

TOP DOLLAR

\$31 MILLION
FOR DIAGNOSTICS
AND DISCOVERY



DURING FAST MOVING EPIDEMICS LIKE THIS YEAR'S EBOLA OUTBREAK, A RAPID, ACCURATE DIAGNOSIS CAN MEAN LIFE OR DEATH. With such vague, early symptoms as fever, headaches, and muscle pain, an accurate differential diagnosis has high stakes. Should a patient be quarantined on suspicion of Ebola, or further tested and treated for influenza, mononucleosis, or even measles? While clinical tests for Ebola exist, they are available only at the Centers for Disease Control and a handful of other high-level laboratories. Compounding the difficulty, no single test exists to simultaneously assess one sample for the various bacteria, fungi, and viruses—including Ebola virus—that are implicated in human disease.

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

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

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

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

HONOR ROLL

A SAMPLING OF FACULTY AWARDS

* **Mary Travis Bassett**, MD, MPH, associate professor of clinical Epidemiology, awarded the Haven Emerson Lifetime Achievement Award of the Public Health Association of New York.

* **Alwyn Cohall**, MD, professor of Sociomedical Sciences, and the Harlem Health Promotion Center, recognized for exceptional HIV/AIDS work by the NYC Department of Health and Mental Health.

* **Y. Claire Wang**, MD, ScD, assistant professor of Health Policy and Management, and **Roger Vaughan**, PhD, professor of Biostatistics and Columbia President's Award winner, elected into the New York Academy of Medicine.

* **Miriam Laugesen**, PhD, assistant professor of Health Policy and Management, honored with a 2014 Len Robins Best Paper Award from the American Political Science Association.



COMMUNITY CHECKUP

GRAPH CHARTS
WASHINGTON HEIGHTS

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

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

The GRAPH team will map the area's disease burdens alongside health resources such as primary care clinics, health screenings, and the availability of nutritious foods. At the completion of the two-year, \$1.7 million project, NewYork-Presbyterian Hospital will have a menu of cost-effective options to promote health and reduce hospitalizations. The researchers anticipate that this approach can be applied in other locales. "Communities, like people, can benefit from a rigorous health diagnosis, and adoption of health promotion interventions that have the highest impact," says Roger D. Vaughan, PhD '97, a professor of Biostatistics and a

GRAPH principal. On the global front, GRAPH researchers are undertaking an ambitious, two-year, Rockefeller Foundation-supported project to assess the full public health armamentarium of preventive interventions. They will analyze the research literature to understand the relative merits and costs of, for example, peer education for sex workers or a comprehensive ban on alcohol-related advertising. Building on GRAPH's ongoing research in prevention science as well as the School's Better Health Systems Initiative (*see page 36*), this work will give countries interventions attuned to their population's unique health needs. [↗](#)

MASTERS OF THE (HEALTHCARE) UNIVERSE

NEW PROGRAM FOR EXECUTIVES

the healthcare system with a dizzying array of technical policies. "The healthcare industry faces major changes with the introduction of the Affordable Care Act," says Michael Sparer, PhD, JD,

HEALTHCARE EXCHANGES. MEDICAID EXPANSION. LINKING PAYMENT TO QUALITY. Since its passage in 2010, the Affordable Care Act has reshaped

chair of the Department of Health Policy and Management. "There has never been a greater need for management professionals who balance business acumen with healthcare expertise." To fill this need, the department has designed a Master of Healthcare Administration degree with full-time, part-time, and executive formats. This fall, more than four-dozen students are learning traditional leadership and management skills within the context of public health, health policy, and the healthcare system, including the many byzantine corners of the ACA. [↗](#)

HONOR ROLL

* **Wendy Chavkin** MD, MPH, professor of clinical Population and Family Health, honored with the Jean Pakter Award by the Public Health Association of New York.

* Mailman School dean **Linda P. Fried**, MD, MPH, author of the 2013 *American Journal of Public Health* Paper of the Year.

* University Professor **Wafaa El-Sadr**, MD, MPH '91, professor of Epidemiology and Medicine, named to the advisory board of the Fogarty International Center.

* **Robert E. Fullilove**, EdD, professor of Sociomedical Sciences, honored for work as a community leader and activist by the Love Alive International Foundation.

* **Ana F. Abraido-Lanza**, PhD, associate professor of Sociomedical Sciences, named a Columbia University Provost Leadership Fellow.

* **Jeffrey Shaman**, PhD, assistant professor of Environmental Health Sciences, winner of the Centers for Disease Control's "Predict the 2014 Influenza Season" contest.

* Vice Dean for Education **Melissa Begg**, ScD, awarded the Association of Schools and Programs of Public Health/Pfizer Award for Teaching Excellence.

* Professor of Health Policy and Management **John W. Rowe**, MD, recognized with a Humanism in Aging Leadership Award from the University of New England.

TALKING POINTS

GIFT TO LAUNCH NEW CENTER

AT THE ANNUAL STATE OF THE SCHOOL EVENT IN MAY, Mailman School Dean Linda P. Fried, MD, MPH, announced the formation of the Lerner Center for Public Health Promotion, made possible by a \$6 million gift from advertising executive Sid Lerner and his wife, Helaine Lerner (see page 16).

The Center seeks to translate scholarly research into readily accessible, actionable public health information and motivate people to live healthier lives. By leveraging its location in the media capital of the world, the Center will launch innovative strategies along the lines of Lerner's Meatless Mondays campaign, which invites people in 31 countries to opt for vegetarian cuisine at the start of each week. The Center will also conduct original research into public health communication techniques—with investigations in behavioral science and message testing, as well as evaluation methods—to ensure that the health messages are making a difference. Beginning in 2015, students will be able to sign up for a Certificate in Health Communication. "Seventy percent of the world's population will die from non-communicable diseases that have nothing to do with genes or germs, but instead with a person's behavior," says Lerner. "If we could get to the public's sense of responsibility and self-interest in innovative and contemporary ways, we could have an incredible impact." 🏆

HIKE THE HEIGHTS

TENTH TREK

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

Top: Yekaterina "Kate" Gluzberg (left) of the NYC Parks Department with Laura Juan Carlos and her father, Juan Carlos Gonzalez.

Bottom: Participants gathered along the route at sites including the bandshell at Jackie Robinson Recreation Center.



LIFE LESSONS

WISDOM, DECONSTRUCTED

LIFESPAN PSYCHOLOGIST Ursula M. Staudinger, PhD, the Robert N. Butler Professor of Sociomedical Sciences, directs Columbia's Robert N. Butler Aging Center. Her research investigates the systemic quality of aging—how human biology interacts with context and personal attitudes and decisions.

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

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

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

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

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



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

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

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

A CULTURE OF HEALTH

REPORT CALLS FOR NEW PRIORITIES

Beyond the personal cost of cancer, diabetes, and heart disease, chronic diseases threaten the nation's “economic competitiveness, national security, and position as a world power,” according to *Investing in Prevention: A National Imperative*, a report released in June by the Vitality Institute Commission on Health Promotion and the Prevention of Chronic Disease in Working-Age Americans. Dean Linda P. Fried, MD, MPH, was among 25 leaders from the corporate sector, foundations, nonprofits, government, and academia, who provided the foundation for the report's findings. “Investing in health provides the greatest return on investment for individuals, businesses, the economy, and society as a whole,” says Fried. “This report provides a detailed blueprint for making the prevention of disease a top national priority and shifting our country toward a culture of health.” [↗](#)

