-equipped graduates.”

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

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

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

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

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

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

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

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

In smaller groups of 20, first-year students from various academic departments work together in a two-semester course called Integration of Science and Practice. Using an approach borrowed from business schools, they consider historical and present-day case studies, weighing competing points of view, writing policy briefs, and learning such skills as persuasion,
working in teams, and public speaking. One case, for example, is drawn from New York City’s controversial decision to ban the use of trans fats in local restaurants. “The critical feature of the cases is that there’s no right answer,” Begg says. “It’s going to be intimidating to a lot of people, but that’s what’s going to happen when they enter the workforce as public health professionals.”

There’s also a new program in the second semester in leadership and innovation that will use role-playing, simulations, case analysis, and group work to teach team management, communication, and conflict resolution. “The public health professional can no longer sit in her or his office and have big thoughts in isolation,” Galea explains. “Teamwork is the way public health gets done.”

For all its updated content and emphasis on interdisciplinary study, it’s the leadership component of the new curriculum that may be the most revolutionary. In public health today, says Koo, “it’s not just whether you can do the analysis and get outcomes and publish your papers, it’s what can you really do with it. Can you practice consequential epidemiology—not just epidemiology that sits on a shelf, but epidemiology that makes a difference? Isn’t that the reason people go into public health, to make a difference?” Koo says the field needs more people who can translate ideas into terms that policymakers can understand. “Some of it is about us epidemiologists, let’s say, learning to tell those stories, to market—I know some people cringe at that word—but to market these ideas.” As is required by all MPH programs, each student will also complete a “practicum,” or internship, in a real-world setting, though the new curriculum adds more comprehensive preparation for fieldwork and more follow-up.

One of the biggest innovations is the addition of more than 20 new certificate programs that provide students with a second area of expertise (in addition to their departmental concentrations) and a second credential beyond the MPH. Most are interdisciplinary, on such topics as global health, chronic disease, aging and health, and health promotion. Others, such as infectious-disease epidemiology, offer deeper training within a discipline.

The dramatic rethinking of the MPH curriculum not only means that students will learn in new ways, it means that faculty have to change the ways they teach.

“When the faculty sat down to reconsider what and how they were teaching, it sort of smacked us in the face that we needed to think differently. We had to retrain ourselves,” says Ana Abraido-Lanza, PhD, associate professor of Sociomedical Sciences who, with her colleague Professor Ronald Bayer, led the team developing course materials for the core curriculum. “We’ve had this epiphany: ‘Yeah, we get it. This is the way we have to think.’”

The Office of Education, under Begg, offered workshops for the faculty on topics such as teaching through the case method and new ways to assess student understanding. “Teaching the teachers is a critical piece of making this work,” says Begg. “I’ve been amazed by the enthusiasm for embracing the new.”

SETTING THE TREND

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

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

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

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

JON MARCUS is a Boston-based journalist who writes about higher education for the Boston Globe, Washington Monthly, and other major publications.
5 Trends That Will Shape U.S. Health Care
(No Matter How the Politics Play Out)

by Naomi Freundlich
From the moment it was signed into law in March 2010, the Affordable Care Act (ACA)—popularly known as “Obamacare”—has sparked legal challenges and carved deep political schisms. In June, the United States Supreme Court ruled that the law was constitutional, removing a major hurdle to full implementation. But more challenges lie ahead: With Republicans vowing to repeal or defund much of the health law, the results of the 2012 election may ultimately determine the fate of many of its features.

Yet in some important ways, no matter which way the political winds blow, the course is set for fundamental changes to the U.S. healthcare system. The reason is simple: The current system is unsustainable. The nation faces a healthcare bill that hit $2.8 billion in 2011, up 31 percent from just a decade ago and equivalent to a whopping 17.9 percent of the gross domestic product. Per-capita spending on health care is the highest in the world (see chart), though by several measures—including infant mortality and life expectancy—the U.S. system is far from the best. What’s more, half of all spending goes to caring for just 5 percent of the population, the great majority of whom are elderly and suffering from chronic illness.

Several long-term trends make change even more urgent: The number of seniors eligible for Medicare is reaching historic levels, more Americans than ever are uninsured, insurance premiums are rising while many plans are getting skimpier, and state budgets are groaning under the burden of Medicaid. Faced with these challenges, the major players in the healthcare system have not waited for the election results; they have already begun taking steps to reshape the system. “There are important trends reshaping the healthcare system that will continue regardless of who is president, who controls the next Congress, and whether the ACA survives or is repealed,” says Michael S. Sparer, PhD, JD, chair of the Mailman School’s Department of Health Policy and Management. “Indeed, while the ACA supports and encourages many of these trends, there simply is no going back. A healthcare revolution is under way.”

While prediction is a risky business, here are five trends that will likely shape the future of health care for Americans.

### Healthcare spending
Per person in thousands of dollars

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**SOURCE:** ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, “OECD HEALTH DATA: HEALTH EXPENDITURES AND FINANCING”
Today, most physicians and hospitals are paid on a fee-for-service basis, meaning that they are reimbursed for individual tests and procedures performed while treating a specific episode of illness. This system encourages overtreatment and duplication of tests, and leads to miscommunication and inefficiencies as patients shuttle among their primary-care doctor, specialists, and hospitals.

An increasingly appealing alternative is to pay providers a fixed monthly or yearly amount determined by the patient’s public or private insurance plan. Such “global payments” can be calculated on a per-patient basis or for a large group. This model, which rewards efficient, well-coordinated care, is at the heart of accountable-care organizations (ACOs)—a new healthcare delivery model fostered by the Affordable Care Act. The idea, which is already being tried in demonstration projects across the country, is to have a set of providers—including hospitals, primary-care doctors, specialists, and other health professionals—agree to be “accountable” for the quality and cost of care for a defined population of patients. If they achieve quality targets and reduce costs below a baseline level, the ACOs can share in the savings.

The ACO model differs in some important ways from the insurer-run “managed care” plans of the 1990s, which gained a reputation for shortchanging patients and denying care. Medicare requires ACOs to be run by hospitals or doctor groups—not insurers—and the government has mandated 33 publicly disclosed quality measures it will use to evaluate the programs. They include care coordination, patient safety, a focus on prevention, and use of evidence-backed treatments. Seven quality measures will come from patient surveys that include questions about the ease of scheduling appointments with physicians. Perhaps most important, when it comes to sharing in the cost...

THE HOPE: AN EMPHASIS ON DISEASE PREVENTION AND BETTER COORDINATED CARE WILL CUT DOWN ON HOSPITALIZATIONS, OVERALL COSTS, AND SUFFERING.
savings, “you don’t get paid a dime if you don’t hit the quality metrics,” says Donald Fisher, president of the American Medical Group Association.

Sue Beder, a 65-year-old Massachusetts woman with multiple sclerosis, is participating in an ACO aimed at “dual eligible” patients, who receive both Medicare and Medicaid. In recent years, frequent falls and other preventable injuries sent Beder to the emergency room so many times that her medical expenses reached about $7,000 a month. Last year the Fire Department visited her Stoughton, Mass., home 40 times.

Beder’s care is now being managed by Senior Whole Health, an ACO that receives a lump payment of 20 percent less than what government payers spent on Beder in the past. With better coordination of care and a focus on prevention, the ACO hopes she can continue to live at home (versus in a costly nursing facility), cut down her emergency-room visits and hospitalizations, and reduce costs overall. Beder is pleased with her daily visits from a home health aide, 24-hour access to nurses who serve as care managers, free transportation to see her doctors, no co-pays for medication, and the new safety rails in her bathroom. It’s too soon to measure savings, but Beder’s calls to the Fire Department are now rare.

The ACO experiment is well under way. Michael Millenson, a healthcare consultant and president of Health Quality Advisors, notes that there are 59 Medicare ACOs already serving more than 1.1 million beneficiaries across the country, with 150 more awaiting the government’s nod. Administrators at the U.S. Department of Health and Human Services predict that the Medicare ACO project will save up to $1.1 billion over five years, while improving care for many beneficiaries. Private insurers like Cigna, Aetna, and Humana are also on board, teaming up with physician and hospital groups to coordinate care and global payments.

“Every major private insurance company already has a demonstration project to show how accountable care will work,” observes John W. Rowe, MD, Mailman professor of Health Policy and Management and former chairman and CEO of Aetna. “They have concluded that the fee-for-service system, with its incentives to increase volume of care and its lack of accountability for quality, has failed, and that we must reform the way healthcare services are delivered and paid for.”

Among the changes that arrived with Obamacare is a bigger emphasis on the prevention of disease and disability. The law requires all new private health plans to cover vaccinations, mammograms, wellness visits, prenatal care, and other preventive services without co-payments or deductibles. These policies also went into effect for Medicare recipients. The law provides stepped-up funding for community-level interventions like smoking-cessation programs, efforts to fight childhood obesity, and programs that support wellness at work. Though such public health programs have almost never been reimbursed by private insurance, there’s growing evidence to suggest that they can be valuable cost savers.

And that’s why the emphasis on prevention seems destined to stay. For ACOs and similar global-payment plans, preventive care is the key to keeping costs from spiraling out of control. Take diabetes, which currently affects 11.3 percent of American adults. The Centers for Disease Control and Prevention (CDC) estimates that as many as 1 in 3 U.S. adults could have diabetes by 2050 if current trends continue. A recent report from IMS Health found that it costs about $12,000 a year to cover a diabetic whose disease is stable. But if the condition is uncontrolled, a diabetic can rack up expenses
averaging $102,000 a year. Providers in an ACO have a vested interest in offering lifestyle coaching and prompting patients to take medications, check their blood-sugar levels, and employ other preventive strategies to avoid dangerous—and costly—diabetic crises.

Even more effective would be to prevent high-risk individuals from developing diabetes in the first place. Last year, UnitedHealth became the first private insurer to pay for an evidence-backed diabetes-prevention program offered at 247 YMCAs in 26 states. Studies funded by the CDC found that among prediabetics (people with risk factors such as obesity, elevated blood-sugar levels, hypertension, and/or a family history of disease), participating in a 16-week nutrition-counseling and exercise program similar to the one offered at the Y prevented some 60 percent of expected diabetes cases over nearly three years of follow-up.

Expanding this one program could have huge benefits. Nearly 79 million American adults are prediabetic. “The Urban Institute has said that by making this program available nationwide with organizations like the Y, we can save $190 billion over ten years,” says Lynne Vaughan, senior vice president and chief innovation officer at YMCA.

Without more emphasis on prevention, the CDC warns that 1 in 3 U.S. adults could have diabetes by 2050.

Rewarding Quality, Punishing Carelessness

Another way to put the brakes on unnecessary spending—and suffering—is to create incentives that reduce the kind of medical errors that lead to complications and hospital readmissions. One tactic: Reward providers that demonstrate a greater focus on quality, safety, and best practices, and penalize those that don’t.

For example, the Centers for Medicare and Medicaid Services (CMS) adopted a policy in 2008 that withholds Medicare payments for hospital costs related to preventable infections. Since then, the CDC has recorded a 32 percent drop in the incidence of bloodstream infections related to improper insertion of intravenous lines in hospital patients. As part of the health law, CMS is also developing a National Patient Safety Initiative that includes a $70 billion “pay for performance” system to provide incentives for hospitals to meet standardized measures for patient safety, such as reducing surgical errors and the number of antibiotic-resistant infections acquired in the hospital. Hospitals are now facing a loss of 1 percent of their Medicare payments if they readmit an excessive number of patients due to inadequate care or poor follow-up after discharge.

Early results have been promising, but warns Rowe, savings from pay-for-performance efforts may be hard to sustain: “The bottom line is that it is very difficult to change behavior, especially in large organizations where many of the providers are free agents and are not employed by the hospital or health system.” He sees a greater potential for quality improvement in ACOs that “effectively align the interests of all the players.”
Evidence is the Best Medicine

Medicare data analyzed over many years reveals that spending on patients varies greatly among cities, neighboring towns, and even hospitals in the same community. Much of this variation is due to ingrained physician practice patterns that do not necessarily represent evidence-backed care.

The health-reform legislation sets up the independent Patient-Centered Outcomes Research Institute to “provide information about the best available evidence to help patients and their healthcare providers make more informed decisions.” This still-nascent effort will require researchers to analyze head-to-head comparative clinical studies as well as data gleaned from scores of electronic health records to identify the most effective treatments.

Sherry A. Glied, PhD, who returned to Mailman this fall as a professor of Health Policy and Management after serving as Assistant Secretary for Planning and Evaluation at the Department of Health and Human Services, believes this institute will provide evidence that has the potential to improve quality of care and reduce costs. But, she cautions, “we don’t yet know whether and how this evidence will be used by ACOs and others in making care decisions.”

Meanwhile, private payers as well as Medicare are already starting to monitor how well providers adhere to known evidence-backed measures—such as providing flu shots to the elderly and antibiotics after certain surgeries—and paying bonuses for meeting quality targets.

There is also a noticeable shift among some providers to discourage the overuse of tests and expensive treatments. The recent “Choosing Wisely” campaign is a good example: Nine physician specialty groups, along with the American Board of Internal Medicine and Consumer Reports, created a list of 45 common tests and procedures that should be used less often. “Don’t do imaging for uncomplicated headache” was one recommendation from the American College of Radiology. Cardiologists, meanwhile, advised against stress cardiac imaging or coronary angiography in patients without cardiac symptoms “unless high-risk markers are present.” Donald Berwick, the former director of CMS, calls the campaign a “game changer” because it is physician-driven yet will also be targeted to the public through Consumer Reports.

Better and more universal use of electronic health records is a key part of the movement toward evidence-based care. Beginning in 2011, the federal government offered up to $44,000 per physician over five years from Medicare, or nearly $64,000 over six years from Medicaid, if medical practices adopted “meaningful use” of information technology. The ACA continues this support, and contains initiatives designed to help create a vast, interconnected network of patient data.

Despite a slow start, almost 46 percent of doctors are now using electronic medical records. But meaningful use of information technology requires more than just digitized patient files, notes Rick Lopez, chief medical officer for Atrius Health, a nonprofit alliance serving a million patients in Massachusetts. “It’s sharing information across clinicians and institutions and truly understanding patients,” he says. In a group practice or ACO, for example, new software systems can generate a list of all enrolled diabetics or hypertensives and make sure care reminders are sent out to patients, blood-pressure targets are met, and follow-up care starts immediately after hospitalization.

As more and more providers coordinate care, smart digital tools will help prevent duplication of testing, alert doctors to dangerous drug interactions, and provide guidance on the best treatments for a given condition. Atrius, for example, scans electronic data for patterns of utilization, and can spot errors and excesses. “If a doctor is ordering a hundred CT scans, he might be asked to sit down with the medical director to talk about why,” says Lopez.

Medicaid is the joint federal-state program that administers health benefits for the poor and disabled. From 2007 to 2010 the recession caused many Americans to lose their jobs and their employer-provided insurance. Medicaid enrollment grew by 19 percent to include almost 67 million Americans in 2010, at a cost of $390 billion. With state budgets also stretched thin by the recession, Medicaid became a target for cuts—both in terms of who qualifies and in reimbursements to providers.

If the Medicaid provisions in the Affordable Care Act stand, the program could expand to cover 15 million more Americans who earn up to 133 percent of the federal poverty line, and include single adults and the working poor, who have not qualified for benefits in every state.
The Supreme Court ruled that states may opt out of the Medicaid expansion. The governors of Texas, Florida, Louisiana, Mississippi, and South Carolina have threatened to do just that. But other states, with the blessing of federal officials, are already overhauling Medicaid programs with the goal of expanding coverage while cutting costs. Oregon, for example, received an additional $1.9 billion in federal funding to test a program that will use global payments and coordinated-care organizations (essentially ACOs) to manage the medical, mental-health, and dental care of virtually all of the state’s Medicaid enrollees. The state, led by Governor John Kitzhaber, a physician, believes it can cut health costs by two percentage points over two years, saving $11 billion over the next decade, while also improving health outcomes for beneficiaries.

Indiana, meanwhile, has created a Chronic Disease Management Program that involves some 50,000 Medicaid patients suffering from asthma, diabetes and/or heart failure. These high-risk enrollees receive one-on-one care management by nurses, have access to a nurse-staffed call center and primary care centers, and receive reminders to take medications and set up appointments. Studies have shown that the program is already helping decrease government costs and improving care for these chronically ill patients.

What’s Next?

While these five trends seem well established, other aspects of U.S. healthcare reform remain uncertain. “We need to be careful of assuming Medicare will emerge unscathed after the election,” says Glied. “The traditional Medicare program is the lever we are using to change the whole healthcare system. If we decide to dismantle Medicare and provide vouchers for seniors to purchase insurance, then the leverage is gone and the system isn’t going to transform in the same way.”

Also uncertain is the fate of state health-insurance exchanges—a key feature of the ACA—that are supposed to bring affordable coverage to 30 million of the uninsured beginning in 2014. A number of states have been waiting for the election results before creating these exchanges, says Heather Howard, former commissioner of health for New Jersey and current director of the State Health Reform Assistance Network: “States that are stalling are going to find it nearly impossible to set up exchanges by 2014.”

Even so, there are encouraging signs that the ongoing shift will continue toward a more coordinated, evidence-based system of care that emphasizes prevention and cost effectiveness. These trends, together with the weak economy, have already helped contain the growth of U.S. healthcare spending to just 4 percent over the past year, down from an average annual rate of 6.8 percent between 2000 and 2010. No wonder that “from the point of view of reform,” as Rowe puts it, “the train has left the station.”

NAOMI FREUNDLICH is a Brooklyn-based journalist who specializes in covering health care.
HEALTH HAZARD: DISEASES LIKE CHOLERA SPREAD QUICKLY IN NEW YORK TENEMENTS SUCH AS THESE ON ELIZABETH ST. (C. 1912), PROMPTING ELIZABETH MILBANK ANDERSON TO TAKE ACTION.

by Francine Russo

In the late 1800s, New York City was awash in deadly microbes. Cholera, typhus, smallpox, diphtheria, and tuberculosis all thrived in crowded immigrant tenements and threatened the entire citizenry. Children were especially vulnerable. In 1886, Elizabeth Milbank Anderson, a mother of two, watched helplessly as diphtheria stole the life’s breath from her 7-year-old son, Jeremiah. That loss and the plight of the city’s poor spurred her to action. For the next 35 years, she worked tirelessly and imaginatively to elevate public health in her home city, leaving a legacy of improved sanitation and health education, as well as a foundation to continue her work.
OW FITTING THEN THAT A NEW GIFT to the Mailman School’s Center for the History and Ethics of Public Health was made in honor of a woman who did so much to change local public health history and address health inequities. The gift of about $250,000 establishes the Elizabeth Milbank Anderson Fellowship Fund for doctoral students and supports a faculty position at the Center. It comes from Anderson’s great-great-grandson, Bob Harvey, MPH ’07, a Mailman School graduate.

Harvey continues his illustrious forbearer’s work in his role as a director of the Milbank Memorial Fund, a public health foundation. Anderson established the foundation in 1905 in memory of her mother and father, a successful industrialist. “She was a visionary in many respects,” says Harvey, who is writing a book about his great-great-grandmother.

Anderson funded one of the first tuberculosis laboratories in the United States at what is today the Trudeau Institute in Saranac Lake, N.Y. She also underwrote public school lunch programs, school-based medical inspections, public “comfort stations” (bathrooms), laundries and bathhouses for people without running water or sanitation, and grocery stores that sold fresh and wholesome foods at cost in poor neighborhoods. Her work on behalf of women and minorities included serving as the largest benefactor of Barnard College of her day and establishing and funding the Harlem office of the Legal Aid Society.

Though Harvey never knew Anderson, who died in 1921, as a young child he did know her daughter, Eleanor Campbell, a woman remarkable in her own right. A physician at a time when it was difficult for women to become doctors, Campbell founded and directed the Judson Health Center, which served many thousands of the poor in downtown Manhattan. Harvey’s mother, Elizabeth Ashforth Harvey, also worked as a director at Judson.

Speaking of the new fellowship fund, Harvey notes, “I believe that my forebears would approve of the way the Center for the History and Ethics of Public Health works, because they had a strong sense of social justice.”

Like Harvey’s illustrious ancestors, the Center for the History and Ethics of Public Health is itself a trailblazer. Barely a decade old, the Center is unique in combining the study of history with ethics in public health. Earlier this year, it was designated by the World Health Organization as a WHO Collaborating Center for Bioethics, one of only six globally and the only one devoted to the ethics of public health. The Center is working with WHO on the ethics of disease surveillance, vaccination, and screening for tuberculosis. The Center also seeks to shape public policy through its work with state and city governments as well as the Institute of Medicine and the Centers for Disease Control and Prevention.

It’s hard to overestimate the importance of Harvey’s gift, says historian David Rosner, PhD, MPH, who co-directs the Center with ethicist Ronald Bayer, PhD, his fellow professor of Sociomedical Sciences. The gift not only has jump-started the Center’s endowment campaign, but even more importantly, has given it a platform for receiving matching funds from the National Endowment for the Humanities. (Because the Center’s faculty members work in the humanities, they are only rarely eligible for grants from the National Institutes of Health, which support research in the sciences.) In 2009, the Center won an NEH challenge grant, a first for a school of public health. The NEH will provide a 1-to-3 grant of $725,000 if the Mailman School raises $2,175,000 by July 31, 2014. The School is closing in on that goal.
Every day, the Center’s faculty and students examine ethical issues from centuries past as well as those ripped from the headlines. Some ongoing work focuses on today’s tensions between patient privacy and the imperatives of public health. Many health issues are rife with ethical concerns, says Bayer, whose own work centers on ethical challenges around HIV/AIDS. “They affect how we do surveillance on diseases like TB, measles, and cancer, raising questions about privacy and consent,” he says. “These questions are at the heart of public health.”

Hot controversies are the bread and butter of the Center’s faculty, but they are examined within a historical framework. Rosner, who is the Ronald H. Lauterstein Professor of Sociomedical Sciences, is studying the history of how children were exposed to lead paint. When did the paint industry know that lead was harmful? When did it stop using lead? Rosner’s expertise has informed current lead abatement litigation. James Colgrove, PhD, MPH, a professor of Sociomedical Sciences who has written a book on battles over vaccines for children, tackles such thorny questions as how we track who gets vaccinated and whether children who aren’t immunized can be barred from schools. Not easy questions, and far from settled.

Harvey understands the value of the Center’s unique mission. “I hope,” he says, “that the fund attracts students who share the vision that ethical inquiries into historical developments can inform our understanding of the past and our ability to design effective solutions.”

The Elizabeth Milbank Anderson Fellowship Fund will provide funds for tuition and stipends to support high-caliber doctoral students like those now investigating a range of compelling areas at the Center. One student, for example, is delving into the use of conscientious objectors as research subjects during World War II. Another is exploring the controversy over evidence to support the recommendation that Americans limit salt in their diets, whether or not they suffer from hypertension.

Mailman School Dean Linda P. Fried sees a nice symmetry in the Milbank gift. “It is rooted both in Bob’s great-great-grandmother’s visionary work in the past and his own vision for the future,” she says. “He understands at a deep level that what we have learned from the history of public health must be foundational to its future.”

For Harvey’s part, he sees many of the same ethical concerns at play today as in his great-great-grandmother’s time. He may not have fully understood everything he heard as a child at his family’s dinner table, but one thing, he says, was abundantly clear: “Lots of people had problems getting access to health care, and that’s still true.”

FRANCINE RUSSO, PHD, has written for TIME, the Village Voice and other major publications. She is the author of They’re Your Parents, Too! and a speaker on issues related to aging.
To get to Kisumu, Kenya’s third largest city from Nairobi, you must travel over the very birthplace of humanity: Olduvai Gorge. From the air in late May, you can see glittering lakes, the winding path of the Athi River, and the rift valley turned emerald by seasonal rains before descending over the milk-chocolate shallows of Lake Victoria. Lakeside Kisumu, in the Nyanza region, may lie close to where humanity got its start, but it’s also in the heart of a region where tens of thousands have met a premature death from HIV/AIDS. The region has the highest prevalence of HIV in Kenya with more than one in seven people infected. In the district of Siaya, it’s one in four.

The skeptics were wrong. Bit by bit, the fight against HIV/AIDS is being won in sub-Saharan Africa. Here’s how ICAP is spreading hope and health in Kenya and Tanzania.

by CLAUDIA WALLIS
photographs by GEORGINA GOODWIN, JAMAL KALUMNA, AND CLAUDIA WALLIS

NYANZA IS ONE OF three regions in Kenya where ICAP—the Mailman School’s world-renowned global health organization—is a lead partner in battling the epidemic. Since there is no vaccine for HIV and no cure, ICAP’s strategies focus on other means of prevention and on extending care and treatment to tens of thousands of those who are already infected. But it takes a multiplicity of tactics to thwart such a wily and complex virus in regions where the health infrastructure is weak and where shame and misinformation run strong.

Here in Nyanza, and across Lake Victoria in the Kagera region of Tanzania, one can observe the multiple prongs of ICAP’s “comprehensive approach” to beating the epidemic into submission. Using all available tools—including HIV testing, treatment, counseling, group support, plus prenatal and postnatal...
The rolling green hills of Kenya’s Nyanza region, on the equator. 2 A mother waits near the gates to the Siaya District Hospital. 3 Women—along with their mostly HIV-free children—who belong to a support group that meets monthly at Kenya’s Nyando District Hospital. 4 Moms wait for their babies to be vaccinated at the ICAP-supported Kashai Dispensary in Western Tanzania. 5 A lab worker at Kenya’s Katito Health Center, which has received essential equipment from ICAP. 6 Two shipping containers have been converted into a clinic with a well-ventilated central waiting area.
Because of these new realities, this summer’s International AIDS Conference in Washington, D.C.—the first to be held in the United States in 22 years—was one of the most optimistic since the epidemic began 30 years ago. The upbeat mood was reflected in the conference theme: “Turning the Tide, Together.” In 2003, when President George W. Bush launched the five-year, $15 billion commitment called PEPFAR (President’s Emergency Plan for AIDS Relief), skeptics were everywhere. Africa’s lack of health infrastructure would doom the project, they argued, and poorly educated patients would be unable to manage the drug regimens or make the changes in behavior needed to control the spread of HIV. This was before the discovery that effective treatment in itself is now known to be a powerful way to stop the spread of HIV because it reduces the amount of virus to non-transmissible levels—a discovery the journal Science hailed as the 2011 “breakthrough of the year.”

Antiretroviral drugs have essentially resurrected her. “My CD4 count was 100. Now it’s 410,” she announces to general applause.

Solace and Sanctuary for the Young and HIV-Positive

You might think that 30 years after the HIV epidemic began, and 20 years after the miracle of antiretroviral treatment was introduced, some of the shame and stigma associated with the disease would have loosened its grip. You would be wrong. That becomes painfully clear when ten young people living with HIV—participants in an adolescent/young adult support group—tell their stories. The group meets monthly at the Siaya District Hospital, about an hour’s drive from the northeastern shore of Lake Victoria in Kenya. The program is a relatively new one for ICAP, which supports five adolescent programs in Nyanza Province. The goal is to help an age group that has been hard to reach, and it’s key to stemming the spread of HIV, says Mark Hawken, MD, ICAP’s country director in Kenya.

Judith* is 22 and lives with her parents. She was diagnosed with HIV and began treatment last year. What brought her into the clinic? “I was weak,” she says, using a common euphemism for being deathly ill. “Now I am fine,” she says, thanks to the drugs she is taking. She insists that she never forgets to take them promptly at 9 p.m.

Robert, 24, is an apprentice mechanic working in a garage. He, too, had been “weak,” and had an embarrassing outbreak of shingles sores on his face. His parents still do not know that he has HIV, and he doesn’t plan to tell them. He lives with his “auntie,” who reminds him to take his medication. The nightly start of a televised soap opera called Triumph of Love serves as his daily cue to take his medicines.

Does he have a girlfriend, Hawken asks this strapping young man.
She knows he is HIV-positive, and they are delaying sexual activity. Does his boss know? No, says Robert, “I am afraid he will fire me if he finds out. He will think I am weak.”

Elizabeth, 23, is a beautiful young woman, with fine braids in a tasseled topknot, and sad eyes. She was diagnosed in 2007, when she was pregnant. When she learned she was infected, “I wanted to die,” she murmurs. She swallowed rat poison. Her parents found her and rushed her to the hospital. They beat her for attempting suicide. She remained ill, and eventually told them the truth about her HIV status. Her father, a driver for an HIV research program, was able to accept her situation. Her son was, unfortunately, born HIV-positive. He takes medication each morning, she says quietly: “He is doing well.”

Marianne, at 17, is the youngest in the group, but she lacks a youthful glow. One can tell at a glance that she’s seen many trials in her young life. She was only about 10 when admitted to the hospital very sick and in need of a blood transfusion. Her twin brother was also ill and soon died, as did her mother. Her father left the family, and she now lives with an aunt. The hardest thing, she says, was losing her mother. Like the others, she finds some strength in the support group, and sees a future for herself. Her dream: to be a lawyer.

Richard is 22 and well-educated, having finished a bachelor’s degree in Purchasing at a college in Nairobi. He plans to go on for more education. Aside from his parents, he tells no one of his HIV status. He was just 14 when he became extremely sick, and was brought to the hospital, a herpes sore near his left eye. He has no idea how he became infected. The shame and isolation he felt in having to leave his boarding school still visibly pain him. The support group, he says, has given him strength and a chance to share his secret: “It used to be only me and all these old people” coming in for regular health checks. What did he get from this group, Hawken asks. “I got that I am never alone.”

“All names have been changed.”

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Making testing, prevention, and treatment more accessible is a key part of what ICAP does in sub-Saharan Africa. It takes precision planning and management as well as intensive partnership with local and national authorities. It was no small task for ICAP to renovate the hilltop Andingo Dispensary and equip it with HIV test kits, registries to track patients, a delivery bed, infant-weighing scales, a blood pressure machine, an autoclave, and other critical supplies. With support from PEPFAR, ICAP also trained additional clinic staff (there used to be just one nurse) and a team of community health workers who fan out into the villages to spread the word about newly available HIV services and promote such public health essentials as child immunization, safe drinking water, and prenatal care.

AT THE TREE-SIDE MEETING, a young community health worker offers a progress report to ICAP visitors and a government dignitary, Dr. Ibrahim Mohamed, head of Kenya’s National AIDS and STI Control Program. It quickly becomes clear that ICAP’s work is not only helping in the battle against HIV/AIDS, it is improving health care and health awareness across the board for this community. More households are treating their water to make it safe for drinking, the health worker reports; more women are giving birth at the dispensary; fewer HIV patients are “defaulting”—missing treatment by skipping their clinic visits. He describes efforts to encourage hand washing, use of latrines, coming to the dispensary for early prenatal care. He’s also ready with a list of what’s needed: more first aid kits, more training for the community health workers, and a motorcycle to help outreach workers get around and transport goods. “The terrain is not very much easy,” he notes; bicycles aren’t doing the trick.

A local government administrator who works closely with the clinic has a few additional requests, including a refrigeration unit for medicines. ICAP personnel take careful note of the requests, which are by no means unusual, and thank those as-

Targeting Another Epidemic: Cervical Cancer

The Ocean Road Cancer Institute in Dar es Salaam is Tanzania’s only hospital specialized for treating cancer. Set on the shores of the Indian Ocean in a Moorish-style building with breezy courtyards, it serves about 4,000 patients a year. A stunning 65 percent of female patients here—and 40 percent of patients overall—have cervical cancer, according to Dr. Julius Mwaiselage, head of cancer prevention and research. Many of them arrive with the disease already too advanced to be cured. The prevalence of this cancer in sub-Saharan Africa is largely due to widespread infection with human papilloma virus (HPV)—an established cause of the disease—and the absence of Pap tests and other kinds of screening. “Precancerous lesions are not being detected and treated early, so they progress to cancer,” explains ICAP’s Linda Andrews, a Vermont-born nurse-practitioner who has worked in Asia and Africa for more than 25 years. If the woman is also infected with HIV, she faces an added risk: Precancerous lesions develop more rapidly to invasive cancer in such women.

Andrews is working with Tanzania’s Ministry of Health to establish a cervical-cancer screening and treatment program in the regions where ICAP operates—one that could become a national model. Passionately committed to women’s health, she relishes this mission as “a dream come true.” Luckily, a simple methodology exists that can make the dream a reality even in a resource-poor country. VIA, or visual inspection with
acetic acid (5 percent white vinegar), is an evidence-based method of early detection of precancerous cervical lesions. The vinegar turns a lesion white, making it easy to spot. It can then be treated with cryotherapy—freezing with liquid carbon dioxide. This is usually done in one visit, making it an efficient treatment. Andrews explains: “You need, at minimum, an examining table, carbon dioxide tanks, and a delivery system. And you need to train personnel. But once you’ve begun, maintaining it is relatively inexpensive.” The hardest part, says Andrews, is competing with soda companies and breweries for a steady supply of carbon dioxide from the country’s only distributor. Here at Ocean Road, another piece of the cervical-cancer puzzle is being moved into place. Five doctors are learning a procedure called loop electrosurgical excision procedure, or LEEP, which is used to treat the 1 to 2 percent of precancerous lesions that are too large for cryotherapy. Tanzania’s National Strategic Plan calls for LEEP to be available in each of the country’s 28 regions, but the equipment alone costs $10,000.

U.S. PEPFAR funding enables expert partners like ICAP to obtain the equipment for the Ministry of Health. “Without this combined effort,” says Mwaiselage, “we could not tackle cervical cancer.”

Two international figures played a key role in drawing attention to cervical cancer in Tanzania. Jane Goodall, the famed expert on chimpanzees, helped bring funders to the country’s Kigoma region, where she’s conducted most of her research. And George W. Bush has committed his foundation to the cause. “It is heart-wrenching to save a woman from AIDS,” wrote the former President in a recent Washington Post editorial, “only to watch her die from cervical cancer.”

ICAP is moving to bring VIA to all the high-volume health centers it supports. In addition to rolling it out in HIV/AIDS centers, says Andrews, “we would like to screen all women who come in for family planning.”

For now, screening is key, but for the next generation of girls in sub-Saharan Africa, a better answer lies in providing access to new, highly effective HPV vaccines to halt the disease before it even gets started.
Preaching Circumcision—With a Song and Dance

How do you persuade men to undergo circumcision at age 20 or 30 or 40—when the practice is alien to their traditions and when they can’t conceive of it producing anything but pain and humiliation?

Answer: You put on a show. And in the small banana-growing villages in the hills above Lake Victoria in Tanzania’s Muleba district, this surprising tactic is working magnificently.

In the village of Nshamba, a crowd of about 200 people has gathered around an open area. Bouncy, joyful music blares from a truck, and a rubber-jointed man is singing and dancing. He finishes the number, and a drama begins. He acts the role of a husband returning home from the bush.

“Where is our son?” he demands of his long-suffering wife. The prodigal son arrives, and his father begins to beat him with a stick. “Where have you been?” he yells. It soon comes out that the son has gone to the local clinic to be circumcised. His father is furious. He raises his voice. And his stick.

“Let him speak,” says the mother. “He has something to say.”

The boy explains that circumcision will reduce his risk of contracting HIV by 60 percent. It also lowers his risk of other sexually-transmitted infections. He tells his father that circumcision does not mean he’s now a Muslim—a common misperception. The father listens skeptically. Next, the young man explains that circumcision will help protect his future wife from cervical cancer.

That does it. Now the mother flies into a rage, insisting that her husband get the procedure. “Do you want me to get cervical cancer?” she shouts.

The play proceeds, delivering detailed information: The procedure is free. It’s being done by ICAP at a nearby health clinic in Rwantege. The dialogue begins in Swahili and continues in Haya, the local language.

When the drama ends, the actor playing the father turns to the crowd with his microphone: “What are we talking about today?”

The crowd: “Male circumcision.”

“Why is it free?”

The crowd: “Free.”

And just to ensure that the message has been absorbed, the actor hands the microphone to an onlooker and asks him to explain what he’s learned.

A few kilometers away on the terracotta roads of the region, another crowd is gathered—on the grounds of the Rwantege Dispensary. These are men who have seen the traveling show, grasped its message, and turned up for circumcision.

A temporary facility of waterproof tents has been set up on the grounds of the small clinic. ICAP has collaborated with local government authorities to offer the procedure in this area for free; the clinic is lending some staff to the project. Men wait under a canopy and on the grass. They are all ages—boys just 15 and men past 40. If anyone is nervous, it doesn’t show. Washed and disinfected surgical instruments glint in the afternoon sun on a low table, awaiting sterilization.

The intake tent is small and efficient. Everyone is offered HIV testing. The few who test positive are immediately referred for further evaluation. All of the men complete registration and wait their turn. A clean operating-theater tent holds eight surgical beds, and all are full. Local anesthetic controls the pain—no one shows any sign of discomfort. The procedure takes just 20 to 25 minutes. The men are observed for another 30 minutes and then instructed to return in 48 hours for bandage removal and in seven days for follow-up.

Head nurse Leonida Rweyemamu says that 129 men were treated here on Monday, and another 108 showed up on this Tuesday. The campaign will continue for a total of 23 days, during which ICAP and its partners hope to circumcise 2,000 men. The health advantages are indeed as impressive as the traveling troupe portrays: a remarkable 60 percent reduction in HIV risk, among other benefits.

Learning that fact from the performance group is what persuaded Osward Evarstes, 23, to come for the procedure. Through a translator he says that he also wants to protect his wife from cervical cancer.

Jovinus Babiligi, 40, also came after learning from the performers that circumcision will give him 60 percent protection against HIV. “I can maintain the other 40 percent,” he says, “by condom use, reducing my number of partners, and abstinence.”

The traveling troupe couldn’t have scripted it better.
“The innovation just takes your breath away,” says ICAP director El-Sadr, whose work on the front lines of the HIV epidemic was recognized with a 2008 MacArthur “genius” grant. The tireless El-Sadr spends much of her time traveling the globe to observe how programs are implemented in the 21 countries where ICAP works, and then helping to share and perfect them, with input from a staff of about 100 based at the Mailman School. In the world of HIV/AIDS, success begets success. “The philosophy has always been that the work will speak for itself,” says El-Sadr. “Let the people who receive the services speak.”

Luckily, they do just that—to great effect. Patients who commit to treatment and recover their health often want to pay it forward as peer educators or, with a bit more training, as lay counselors—positions that carry just token remuneration, but offer great pride and satisfaction. ICAP’s experience shows that these workers make an enormous difference in reducing stigma and motivating patients to stick with their drug regimens. At the Machakos District Hospital, 40 miles southeast of Nairobi, Elizabeth Njeri, 37, has been paying it forward for six years. A lay counselor who works at the hospital five days a week, Njeri nearly died of AIDS in 2003. She’s faced unspeakable discrimination—including from her own brother, who told her she had no business being alive. Now plump and vigorous, she counsels people who are newly diagnosed. “When I tell them that I am HIV-positive, some do not believe me, because I am fat!” she says, laughing. “I tell them to ask me a question, a personal question. I share my story.”

Felix, a 40-year-old peer educator at Machakos, is equally committed. “I do this work because there was a time when I was very desperate, and I had no hope in life,” he says. “A friend of mine came and supported me in whatever I was in need of. Then I came to join a support group. We were trained. I came to know that to support someone is a good thing. It is a blessing.”
Welcome to Age Boom Academy

BY BECKY RYNOR

Shocking stats, busted myths, and an eye-opening trip to a nursing home:

A journalist reports on a Public Health-Journalism School program on aging
ging sucks,” my 56-year-old sister flatly stated when I told her I was heading to New York City last spring to attend the Age Boom Academy at Columbia University. The Academy—a workshop and fellowship to promote better-informed reporting and encourage broader media coverage of aging-related issues—was not her idea of a good time in the Big Apple. This from a healthy, active, and attractive grandmother who travels, scuba dives, gardens, and works full time but longs for retirement so she can travel, scuba dive, and garden even more. If she is one of the pictures of aging in 2012, then exactly what sucks?

In fact, questioning such blanket assumptions about the horrors of aging and what it means to be an aging society was very much the point of the five-day seminar, which was led jointly by Columbia’s Graduate School of Journalism and the Mailman School of Public Health. For the 21 of us journalists, editors, bloggers, and researchers in attendance, spending a week grasping just how unprepared the country is for the coming demographic shift was “an OMG moment,” as one participant put it. Here’s a taste of some of the demographic facts and figures rolled out for our contemplation:

> In the U.S., 10,000 baby boomers are turning 65 every day.
> By 2030, one in eight people around the world will be 65 or older.
> Throughout human history, children have outnumbered older people. That will change by about 2018, when people age 65 and over will outnumber children under 5.
> People are already living about 30 years longer than we did 100 years ago.

Age Boom fellows were still tucking into dessert at a working lunch on the first day when Mailman School Dean Linda P. Fried, MD, MPH, began challenging stereotypes, busting myths, and questioning how we frame our views on aging. One such view: The growth of the elderly population is a burden that society cannot afford. “Is that true?” Dean Fried queried. “How does that assumption drive policy?” And how does it contribute to tensions between generations?

“We are at best ambivalent about whether this is a good thing,” she said in reference to more of us living longer. At worst, society harbors “profound ageism. We avert our gaze.”

“We have to stop treating aging like it’s a disaster,” observed the after-lunch lecturer, Stephen McConnell, who is the U.S. country director at the Atlantic Philanthropies. “If we think it’s a disaster, we will react one way. If we think it has potential, we will react another way.”

Potential in aging? Well, consider these lesser-known facts on the positive side of the aging coin:

> People 50 and older are less likely to suffer depression, mental illness, and substance abuse than people in their 20s.
> The poverty rate in the U.S. is higher among youth than among seniors.
> People now in their 50s are more likely to continue working into their 70s and 80s—at least part time—because they want to. McConnell cited a finding that 84 percent of seniors with an “encore career” said it gave them “tremendous satisfaction.”
> The crime rate is likely to drop as the population ages. As gerontologist Karl Pillemer pointed out, “there aren’t a whole lot of 55-year-old gang members.”

For journalists, it’s easy to stray into extremes when writing about aging. Stories tend toward doom and gloom or patronizing boosterism: depicting ailing seniors who will suck our social-services coffers dry or the plucky 80-year-old who is still running the Boston Marathon.

The Age Boom Academy was created in 2000 by famed geriatrician, psychiatrist, and activist Robert N. Butler, MD, and the New York Times Company Foundation. The Academy was an annual event at the International Longevity Center, a think tank founded by Butler that is now based at the Mailman School. Butler was
the first director of the National Institute on Aging, and it was Butler who coined the term “ageism” to describe discrimination leveled at seniors.

“While many journalists recognize the transformational nature of population shifts that are giving us an older society, they rarely have time to seriously concentrate on the issue while gaining new knowledge. That’s the purpose of Age Boom,” Butler said when the Academy began. He died in 2010 at age 83, but the Academy continues at Columbia, sponsored by the Atlantic Philanthropies with additional support from AARP and the New York Times, which holds a lunch for fellows with its editors and reporters.

There is no averting one’s gaze from aging issues if you are in the same room as Daniel Reingold, the outspoken president and CEO of the Hebrew Home at Riverdale. “Long-term care in the U.S. is a disaster,” he bluntly told us, “but boomers have their heads in the sand.” Fellows toured Reingold’s impressive and innovative facility on day three of the Academy.

The Hebrew Home offers residential care, rehabilitation, palliative care, day care, and what Reingold says is the only overnight care in the country (7 p.m. until 7 a.m.) for Alzheimer’s patients, who are prone to being more active at night. “We run the day program at night,” he says, complete with nurses, dieticians, occupational therapists, activity workers, and drivers for patient transportation. “We discovered most Alzheimer patients are admitted into the nursing home because of sleep deprivation of the caregiver. We looked at our medical-model day program and thought, What if we ran it at night? We tried it, and it was a huge success in that it delays or prevents institutionalization.” He says the program is full every night of the year.

EINGOLD was a veritable fountain of story ideas. He challenged us to investigate why society allows the elderly to be “overmedicated” and why “elder abuse is an epidemic in this country,” and to expose why it is costing the Hebrew Home—and similar facilities—$300,000 per year “to flush drugs down the toilet.” He says industry-supported Medicare legislation makes it impossible to repurpose perfectly good, sealed medications that have not been used by the patient. “Why couldn’t those blister packs be used for elderly people who have to make a choice between food and medicine?” he asks.

Associated Press correspondent Matt Sedensky says the Academy was a good reminder that the aging beat provides rich fodder for stories. One of the few reporters assigned full-time to this beat, he is strategically based in Florida, home to 2.8 million people age 65 or older and the highest percentage of older adults of any state in the union.

“I’m privileged to be covering this,” says Sedensky. “It’s a subject that’s incredibly compelling no matter what facet you look into. If you look at nursing homes, it’s about freedom versus what many see as imprisonment. If you look at Social Security and Medicare, it’s not only a vitriolic political fight, it’s really the actual survival of real people. So in every facet of this very broad beat, there’s a compelling story.”

Ann Neumann, editor of the online journal The Revealer, a publication of the Center for Religion and Media at New York University, agrees: “This is a hugely important area of research and study. I think it will affect our social, economic, and political policies for years to come.”

Gary Rotstein, a reporter and editor at the Pittsburgh Post-Gazette for the past 22 years, called the Academy “a kick in the pants if one is feeling stale. It plants some new seeds.” This was his second time attending the Academy.

Sure enough, by week’s end, bylines were flying. “Age Is Only a Number; We Need a Name,” was the title of an online piece by Rebecca Nappi, feature writer for the Spokesman-Review in Spokane, Wash. She challenged readers to come up with a new name, something other than “senior citizens,” to identify this burgeoning demographic.

In the first four months after Age Boom, participants published more than 30 articles and blog posts on aging-related topics, and formed a Google Group that has fostered a rich discussion of story ideas and reflections on what they learned.

For me, the Age Boom Academy continues to fuel numerous articles and conversations with colleagues, friends, and, yes, my sister, the would-be retiree. This spring, I traveled to the Sahel region of Africa to observe the effects of the third drought there in a decade. One of the stories I lit on is how the drought, crop failures, and food shortages are impacting the elderly, who are finding themselves taking on more work and more responsibility for extended family even though they may be down to one meal or less per day themselves. I don’t think I would have thought to talk to these elderly women and capture their stories if Age Boom hadn’t opened my eyes.

BECKY RYNOR is a journalist based in Ottawa, Ontario.
Even before a child takes its first breath, prenatal exposure to urban pollution ups the odds of developing asthma, cognitive problems, and obesity.
Ramona Taveras knew next to nothing about asthma until one evening last year when her 4-year-old son, Justin, started gasping for air. A vein on the right side of his neck bulged as he wheezed and struggled to breathe. There was only one thing to do. She put aside the dinner she was cooking and rushed him in a cab to the emergency room. It wouldn’t be the last such trip. In the past year, Justin has been in and out of the ER three times, even after a specialist prescribed an inhaler. Taveras’ younger son, Danny, was also diagnosed with asthma, though, thankfully, his attacks have been less severe than his brother’s.

Taveras, a native of the Dominican Republic, wonders if where she lives could have something to do with her sons’ illness. Her apartment is in the Bridge Towers, a housing complex built astride Interstate 95 near the George Washington Bridge. In a single day, close to 300,000 cars and trucks pass under her building. According to the Port Authority of New York and New Jersey, the bridge is the busiest crossing in the world.

No matter how often she cleans, Taveras says, her apartment is never free of dirt. “Right after I’m done,” she says, “I go back to my dresser and there is a layer of soot.”

As it turns out, Northern Manhattan has one of the highest rates of asthma and asthma hospitalization in the nation. Other health problems also abound in this low-income, largely Hispanic neighborhood. One-quarter of the area’s children are obese, and close to a third have a developmental delay affecting their cognitive or motor skills—well above the national average. Deaths from cancer among both children and adults are also elevated.

Could there be a link between the soot in the air and Taveras’ asthmatic children, not to mention the other health problems plaguing their neighborhood?

This is the kind of question that research-
ers at the Columbia Center for Children’s Environmental Health at the Mailman School have sought to answer since the Center was founded 14 years ago. Researchers there, led by Environmental Health Sciences Professor Frederica Perera, DrPH, have uncovered a wealth of disturbing data linking the urban pollution to childhood diseases and developmental problems. They have illuminated a virtually invisible process that begins even before birth and harms multiple tissues and organs right down to a child’s DNA.

Simply put, they’ve confirmed that there’s something in the air.

A SHOCKING DISCOVERY

There are, of course, many noxious substances pervading urban air. Among the most intriguing to researchers at the Center is a category of chemicals released when organic material—such as tobacco, oil, coal, wood, and gasoline—is burned. These chemicals, called polycyclic aromatic hydrocarbons, or PAHs, are ubiquitous in New York City, with the highest concentrations in heavily trafficked areas. The dark soot particles that Taveras keeps wiping from her dresser? That’s full of PAHs, which, despite their name, are odorless.

Perera’s interest in PAHs grew out of discoveries she made as a Columbia graduate student. In laboratory experiments, her mentor, the late Bernard Weinstein, MD, and colleagues had shown that PAHs attach themselves to DNA, leaving behind molecular fingerprints, known as adducts, that could be detected in the lab. For her dissertation on molecular epidemiology, Perera showed for the first time that it was possible to measure these DNA adducts in human blood samples and lung tissue. It was a breakthrough that helped open the door to a new scientific field—molecular epidemiology—that would, as Perera explains it, “pry open the black box between exposure and disease.”

Another critical discovery lay around the corner. To establish a baseline of zero exposure to PAHs in the environment, Perera collected umbilical cord blood samples. A mother’s placenta was believed to be a barrier against these pollutants, so the young researcher expected cord blood to be pristine. To her amazement, many samples had high levels of adducts—even in cases where the mother wasn’t a smoker.

The finding was alarming. Studies had determined that adducts were not merely signs of PAH exposure, they were a kind of genetic damage that could ultimately lead to cancer. Seeing adducts in cord blood meant that damage from cigarette smoke or other forms of pollution could begin in the womb. “This made a serious impression that opened a whole new realm of investigation into prenatal exposures,” says Perera. “I knew then we had to find out how these babies were being harmed and how to prevent it from happening.”

BACKPACKS AND BABIES

In 1997, Perera and her colleagues began an ambitious, long-term project designed to examine how prenatal exposures to air pollution might impact health throughout childhood. Over the next nine years, the researchers recruited more than 700 pregnant women from Northern Manhattan and the Bronx, most of them black or Hispanic and a third of them living below the poverty line. With continuous funding by the National Institute of Environmental Health Sciences (NIEHS) and the Environmental Protection Agency, the Mothers and Newborns Study has helped establish the fetal origins of disease.
To solve the problem of measuring the women’s exposure to air pollution, the researchers came up with a brilliant strategy. The mothers wore a lightweight backpack filled with air-sampling equipment for 48 hours during their third trimester of pregnancy. The pack went everywhere they went, indoors and out; it rested at their bedside while they slept. A battery-powered pump continuously sucked in air through a filter that collected gas and particles—including PAHs.

“Previous studies collected air samples from set locations like the top of a building. These backpacks did something much more powerful by giving us a snapshot of exposure for each pregnant woman as she lived her life,” says Mailman Environmental Health Sciences Professor Patrick Kinney, ScD, who helped design the devices.

When the backpack filters were analyzed, the research team was shocked to find that PAHs were present in 100 percent of the air samples. Exposure happened everywhere. In fact, indoor air was often worse than outdoor samples, especially in the winter, when some apartment buildings use what is known as residual heating oil. Because of New York’s legacy as a shipping and oil-refining center, the city is the only place in the country where residual heating oil is still legal. Literally the bottom of the barrel, these oils burn thick and dirty.

Perera and her team paired the prenatal air monitoring with measurement of the PAH-DNA adducts in cord blood. Given the high level of PAH exposure, researchers expected to see plenty of PAH-DNA adducts in the children’s cord blood. In fact, 42 percent of the cord blood samples had this telltale sign of exposure.

Over the years, the Mothers and Newborns Study followed the children born to the 700 mothers. Asthma was a major concern. Because of their minuscule size and volatility, PAHs are easily inhaled into the airway. Research by Associate Professor Rachel Miller, MD, with Perera and other colleagues showed that children exposed prenatally to PAHs combined with exposure to secondhand smoke had greater odds of asthma at ages 5 and 6. The psychological state of the mother was another potentially aggravating factor, albeit one that acted independently of PAHs. “Reports of difficulty coping with stressful situations during pregnancy increased the odds that a child had wheeze,” says Miller. “Whether it is fear of crime or worries about having enough food on the table, low-income families have many stressors.”

Asthma made sense on an intuitive level: Bad air goes directly into the airways. But the research team discovered a range of less obvious health risks.

A series of studies by Perera with Clinical Population and Family Health Professor Virginia Rauh, ScD, MSW, and others found early signs of impaired development in the form of reduced birth weight and head circumference. Later research confirmed that nearly a third of the children showed deficits in at least one neurodevelopmental domain. Children exposed to the highest levels of prenatal PAHs scored well below average on tests for cognitive development at age 3 and showed reductions in IQ at age 5.

Exactly how these changes happen is still being worked out. One clue came from a study of rat brains at Meharry Medical College in Nashville, Tenn., that found PAH exposure interfered with the ability to regulate neuronal cell differentiation. As a result, the animals exhibited depression-like behaviors and memory problems.

In fact, there’s evidence for several possible mechanisms. PAHs bind to placental growth factors, restricting the exchange of oxygen and nutrients. They impact DNA through the formation of adducts and alter gene expression. They are toxic to the immune system and inhibit the brain’s ability to clean up antioxidants. And they mimic estrogen, disrupting the body’s endocrine system, which regulates growth and development, tissue function, metabolism, and even mood.

The endocrine system is also involved in the creation of fat tissue. Researchers at Ohio State University showed that mice exposed to PAHs gain in fat mass, and studies of cell cultures found that exposures to PAHs interfere with lipolysis, the process by which fat cells shed lipids and shrink in size. Were PAHs doing the same thing in children?

To find out, Environmental Health Sciences Professor Robin Whyatt, DrPH, and Andrew Rundle, DrPH, associate professor of Epidemiology, examined the evidence for any link between children’s weight and BMI measures and their pre-
natal exposure to PAHs. They found that children exposed at high levels were more than twice as likely to be obese by age 7 as those exposed to lower levels. “Not only was their body mass higher, but it was higher due to body fat rather than bone or muscle mass,” says Rundle. The study, he notes, is the first to link air pollution to obesity.

Of course, PAHs weren’t the only reason these kids put on the pounds. “Obesity is a complex disease with multiple risk factors,” says Rundle. “What this study tells us is that the epidemic of obesity isn’t just the result of individual choices like diet and exercise. For many people who don’t have the resources to buy healthy food or don’t have the time to exercise, prenatal exposure to air pollution may tip the scales, making them even more susceptible to obesity.”

**BROADER RESEARCH, BROADER IMPACT**

As the research continues to unfold, surprises lurk around the corner. Some of the children born into the study are now 14 years old. The teenage years, says Perera, are another period of heightened vulnerability. Like the fetal period, there is rapid growth, and hormonal factors are at play. Could air pollution be a factor in early-onset puberty, which is commonly seen in this community? Will DNA damage from adducts or epigenetic changes raise the risk of chronic diseases in later years? Some research suggests that prenatal damage—in the form of epigenetic changes—might even be passed along to succeeding generations.

Since the start of the Mothers and Newborns Study, Center scientists have collected a mountain of evidence on health problems linked not only to early exposure to PAHs, but also to chemicals such as phthalates and bisphenol A (BPA)—both found in plastics—and the pesticide chlorpyrifos. These findings have been reinforced by Perera and her colleagues in parallel studies in Poland, China, and a group living near the World Trade Center on September 11, 2001. All told, upwards of 2,000 mothers and children are being followed. The crucial lesson is that the nine months of fetal development are, as Perera puts it, a period of “exquisite susceptibility.”

As the fetus grows, Perera adds, there is an “elaborate choreography” of rapid cellular differentiation and proliferation that raises the possibility of problems occurring when the fetal environment is changed even slightly. Meanwhile, the fetus is without an adult’s immune defenses and DNA repair systems. While the placenta protects against 90 percent of toxins the mother is exposed to, the remainder has the potential to inflict much worse damage in the fetus than it would in the mother. All this points to a need for prevention, says Perera. “See the red flags and do something in time.”

Doing something in time is precisely what concerned citizens, advocacy groups, and policymakers are focused on. In New York and elsewhere, they are grabbing hold of research on PAHs and successfully pushing for policies that will lead to cleaner air. In New York, these efforts have already led to new regulations and a cleaner bus fleet. (See next page.)

And when policies change, the Columbia Center for Children’s Environmental Health is there to assess the impact. Its research has found that between 1998 and 2006, levels of PAHs recorded by the backpacks were down significantly. Asthma hospitalization rates were also down. The trend is likely to continue, particularly with the advent of a city initiative to eliminate the use of residual heating oil, although Perera cautions that even very low exposures can impact fetal development. Another complicating factor is climate change, which scientists predict will exacerbate the effects of air pollution.

And there are pockets of the city where dirty air remains a constant danger. Just ask Ramona Taveras. Her sons by her side, she gazes from her 28th-story window and watches as five lanes of truck-heavy traffic inch east toward a tangle of highways. “This is my view,” she says. “This is the air we breathe.”
ground,” says Shepard. “Communities of being treated as New York City’s dumping “Northern Manhattan communities were six of the city’s seven diesel bus depots. hoods north of 99th Street were home to disparities as the fact that the neighbor mental justice pitted against such glaring lead a community struggle for environ Shepard co-founded We Act in 1988 to portionately burdened with air pollution. low-income people of color were dispro “Scientific research gave us the muscle to make that happen,” says Shepard. “The evi the transition. To hasten the change in North ern Manhattan, We Act has hired an organi Other than the city’s anti-smoking legisla tion, he calls it “the single biggest step that we’ve taken to save lives.”
Coming Home to Columbia

Sociomedical Sciences Welcomes Lisa Metsch as Its New Chair

by Maria Andriella O’Brien

For noted medical sociologist and public health scholar Lisa Metsch, PhD, her new position as chair of the Department of Sociomedical Sciences (SMS) is a homecoming of sorts. Though Metsch has spent the past two decades in Florida, she was born in Brooklyn and grew up on Long Island. She earned her bachelor’s degree in sociology at Columbia in 1990 (along with a degree in history and philosophy degree from the Jewish Theological Seminary of America). She even has formative ties to the SMS department, having worked as an undergraduate with Professor Eugene Litwak, PhD, who headed what is now known as SMS from 1985 to 1996. Little could she have imagined that she would one day succeed this important mentor.
Metsch joined the Mailman School in July not only as SMS chair but also as the first scholar to hold the newly endowed Stephen Smith Professorship. She took over the SMS reins from Amy Fairfield, PhD, MPH, who had served as chair since 2008.

Metsch is an internationally recognized leader in the prevention of HIV among populations with substance abuse problems. She built that reputation through her influential work at the University of Miami’s Miller School of Medicine, where she was professor of Epidemiology and Public Health and director of the Division of Health Services Research and Policy, among other positions.

Metsch’s interest in HIV/AIDS was kindled during her years as a Columbia undergraduate, when she worked with SMS Professor Karolyn Siegel, PhD, on one of the first studies of barriers to HIV testing among gay men. There Metsch witnessed firsthand the devastating impact of the AIDS epidemic. “To visit patients with HIV, you had to wear protective clothing,” she recalls, “I saw fearful families shun their loved ones, and young people watch their friends die.”

Those early experiences set the stage for a career that has flourished at the intersection of research, policy, and program implementation as Metsch used a social science perspective to investigate HIV prevention and develop effective interventions for underserved populations.

A SOCIAL SCIENCE LENS ON HIV PREVENTION

Building on her sociology background, Metsch went on to earn a PhD in medical sociology at the University of Florida. Her work has shown that the social sciences provide the perspective and tools to examine how public health problems are embedded in social, cultural, economic, and political contexts.

Metsch was one of the early researchers in the era of antiretroviral therapy to articulate the importance of creating prevention and primary care programs for people living with HIV, not simply those at risk of becoming infected. She was part of the multi-site team funded by the Centers for Disease Control and Prevention that developed and tested the first evidence-based approach to linking those who are newly diagnosed with HIV to medical treatment. Her current work focuses on the individual needs of students. Her work with doctoral and master’s students at the Miller School of Medicine won high praise, including the 2011 Public Health Student Association’s Lecturer of the Year Award.

As head of the search committee for the SMS chair, Michael S. Sparer, PhD, JD, chair of the Department of Health Policy and Management, marveled at finding the perfect candidate. “Lisa’s a natural lead-

“Aside from being an excellent researcher, Lisa is going to be a superb mentor to junior faculty and researchers—a real visionary for the department.”

— Michael Sparer, PhD, JD
Chair of the Department of Health Policy and Management

er—energetic, thoughtful, and charismatic,” he says. “Aside from being an excellent researcher, Lisa is going to be a superb mentor to junior faculty and researchers—a real visionary for the department.”

Metsch moved to New York City with her husband, Ben, and three daughters—Morgan, 14, Sophia, 6, and Gabriella, 4. In her role as SMS chair, she hopes to foster stronger collaborations among SMS faculty members, while building on and strengthening ties across the School, Columbia University, and the community.

“We know now that it is unacceptable to solely focus on individual behavior to understand disease risk,” she explains. “A social science perspective is critical to developing interventions for significant public health challenges, such as obesity, emerging infectious diseases, an aging society, and the associated, growing burden of chronic diseases. I believe that the SMS department is uniquely suited to take a leadership role in this area.”
Bookshelf

They teach. They investigate. And they write! Every year faculty members at Columbia’s Mailman School contribute to the lay and scientific literature with books that illuminate a range of vital issues in public health. Here’s a sample of recent faculty books.

1. AM I MY GENES? CONFRONTING FATE AND FAMILY SECRETS IN THE AGE OF GENETIC TESTING, by Robert Klitzman, MD, professor of clinical Sociomedical Sciences, explores how the revolution in genetic testing has opened a Pandora’s box of personal, ethical, and even spiritual questions.

2. CLASSIC PROBLEMS OF PROBABILITY, by Prakash Gorroochurn, PhD, assistant professor of Biostatistics, offers a tour of classic probability problems that have been selected for their interesting history, the way they have shaped the field, and their counterintuitive nature.

3. EPIDEMIC CITY: THE POLITICS OF PUBLIC HEALTH IN NEW YORK, by James Colgrove, PhD, MPH, associate professor of Sociomedical Sciences, chronicles the challenges faced by the New York City Department of Health from the 1960s to the present and examines how public health services have adapted to the competing demands of public need and political pressure.

4. GLOBAL POPULATION AGEING: PERIL OR PROMISE. Dean Linda P. Fried, MD, MPH, and John W. Rowe, MD, professor of Health Policy and Management, were contributing authors to this monograph from the World Economic Forum’s Global Agenda Council on Ageing Society. The book identifies opportunities and makes recommendations for adapting to an aging world and frames a forward-thinking vision. Dean Fried also served as a co-editor.

5. INJURY RESEARCH: THEORIES, METHODS, AND APPROACHES. Epidemiology Professor Guohua Li, MD, DrPH, and Susan Baker, MPH, ScD (Hon.) of Johns Hopkins University, co-edited this textbook on the latest advances in understanding the causes and outcomes of injury and the strategies to prevent them. The book features contributions from experts from public health, medicine, engineering, and behavioral and social sciences.

6. A PLAGUE OF PRISONS: THE EPIDEMIOLOGY OF MASS INCARCERATION IN AMERICA, by Ernest L. Drucker, PhD, adjunct professor of Epidemiology, examines the forces behind the massive growth of the inmate population in U.S. prisons through an epidemiological lens and argues that mass incarceration spreads like an epidemic through the families and social networks of the poorest Americans.

7. UNDERSTANDING GLOBAL SEXUALITIES: NEW FRONTIERS. Richard Parker, PhD, professor of Sociomedical Sciences, is a co-editor—along with three others—of this book exploring theory and policy around sexuality, including such contentious areas as the relationship between sexuality and gender, and new forms of sexuality emerging in the developed and developing world.

Some notable titles from members of the broader Mailman School community appear below. Help fill our bookshelf by alerting us to other recent books by alumni. Contact: mailmancomm@columbia.edu.

8. INNOVATION GENERATION: HOW TO PRODUCE CREATIVE AND USEFUL SCIENTIFIC IDEAS, by Roberta B. Ness, MD, MPH ‘89, dean of the University of Texas School of Public Health, offers the tools needed to think outside the box in public health. Ness is a Department of Epidemiology alumna.

9. NO TIME TO LOSE: A LIFE IN PURSUIT OF DEADLY VIRUSES, by Peter Piot, MD, PhD, director of the London School of Hygiene & Tropical Medicine and former head of UNAIDS, tells the story of his work at the forefront of battling viruses such as HIV and Ebola. Piot is a member of the Mailman School Board of Overseers.
What’s Next for the Class of 2012?

There is no such thing as a typical career track for Mailman grads. Just ask the Class of 2012.

Since graduating, they have done everything from researching an early-warning system for heat waves in India to playing on the Israeli national lacrosse team. “No matter where they end up, Mailman graduates are sure to be doing something with meaning and impact,” says Assistant Dean Tanya Cobbs Leslie, director of Career Services. Broadly speaking, about 20 percent accept positions at public health agencies, another 20 percent pursue careers at academic and research organizations, and roughly equal numbers target nonprofits. Upwards of 10 percent choose to work at for-profit organizations, a number that has risen slightly in recent years as healthcare reform has driven demand for new talent. Another 10 percent will pursue a higher degree.

More from Mailman grads below, as they describe how they chose careers in areas like food policy, reproductive health, HIV, behavioral health, and consulting.

SARAH BAUM  MPH, Population & Family Health

As project manager at Ibis Reproductive Health in Oakland, I am working on various reproductive-health research projects in Latin America and the United States, to improve access to safe and high-quality contraception and abortion services. I collaborate with clinicians, social scientists, researchers, and demographers to address under-researched and controversial reproductive health issues, with a focus on restrictive settings.

JENNA BLOCK  MPH, Sociomedical Sciences

This June, I competed in the European Championship Games in Amsterdam as part of the Israeli national lacrosse team. It’s the first time that Israel has had a men’s and a women’s team. My team won the championship. From there, I traveled with the teams in Israel to promote the sport. Then in July, I started at the Advisory Board Company in Washington, D.C., doing healthcare consulting. During my time at Mailman, I did two internships—the first with the Brooklyn District Public Health Office, then, over the summer, at a smaller consulting firm. I found I really liked the idea of marrying my knowledge of public health with my interest in business.

MARIANA COTLEAR  MPH, Health Policy & Management

Since graduating, I’ve worked in communications and development at FoodCorps, a national service organization dedicated to improving school food across the country. We place service members in high-needs public schools, where they spend a year teaching about nutrition, building school gardens, and sourcing food from local farms. Food policy and obesity prevention is still an emerging field, so it was up to me to create my own job opportunities. At Mailman, I co-founded Columbia Food Policy & Obesity Prevention (FPOP) and served as its first president. One of our objectives was to connect with leaders from the amazing food policy community in New York City and use their expertise as a resource to supplement our education. Networking tirelessly on behalf of FPOP, I also began to look for an innovative organization that would allow me to leverage my diverse skills in the service of improving how people eat. FoodCorps was in its start-up phase at that time, and as soon as I heard of it, I knew that I wanted to be a part of building it.

BECKY HANNA  MPH, Epidemiology

In August, I started at the Kaiser Family Foundation as part of the one-year Allan Rosenfield Fellowship program. I am working on the foundation’s public-opinion and survey research team, which designs, conducts, and analyzes the foundation’s surveys. These surveys report on health issues like levels of health insurance, health outcomes, and people’s opinions on health policy. Working on both monthly tracking and annual surveys, I will be exposed to the full spectrum of survey research. This is great, as I wanted to do something analytical but did not want to spend all my time cleaning data. In this fellowship, I will also help write research briefs that are read by both academics and the general public. To cap it off, I will get to design my own research project. Another bonus: The foundation is in Menlo Park in Northern California, two miles from where my husband lives.
KELETSO MAKOFANE  MPH, Biostatistics
I am working as a program associate at The Global Forum on MSM & HIV, focusing on men who have sex with men and on HIV. The job is exciting because I will get to carry out research and do some scholarly writing while being close to HIV advocacy. Before I came to Mailman, I did some advocacy work—specifically, community organizing around violence against lesbian women in Cape Town, South Africa. To be an activist is an aspect of myself I don’t want to neglect. I learned a lot at Mailman, but the thing that sticks out in my mind right now is to take a critical view of the work—and even (especially!) a critical view of the work that the public health field does—while not being paralyzed by how imperfect the world is.

RUSSELL MCBRIDE  PhD, Epidemiology
A few weeks after enrolling at the Mailman School, I was already actively engaged in a research project in cancer epidemiology. This was followed by a nearly constant string of opportunities to contribute to and collaborate with researchers within the School and at NewYork-Presbyterian Hospital, which greatly enhanced my studies at Columbia. After completing the MPH, I was accepted onto the Epidemiology PhD program, and was offered a spot working on Dr. Alfred Neugut’s T32 Cancer Training Grant. When it was time to begin the dissertation process, I was encouraged to apply for an early career research award, which set into motion my thesis project to examine the relationship between chronic obesity and hormonal signaling receptors in prostate cancer. After another two or three years working in the molecular pathology lab, I defended my thesis (graduated with honors, and the Gelman Award), and was offered a tenure-track faculty position in the departments of Pathology and Translational Epidemiology at Mount Sinai School of Medicine.

DESTINY RAMJOHN  PhD, Sociomedical Sciences
Since March, I’ve been working with the U.S. Army Institute of Public Health Epidemiology with the disease-surveillance unit and the behavioral-health social outcomes program. I work with a team to respond to soldiers with behavioral-health issues like suicidal and homicidal ideation. I work with the field investigation section alongside psychologists and other scientists. When an incident such as the November 2009 shooting at Fort Hood in Texas occurs, we collect information to create a portrait of the event, and then recommend policy changes to support the mental health of affected soldiers. As an example, we might suggest ways to improve how the Army tracks high-risk soldiers over time. At Mailman, I did a lot of work with vulnerable populations such as young people living with HIV/AIDS. I got a thorough grounding in rigorous qualitative research methods. I’m using these techniques in my new position. Right now, I’m based at the Aberdeen Proving Ground in Maryland. It’s quite a shift from Columbia and New York, but it’s the kind of shift that Mailman has prepared me for.

AMRUTA SARMA  MPH, Environmental Health Sciences
I have a student research fellowship in Ahmedabad, India, as part of the Fulbright Program. I will be here for nine months working on a project looking at heat waves in Ahmedabad, where summer temperatures reach above 46°C or 115°F. We are implementing an early-warning system designed to prevent sickness and deaths during heat waves, and following up to determine the efficacy of the program. After that, I’m going to Yale for a PhD—I’ve been admitted into a doctoral program in the School of Forestry and Environmental Studies. At the end of my second semester at Columbia, I was offered a research position, working with Professor Patrick Kinney and Assistant Professor Darby Jack, looking at air-pollution mitigation and cardiovascular risk. We have submitted one paper for publication, and are working on a second manuscript. My work with Dr. Kinney and Dr. Jack has been formative to me in deciding to get a PhD. And last summer, I was a teaching assistant at the Columbia Summer Research Institute for doctors and fellows at NewYork-Presbyterian. I’ve also TA’d for the EHS core course. I really enjoy teaching, and this is another impetus for my decision to pursue my doctorate.

AUNG IS THE FIRST GLOBAL HEALTH TRACK STUDENT TO DO A PRACTICUM IN MYANMAR. BEHIND HER LOOMS MOUNT POPA.

Kyisin Aung
It wasn’t supposed to be about breastfeeding. Water had always been what intrigued Kyisin Aung, MPH ’12. Her interest in the subject went back to high school and a weeklong research project on water quality. Living in Thailand at the time, Aung found herself increasingly fascinated by environmental science—so much so that she majored in it at Towson University in Maryland.

A six-month internship after graduation with the World Health Organization in Geneva led Aung to marry her interests in environmental science and public health. The Mailman School’s Environmental Health Sciences (EHS) program and Global Health Track seemed like the perfect fit for Aung to develop the skills needed to explore waterborne infectious diseases in global settings.

Two years later Aung, 25, graduated with one of the School’s top honors—the John and Kathleen Gorman Public Health Humanitarian Award. Among the faculty members she impressed along the way was EHS Professor Joseph Graziano, PhD. Aung assisted him on the amazingly complex $15 million Superfund grant-renewal application, the scope of which covered subjects as disparate as epidemiology, hydrology, chemistry, and engineering. “It was not easy for a public health student to serve as a reader and editor, and yet she did it with absolute distinction—she’s just very professional beyond her age,” says Graziano.

And the Award Goes to...
It was Aung’s practicum that really captured the spirit of the Gorman Award, placing her in a country in transition, doing work with a significant impact even as it opened Aung’s eyes to a public health passion other than water.

Aung knew exactly where she wanted to go for her practicum. Born in Myanmar, Aung left the country at the age of 12 when her father’s job with the United Nations relocated her family to New York. For decades, Myanmar, also known as Burma, had been closed off to much of the world. It was ruled by a strict military junta from 1962 to 2011, and economic development was weak. To Aung, it was a place where her language skills and cultural knowledge could make a difference. “She wanted to work with UNICEF on water and sanitation,” recalls Manuela Orjuela-Grimm, MD, ScM, who directs the Global Child Health Program at the Mailman School of Public Health. “And if you’re going to do any city, her language skills and cultural knowledge could make a difference.”

Childhood nutrition is a serious concern in Myanmar. The WHO estimates that almost 30 percent of Burmese children under age 5 are underweight. While breastfeeding is known to help prevent childhood malnourishment, morbidity, and mortality, little is known about breastfeeding practices in Myanmar. UNICEF and WHO had developed a questionnaire on the subject, but it had to be pretested in Myanmar and adapted for local context. They needed someone who could speak the language and understand the mechanics of the assessment. Enter Aung.

Determining her role took some negotiation. The country is only just beginning to open up to researchers. Orjuela-Grimm recalls a number of pre-dawn Skype calls with Aung and her practicum sponsors on the other side of the globe as plans evolved. With things in flux, Orjuela-Grimm wanted to ensure that Aung and her practicum sponsor knew that there was somebody at Columbia supporting the young graduate student.

Once plans were finalized, Aung traveled by boat to pretest the breastfeeding instrument. Focus-group discussions with mothers had to be held in open-air locations. With feedback from the focus groups, Aung was able to modify the questionnaire and develop both Burmese and English versions. “The tool will be useful for other humanitarian and public health programs that promote infant and young-child nutrition,” explains Orjuela-Grimm. “In other words, her accomplishments could have far-reaching implications for this country.”

For her thesis, Aung was able to combine her newfound interest in breastfeeding with environmental science. She examined breastfeeding policies in areas where malaria is endemic and DDT residue can be found in breast milk.

Post-graduation, Aung’s experience with Graziano and the Superfund grant application has landed her consulting work in proposal development with CIET International. The organization conducts epidemiological research and training in developing countries, and is looking to build up funding. Long term, she hopes to return to Burma perhaps by working with the U.S. Agency for International Development. “My passion,” she says, “is global health.”

Rebecca Fein

Rebecca Fein, MPH ’12, is standing in a field of poppies talking about how New York City and the Mailman School changed her life. It’s actually not a field of poppies, she corrects with a laugh, but a large field sandwiched between a redwood forest and a river, just 15 minutes away from the Pacific Ocean, “the most beautiful place in the world.”

Fein is in her friend’s backyard in Northern California taking stock of the past two years of her life and what she plans to do next. But first she wants to explain how mind-blowing New York City was to a small-town girl from California.

“I knew I wanted to do a city at some point,” Fein explains. “And if you’re going to do any city, you might as well do ‘The City,’ which was a big draw for Columbia. I lived in Harlem throughout my time there. There was a level of diversity that I had never experienced before, and I think that it broadened my horizons spectacularly.”

Fein, who graduated in May, returned the favor by doing her best to broaden horizons within the Mailman community. And for that, she was presented with the Bernard Challenor Spirit Award, an honor that recognizes a graduating student for building community across departments at the School. As director of the Medical Campus’ The Vagina Monologues production (two years running), student leader for SHAG (Sexual and Reproductive Health Action Group), and peer counselor at Columbia’s Rape Crisis/Anti-Violence Support Center, Fein immersed herself in the community life of Columbia.

The Monologues touched at the heart of Fein’s interest in public health—specifically in sexual-assault prevention and education. Volunteering at a teen clinic in high school was her first step into this realm, followed by work with a health-promotion team at her alma mater, the University of California at Davis.

“Looking at my supervisors there, everyone had an MPH,” Fein recalls. “I started to look at what public health was and what it meant—it just really seemed to fit.”

She set her sights on the Mailman School’s Heilbrunn Department of Population and Family Health because it was the only program she found that specialized in reproductive and sexual health. Once there, she found a department full of kindred spirits. “I got to spend a good deal of time with some amazing professors,” she says. “I gained some really incredible relationships with them.”

Fein’s advisor, Debra Kalmuss, PhD, professor of clinical Population and Family Health, notes that the department’s faculty members know that their job is not just to teach in the classroom, “but to help students to apply the skills that we are teaching them. That is what they will need to run programs—concrete skills.” That commitment to students so impressed Fein that she and fellow student Sharon Washington, MPH ’12, produced an eight-minute video in tribute to the department’s faculty.

Now that she has graduated, Fein is combining her love of media with her interest in the issue of sexual violence by working on a documentary project with a filmmaker friend—the one with the breathtaking backyard. The Journey of Powerful Voices focuses on people who’ve experienced sexual assault and their paths to healing. The idea began to take shape while she was still a student, and the film proposal became the basis for her MPH capstone project.

The short vignettes, to be shown on the Web, feature individuals telling their stories. The ultimate goal is to develop this project into a nonprofit organization and website that helps sexual-assault survivors to process what happened to them and alleviate the shame and self-blame that so many of them feel.

“It’s really extraordinary for a master’s student to leave here having already formulated a new program and developed a proposal, and be ready to run with it,” says Kalmuss. “I really think Becky is going to do very significant work focusing on empowering women.”
Man on a Mission

Thomas Campbell Jackson, MPH '98, has a few words for his fellow alums: Connect! Get involved!

Thomas Campbell Jackson, MPH ’98, loves networking and knows a thing or two about making connections. But that doesn’t mean he enjoys talking about himself or being the focus of a magazine profile. In fact, over the course of an interview, the venture capitalist and sometime philanthropist will steadfastly explain why the subject of this article should be someone else. Anyone else.

So it wasn’t surprising that follow-up emails from Jackson included suggestions on more interesting Mailman School alumni to profile. And he knows and networks with a remarkable number of them. Since joining the School’s Alumni Association Board in 2004 and then succeeding Michael Barnett, MS ’70, JD, as president of the Board this past March, Jackson has thrown himself into the life of the School and the heart of the alumni community. “Thomas believes very strongly in the School’s mission,” says Nina Rothschild, DrPH ’00, a fellow Alumni Board member. She marvels at Jackson’s enthusiasm and dedication, adding, “Working with him is a pleasure. He sees right to the core of whatever the issue is.”

In typically self-deprecating style, Jackson is the first to admit that he did not start out as an engaged alumnus after getting his MPH in Health Policy and Management. “I was like many graduates: You get your degree and you run out the door,” he explains. “But eventually someone reached out to me to get involved, and I grew increasingly appreciative of the connections that I had made through Mailman and the amazing work that goes on here.”

These days Jackson, who serves on Mailman’s Board of Overseers as well as the Alumni Board, is immersed in a range of activities across the School. For instance, he connected the Environmental Health Sciences department with a company that makes high-throughput automated microscopy systems and donated equipment that is helping to speed up the department’s lab work. He is also helping to promote exciting, cutting-edge work in the Epidemiology department and elsewhere. It’s a networking thing: At Mailman, just as at Easton Capital Investment Group, the life sciences venture capital firm where he is a partner, Jackson finds that making connections spurs success—and also yields serendipitous rewards.

But the project perhaps closest to Jackson’s heart is his mission to beef up the availability of scholarships for Mailman students through the School’s Fund for Public Health Leadership. “It’s very important in our field,” he explains. “Most public health graduates aren’t going to be earning huge salaries, and a lot of our students are coming from places around the globe where there’s a tremendous need for well-trained professionals but little money to support their training.”

Currently the Fund supports more than 20 students a year, across departments and programs. One of them is Eva Rodriguez, a second-year MPH student from Texas, whose interests include family planning among Hispanics and program evaluation. “When I got into Columbia, I just had to go,” says Rodriguez, a “PopFam” student, but there was a “big gap” between what was provided through financial aid and the full cost of the program. Particularly hard was covering the costs of living in New York City. The Fund helped fill that gap.

The Fund is a point of pride for the School: 100 percent of donated money is dedicated to scholarship aid; most schools of public health allocate just 60 to 70 percent of similar donations to direct aid.

Jackson would like to help many more students like Rodriguez and has been working to expand the Fund. His generous support (including a matching gift challenge in 2011, which doubled the impact of alumni gifts to the Fund) led to a 17 percent increase in donations, enabling Mailman to award more scholarships at higher amounts. “The Fund is so important,” notes Jackson. “But it’s got to get much bigger. If we can get more of our alums—and we’re 11,000 strong—involved in even a small way, we really could make a much bigger impact.”

Among Jackson’s other enthusiasms as Alumni Association Board president is—surprise, surprise—expanding opportunities for Mailman graduates to network with one another. The Board is establishing an alumni mentoring committee that will work with the School’s Offices of Career Services and Alumni Affairs to connect students and alumni with career-related opportunities. The Board is also nurturing a new Alumni Association chapter in Washington, D.C., planning a networking event in Manhattan for young alumni in the early spring, and utilizing social media like LinkedIn to stay connected.

Says the gregarious Jackson, “It drives me crazy when people pass each other on the street or in the hall, unaware of shared passions or interests that could really be synergistic.” For Mailman alumni, those meetings of minds and passions could make a world of difference not only in career advancement but also in addressing some of the world’s biggest health challenges.

— MARIA ANDRIELLA O’BRIEN
Champion for Science and Safety

OSHA chief David Michaels, PhD ’87, receives the 2012 Alumni Award for Excellence

Sometimes a book will change your life. For David Michaels, PhD ’87, that book was Causal Thinking in the Health Sciences. Reading it after he had graduated from City College of New York, Michaels decided he wanted to study the book’s subject, epidemiology. The next step was obvious: apply to Columbia University’s School of Public Health, where the book’s author, Mervyn Susser, MB, BCh, taught.

Soon enough he was studying with Susser and his wife, Zena Stein, MB, BCh, both professors of Epidemiology, and medical sociologist Jack Elinson, PhD—three “giants in the field of public health,” as Michaels puts it. After receiving his MPH, Michaels switched to Sociomedical Sciences. His dissertation, titled “What Becomes of the Brokenhearted” (after the 1966 Motown hit), looked at cardiovascular health among newspaper linotype workers who had been rendered obsolete by computer technology. It was the start of an enduring interest in the health of workers.

On June 7, 2012, Michaels returned to Columbia as Assistant Secretary of Labor for Occupational Safety and Health to receive the Mailman School’s Allan Rosenfield Alumni Award for Excellence, which honors the memory of the late Dean by recognizing alumni who have made exceptional contributions to the school and/or public health. In presenting the medal, Dean Linda P. Fried emphasized Michaels’ extraordinary public health achievements and dedication to the field.

“The reason we’re in public health is to understand the world so we can transform it and make the world a better place,” said Michaels. “Columbia is where I got the tools to do that.”

For Michaels, transforming the world began without delay. Even as he completed his degrees at Columbia, he worked full time at Montefiore Medical Center in the Bronx. In 1986, he founded the first epidemiology unit in a U.S. prison at Rikers Island. Then, as a member of the faculty at the City University of New York Medical School, he developed a mathematical model for estimating the number of children orphaned by HIV/AIDS. At the time, he says, “There were no programs for these kids.” The study was used by the CDC to allocate funding for those without sufficient healthcare coverage or financial resources to cope with HIV.

Bucking Entrenched Interests

It wasn’t long before the federal government tapped Michaels’ talents full time. In 1998, President Bill Clinton nominated him as Assistant Secretary for Environment, Safety, and Health at the Department of Energy, where he proceeded to orchestrate a historic compensation program for nuclear weapons workers exposed to hazardous materials. “It was a challenge,” says Michaels, explaining that the prevailing Cold War mentality created resistance to taking any responsibility, and security concerns meant that some of the hazardous materials couldn’t be identified. The program passed with bipartisan support. To date, it has paid more than $8 billion to affected workers and their families.

After leaving the Department of Energy, Michaels joined the faculty of George Washington University’s School of Public Health and Health Services, where he directed the Project on Scientific Knowledge and Public Policy. In 2008, he published the book Doubt Is Their Product, which described how chemical companies and others were adopting the tactics of the tobacco industry to smear science and weaken regulation. Another target of his criticism was the Occupational Safety and Health Administration, or OSHA, which, he said, needed an overhaul.

On the Job of Workplace Safety

In 2009, President Barack Obama offered him the chance to do just that. As Assistant Secretary of Labor and head of OSHA, Michaels has worked to broaden the agency’s role from ensuring that businesses are merely compliant with specific standards to supporting a holistic culture of workplace safety. “That involves giving workers a larger role in improving safety conditions,” he says.

The scope of OSHA’s work is vast; the agency’s jurisdiction includes 7 million workplaces and 130 million workers. On any given day, Michaels and his staff are working on health issues ranging from nail guns to nail salon chemicals. Over the summer, the agency rolled out a program called Heat Safety Summer to prevent heat injury among those working outdoors. The bilingual campaign employs simple guidelines—“Water. Rest. Shade”—that were first used to protect cleanup workers in the aftermath of the Gulf Coast oil spill. At the time, some questioned whether these measures were necessary, but OSHA is credited with preventing any deaths or serious illnesses resulting from the cleanup.

The Gulf Coast cleanup is just one in a long line of OSHA successes. Michaels likes to point out that in 1971, when the agency opened its doors, 38 workers were being killed on the job every day, but today that number is down to 13—even though the country’s workforce has nearly doubled. And OSHA’s achievements, he emphasizes, haven’t harmed businesses. “OSHA doesn’t kill jobs,” says this year’s Rosenfield Award winner. “OSHA stops jobs from killing workers.”

— BY TIM PAUL
Students, alumni, faculty, and staff share their vision of public health around the corner and around the world in our new photo-sharing community. Browse the full collection online and please add your photos to our collection at flickr.com/groups/1905006@N25/pool.
Join Us!

At Columbia University’s Mailman School of Public Health, we are working to solve the biggest health challenges of our day.

In Africa, we are partnering with more than 20 countries to achieve the goal of an HIV-free generation. Here in the U.S., our work informs programs to prevent and treat PTSD in returning soldiers and policies to address chronic conditions like cancer, heart disease, and obesity—which rank among the leading causes of death and disability. In our hometown of New York, we guide city officials in creating policies that keep the air cleaner and families healthier.

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