

# sphere

Fall 2014

Boston University School of Public Health

**WHAT IF  
WE COULD  
PREDICT  
FERTILITY?**

P22

**THE  
BIG DATA  
PROMISE OF  
149 MILLION  
HEALTH  
RECORDS**

P10

**PUBLIC HEALTH'S  
GREATEST  
CHALLENGES—AND  
OPPORTUNITIES**

P14

**WHY THE  
MPH NEEDS  
TO CHANGE**

P20

# The Next Big Things

# The Next Big Things



Inside



## FALL 2014 FEATURES

10 **Turning Statistics into Solutions**

SPH researchers now have access to the health care data of 149 million Americans. But how to make sense of the numbers?

BY TRICIA BRICK

20 **Why the MPH Needs to Change**

The report that set the standard for public health education is 100 years old. It's time for a rethink. BY JESSICA ULLIAN

14 **The Future of Public Health**

Outgoing SPH Dean Robert F. Meenan talks about what comes next for public health.

22 **Predicting Fertility**

Women across the world are finding it harder to have kids. Researcher Lauren Wise is launching the nation's largest Internet-based study of fertility to find out why. BY LISA CHEDEKEL

## FRONTLINE

3 **CALLING IT STRAIGHT**

New chair of community health rethinks addiction treatment.



5 **NUTRITION HOPE**

Under-nutrition in early life could be reversible.



7 **ORAL HEALTH GAP**

Public housing residents more likely to have tooth loss.



8 **SUPERBUG TOOLKIT**

National guidelines will help fight against urgent threat.



## DEVELOPMENT

26 **GROWING MOMENTUM**

How donations are being used to improve lives.



**DEAN**  
Robert F. Meenan

**ASSOCIATE DEAN OF INSTITUTIONAL DEVELOPMENT & STRATEGIC PLANNING**  
Mark Prashker

**ASSISTANT DEAN FOR DEVELOPMENT & ALUMNI RELATIONS**  
Leslie Kolterman

**DIRECTOR, ANNUAL GIVING & ALUMNI RELATIONS**  
Michael O'Brien

**DIRECTOR OF COMMUNICATIONS & MARKETING**  
Kara Peterson

**SENIOR EDITOR & SOCIAL MEDIA MANAGER**  
Meaghan Agnew

**EDITOR**  
Andrew Thurston

**ART DIRECTOR**  
Lee Caulfield

**DESIGNER**  
Owen Edwards

**CONTRIBUTING WRITERS**  
Tricia Brick, Lisa Chedekel, Jessica Ullian

**FRONTLINE REPORTERS**  
Lisa Chedekel, Barbara Moran (COM'96), Michael Saunders

*sphere* is produced annually by Boston University Marketing & Communications for the alumni and friends of Boston University School of Public Health.

### STAY CONNECTED

#### Comments or suggestions?

Send all correspondence to Editor, *sphere*, Communications & Marketing Office, Boston University School of Public Health, 715 Albany Street, 517E, Boston, MA 02118; or email at [sphere@bu.edu](mailto:sphere@bu.edu).

[facebook.com/BUSPH](https://www.facebook.com/BUSPH) [pinterest.com/BUSPH](https://www.pinterest.com/BUSPH)  
[instagram.com/BUSPH](https://www.instagram.com/BUSPH) [youtube.com/BUSPH](https://www.youtube.com/BUSPH)  
[twitter.com/BUSPH](https://twitter.com/BUSPH)



BOSTON UNIVERSITY IS AN EQUAL OPPORTUNITY, AFFIRMATIVE ACTION INSTITUTION. PLEASE RECYCLE THIS PUBLICATION.

# WHY I GIVE

## I contribute

to the Boston University School of Public Health Annual Fund because I believe in supporting higher education and giving back to the institutions that helped shape and prepare me for a successful career. I think about how much the Master of Public Health degree has helped me advance both professionally—by opening doors to new opportunities—and personally, by expanding my knowledge and perspective of the world.

I chose SPH, in part, because it gave me the option of being a part-time student. The flexibility of the program allowed me to continue working, and I found that the depth and applicability of the curriculum immediately helped me in my day job. I am grateful to SPH for the opportunity to achieve an advanced degree without having to temporarily give up my career. I am also thankful for the perspectives that I gained as a student—and still use as a professional—from SPH's broad course offerings and classmates who are drawn from a wide variety of backgrounds. It's what the public health field is all about: bringing together many individuals with different backgrounds and perspectives toward a common goal.

Contributing to the SPH Annual Fund is something any alum can do to say "thank you" for the influence the School has had on their career and life. It's also a way to play a small part in supporting SPH's important work of educating tomorrow's public health professionals.

*Anija Tong*

TO LEARN MORE ABOUT GIVING, PLEASE VISIT [WWW.BU.EDU/SPH/GIVE](http://WWW.BU.EDU/SPH/GIVE), CALL 617-638-4658, OR EMAIL [SPHDEV@BU.EDU](mailto:SPHDEV@BU.EDU).



Sonja Tong ('05) is director of regulatory affairs for Gilead Sciences. Tong is based in San Francisco and has contributed to the SPH Annual Fund every year since graduation.

BOB ADLER

## → [FRONTLINE]

[ SCHOOL NEWS ]

# Calling It Straight on Alcohol

**A** S A SCIENTIST, ONE OF RICHARD SAITZ'S most satisfying moments came at an annual meeting of the Research Society on Alcoholism. Presenting results at the podium, a fellow scientist finished his remarks by saying, "I think even Rich Saitz would agree that our conclusions are sound." The audience chuckled, and Saitz, sitting anonymously among them, beamed. "I'm usually the first person at the microphone grilling the researchers," he says. "Even beyond my own work, I'm pushing people to improve their science."

Saitz (CAS'87, MED'87), a School of Public Health and School of Medicine professor, is the new SPH chair of community health sciences. His appointment will further strengthen the School's research connection to its medicine-teaching neighbor. In his 25 years of researching addiction, Saitz has strived to push his field—and sometimes drag it, kicking and screaming—into the world of evidence-based medicine.

"Rich has no problem calling it straight. And sometimes that bothers

people," says colleague Jeffrey Samet ('92), a MED professor of internal medicine. "But he has engendered a lot of respect in the field because he is true to the data. So I think if there's flak, he wears his flak jacket well."

Saitz was drawn to addiction research in the late 1980s during his medical residency at Boston City Hospital (now Boston Medical Center), where many patients were drug- or alcohol-dependent. "Somebody would come in with alcoholic pancreatitis, we would get them improved, and then we would discharge them. And then a few days later they would come back with alcoholic pancreatitis," he recalls. "We did a lot for the medical condition, but it wasn't clear to me what we were supposed to be doing for the cause of the problem, the alcohol use."

Saitz found few scientific studies to guide him, partly because addiction had long been considered a moral or social problem rather than a treatable illness. So he tackled the questions himself, publishing his first influential paper, which refined the standard treatment for alcohol withdrawal,

in the *Journal of the American Medical Association (JAMA)* in 1994. He chose a rigorous scientific design for this study—a randomized, double-blind, controlled trial—even though such studies are notoriously difficult in behavioral science. This scientific rigor has become a hallmark of his work.

"Alcohol is the third leading cause of preventable death in the United States," he says. »»

**"Rich has no problem calling it straight, and sometimes that bothers people. But he has engendered a lot of respect in the field because he is true to the data."**

—Jeffrey Samet, MED professor of internal medicine



GETTY IMAGES

[ SCHOOL NEWS ]

»» Straight on Alcohol continued  
 “We need high-quality science to address this problem. We don’t do belief-based medicine in cardiology, and we shouldn’t do it here.”

**Challenging Popular Beliefs**

Recently, two of Saitz’s studies have challenged some popular beliefs in addiction treatment—to both the admiration and dismay of colleagues. The first involves a practice called Screening, Brief Intervention, Referral, and Treatment (SBIRT). The premise is simple: in a primary care setting, the doctor asks if a patient has had five or more drinks at one sitting in the past year (for women, it’s four). If they answer yes, the doctor asks a few more questions, counsels the patient for 10 to 15 minutes, and sometimes refers him or her for more treatment. In this setting, for identifying healthy people with risky alcohol use, SBIRT has been proven effective.

Since SBIRT worked so well, in 2003 the federal government expanded it to many different health care settings (like hospital wards and emergency rooms) to screen people for risky drug use and other problems. To Saitz, the federal program seems a huge leap of faith, but he isn’t just a critic; he’s a scientist. So, armed with funding from the National Institute on Drug Abuse, he set out to test whether SBIRT could actually lower risky drug use in a primary care setting, where it’s supposed to work best. Saitz first presented his findings at the Society of General Internal Medicine’s 2013 meeting in Denver. “It was negative, negative, negative,” he says. “Overall, people didn’t decrease their drug use six months after entering the study.

In all three groups, none of them did.”

**Startling Results**

Saitz’s second study is more disconcerting. Published in *JAMA* in September 2013, and funded by grants from the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse, it asked whether chronic care management (CCM), a comprehensive, multidisciplinary approach to care, might be useful for treating alcohol dependence. His team started with 563 people who were heavy users of alcohol, cocaine, or opioids, and assigned them randomly to one of two groups. One group got the “usual” care: phone numbers to treatment centers and an appointment with a primary care clinician. The other group got the blue-ribbon treatment: a team including an internist, a psychiatrist, a nurse, and a social worker, all focusing specifically on their addictions.

Both groups showed marked improvement in many risky behaviors, but Saitz had expected the CCM group to fare much better than patients receiving usual care. Instead, it doesn’t seem like the CCM blue-ribbon care worked any better than a phone number and a follow-up appointment.

Saitz still believes that CCM could help manage drug and alcohol addiction, but may need to target people who are less dependent and more motivated to change. But that raises a bigger question: how do we treat the most serious addicts? If CCM can’t help them, what can? That’s a thorny problem, the kind that pushes Saitz ahead.

“There is complexity in this,” he says. “But that’s no excuse for not getting it right.”



**“Alcohol is the third leading cause of preventable death in the United States. We need high-quality science to address this problem.”**

**—Richard Saitz (CAS’87, MED’87), SPH’s new chair of community health sciences**

## Birth Defects Expert Named Epidemiology Chair

**PROFESSOR MARTHA WERLER**, one of the first researchers to connect the use of folic acid in early pregnancy with a significantly lower risk of spina bifida, has been appointed SPH’s new chair of epidemiology.

Werler, a senior epidemiologist at the BU Slone Epidemiology Center who earned her doctorate from SPH in 1989, has designed and implemented several case-control studies of specific birth defects that focus on behavioral, medical, and genetic risk factors. Her continued research into neural tube defects has since identified other risk factors such as maternal obesity, diabetes, and dietary glycemic index.

As an active coinvestigator of the Slone Birth Defects Study and the CDC’s National Birth Defects Prevention Study, Werler examines the risk factors for specific birth defects and conducts follow-up studies of affected children. Outcomes of interest include behavioral problems, cognitive deficits, and quality of life during early childhood and adolescence.

In addition to her research, Werler is director of BU’s reproductive, perinatal, and pediatric epidemiology predoctoral training program. She is also an associate editor of the journal *Birth Defects Research Part A: Clinical and Molecular Teratology*.



SLONE EPIDEMIOLOGY CENTER (WERLER) AND CYNTHY SCOTT (SAITZ)



**“We’re saying, ‘Don’t stop [nutrition interventions] after the first two years, because there’s potential for kids to catch up in growth, learning, and cognition.’ Just because kids aren’t doing well in the first year or so doesn’t mean it’s over.”**

**—Kirk Dearden, associate professor of global health and researcher with the BU Center for Global Health & Development**

## Infant Under-Nutrition May Be Reversible

**THE DAMAGE** children suffer if they are malnourished during pregnancy and the first two years of life is frequently considered irreversible, no matter what interventions are made later in childhood.

A new study of the effects of impaired height growth in

children, published online in the *American Journal of Clinical Nutrition*, calls that conventional wisdom into question.

Researchers found that children who were shorter than expected at one year of age were often behind in school at eight years of age and scored lower on cognitive

tests than counterparts who had healthy heights at age one. But children who experienced greater than expected catch-up growth (stunted at one, but recovered by eight) were more likely to be in age-appropriate classes at age eight and to have higher scores on standard tests of cognition.

Study coauthor Kirk Dearden (CAS’87), associate professor of global health and a researcher with the BU Center for Global Health & Development, says the findings indicate that interventions that improve nutritional status and offer early childhood stimulation—even after the first two years of life—may help to counter the effects of early stunting.

“We’re saying, ‘Don’t stop after the first two years, because

there’s potential for kids to catch up in growth, learning, and cognition.’ Just because kids aren’t doing well in the first year or so doesn’t mean it’s over,” he says.

The researchers examined the relationship between growth recovery and cognitive abilities among 8,000 children in Ethiopia, India, Peru, and Vietnam. The children were enrolled in a broader international child poverty study, Young Lives, which is funded by the UK and Dutch governments.

Because malnutrition is a key factor in stunting, the authors wrote, their findings reinforce the need “to prevent nutritional insults in early life,” while promoting child growth beyond the first two years.

## Funding a Global View

**DEPENDING ON THE YEAR**, SPH draws students from 20 to 40 different countries. Upon arriving in the US, members of this global student body—and their domestic classmates—can choose to continue globetrotting by selecting practicum and semester-long experiences in countries as far-flung as the Philippines and Kenya.

A new scholarship fund will help future generations of global health leaders accumulate just as many air miles.

Frederick H. Chicos, a trustee emeritus of BU and an entrepreneur and leader in the student health field, established the scholarship fund with a \$100,000 gift in honor of John Howe III, a 1969 graduate of the BU School of Medicine and the president and CEO of Project Hope. Income from the permanently endowed fund will provide annual scholarships to SPH students based on financial need and academic merit, with a preference for those studying global health.

“Over the years, many young people will be the beneficiaries of this generous gift at a time when it’s so important to have a sense of engagement with the world,” says Howe, a member of the SPH Dean’s Advisory Board. “The number of students choosing a global health track at SPH is a remarkable vote of confidence in the School and its commitment to the world.”

With this donation, Howe hopes for even more opportunities for dedicated students: “That includes international students coming to the School of Public Health from around the world, but it also includes our best and brightest, the US students who will perhaps have their appetites whetted for a greater leadership role in global health. We hope this will be a two-way street to share experiences and knowledge.”

## Popular Prostate Cancer Therapy Ineffective

**A STUDY OF** more than 15,000 men with early stage prostate cancer has found that those who received androgen deprivation as their primary treatment instead of surgery or radiation did not live any longer than those who received no treatment.

The research team, which included Marianne Ulcickas Yood (SAR'86, SPH'90, '98), research associate professor of epidemiology, concluded that the risks of serious adverse events associated with the treatment—which has been tied to impaired cognition, heart disease, diabetes, and other disorders—“mitigates against any clinical or policy rationale for use of primary androgen deprivation therapy in these men.”

The men included in the study (which was funded by grants from the National Cancer Institute and reported in the *Journal of Clinical Oncology*) had prostate cancer that had not spread beyond the organ (localized) and did not have surgery or radiation therapy.

Androgen deprivation therapy suppresses the production of testosterone, the male hormone said to fuel growth of prostate cancer. The therapy improves survival when given with radiation for later stages of the disease, and is considered the standard of care for men who have metastatic prostate cancer. The effectiveness of primary androgen deprivation therapy

(PADT) has not been established, but its use for early stage prostate cancer is widespread—it's reportedly the second most common treatment, after radiotherapy, for clinically localized prostate cancer among men aged 65 and older.

**The research team concluded that the risks of serious adverse events associated with the treatment—which has been tied to impaired cognition, heart disease, diabetes, and other disorders—“mitigates against any clinical or policy rationale for use of primary androgen deprivation therapy in these men.”**



From front left, Charles Donahue, sponsor of the Frontiers in Public Health speaker series, outgoing Dean Robert F. Meenan, and Christie Hager ('91), Lawrence Vernaglia (LAW'94, '94), Professor Wendy Marine, and Professor George Annas.

## An Advocate for Boston and SPH

**WHETHER CHARLES DONAHUE** was overseeing three state agencies for the US Department of Health and Human Services or reviewing perinatal health services at the Massachusetts Health Research Institute, he kept coming to the same conclusion: science-based policy changes—grounded primarily on solid epidemiological techniques—could improve maternal and child health.

“I worked for many, many years on how can you make data usable and understandable to people and still credible,” says Donahue, whose own research has appeared in publications such as *Journal of the American Medical Association* and the *New England Journal of Medicine*. “I have always had an interest in the value of quantitative skills and data.”

After a 40-year career in health care system planning and management, Donahue is bringing his expertise and interests to SPH as a member of the Dean's Advisory Board.

A former president and cofounder of HealthCare Value Management, which he helped build into New England's largest network of health care providers used by self-funded preferred provider organization (PPO) plans, Donahue will advise the School on financial matters, aid in securing philanthropic support, and help evaluate strategy.

He also sponsors an annual speaker series, Frontiers in Public Health, that focuses on timely topics in health policy and management, health law, bioethics, and human rights.

“I have great respect for the School of Public Health and what it has accomplished over the years,” says Donahue. “I have followed it closely for many years. I have always had a great interest in the city of Boston and working in its neighborhoods, as well as learning about the health care in the neighborhoods and advising people who live there. And I am very interested to see the role the School of Public Health plays in that.”

CHITOSE SUZUKI

## Advising the Government on Gulf War Illness

**ACCORDING TO A REPORT** by a congressionally mandated panel directed by an SPH researcher, progress has been made toward understanding the physiological mechanisms that underlie Gulf War illness and identifying possible treatments.

Established to advise the government on medical research, the Research Advisory Committee on Gulf War Veterans' Illnesses made headlines in 2008 when it published a report that established

Gulf War illness as a real condition that affected as many as 250,000 veterans of the first Gulf War. Its latest report updates the government on the research undertaken since to better understand and treat the condition.

“Studies published since 2008 continue to support the conclusion that Gulf War illness is causally related to chemical exposures in the combat theater,” says Roberta White, SPH chair of environmental health and associate dean for research, the committee's scientific director. “And many studies of the brain and central nervous system, using imaging, EEG, and other objective measures of brain structure and function, add to the existing evidence that central nervous system dysfunction is a critical

element in the disorder. Evidence also continues to point to immunological effects of Gulf War illness.”

Gulf War illness refers to the chronic symptoms that affect veterans of that conflict at markedly elevated rates, compared to other veterans' groups and to the US population as a whole. Symptoms typically include some combination of widespread pain, headache, persistent difficulty with memory and thinking, fatigue, breathing problems, stomach and intestinal symptoms, and skin abnormalities.

The report cited a number of “promising” treatment studies, including those testing certain dietary supplements, intranasal insulin, and continuous positive airway pressure to ease fatigue and pain and improve cognitive function.

In efforts to identify biomarkers of the condition, a consortium of institutions led by SPH is studying markers in the blood and brain fluid in addition to brain imaging and memory testing. In a separate trial funded by a \$1.7 million award from the Department of Defense, Kimberly Sullivan (MED'99), research assistant professor of environmental health, is helping develop a possible treatment that uses intranasal insulin to target neuroinflammation.

While the committee applauded an increase in the number of treatment studies funded by the Department of Defense's Medical Research Program, it expressed concern about a lack of research on other health problems, from Parkinson's to cancers, and mortality among Gulf War veterans.

## Exposing an Oral Health Gap



**A STUDY BY** the Partnership in Health & Housing has found that residents of publicly supported housing are less likely to have had routine preventive dental care and more likely to have experienced serious oral health issues resulting in tooth loss.

Funded by the Centers for Disease Control and Prevention and published in the *Journal of Urban Health*, the study discloses a serious gap in oral health care for an already vulnerable population.

The researchers found that despite being as likely to have had a dental visit, both public housing and rental assistance residents were significantly less likely than others to have had a cleaning. Residents of rental assistance units were also more than twice as likely to have had six or more teeth removed than nonpublic housing residents.

According to the researchers, one reason for such a high incidence of extractions is the Medicaid dental benefit structure. As of January 2014, Dental Medicaid does not cover simple restorative procedures, includ-

ing fillings, though it does cover tooth extractions. For people—especially the elderly—with limited financial resources, the only feasible option may be to have teeth removed.

“This work isn't just about telling people they need to floss,” says Harold Cox, associate dean for public health practice and associate professor of community health sciences. “It's about preventing a wide range of chronic diseases and improving self-confidence and mental health. Rehabilitative dental treatment for welfare recipients has been linked to greater success in finding employment. The positive effects of good oral health are incredibly far-reaching.”

The SPH-based center has received funding from the Sunshine Lady Foundation to pilot the Boston Senior Oral Health Project, which provides free oral health screenings to seniors living in public housing. Those identified as needing treatment (deep cleanings, fillings, dentures, etc.) are referred to local clinics, where they can receive care free of charge.

## Depression Tied to Adult-Onset Asthma

**AFRICAN AMERICAN** women who reported high levels of depressive symptoms had a greater likelihood of adult-onset asthma compared to women who reported fewer depressive symptoms, according to a new study by SPH researchers with the Slone Epidemiology Center.

The investigators followed 31,848 African American women between 1999 and 2011 who were participating

in the Black Women's Health Study, the largest follow-up study of the health of African American women in the United States.

The results indicated that as the frequency of depressive symptoms increased, the incidence of adult-onset asthma also rose—up to twofold for those with the highest frequency of depressive symptoms.

"The hypothesized mecha-

nism linking depressive symptoms to asthma incidence is depression-related stress and its physiological consequences, particularly effects on the immune system and the airways," says lead researcher Professor Patricia Coogan ('87, '96), a senior epidemiologist at the Slone Center. "Given the high prevalence of both asthma and depression in women, the association is of public health importance."

## National Research Awards for Students

**TWO PROMINENT** national academic societies have recognized two SPH epidemiology doctoral students for their research.

The Society for Epidemiologic Research awarded Samantha Parker ('14) the Tyroler Lillienfeld Prize Paper Award and the Society for Adolescent Health and Medicine honored Craig Ross ('14) with the New Investigators Award.

Parker's research interests include environmental risk factors and birth defects; the inclusion of prenatal diagnosis and pregnancy outcome data to enhance birth defects research; and reproductive history and future reproductive outcomes. She plans to focus her dissertation on reproductive history and the risk of preeclampsia and is working with Professor Martha Werler on a study of risk factors for spina bifida.



Parker



Ross

Parker is the third SPH doctoral student to win the Lillienfeld award in the past decade. Matthew Fox ('02, '07), now an associate professor of epidemiology, won in 2007; Jaimie Gradus ('04, '09), now an assistant professor of psychiatry at BU School of Medicine and of epidemiology at SPH, won in 2009.

Ross's 30-year career has spanned multiple industries, from high technology to financial services to media and advertising. His primary research interests are adolescent development and risk factors contributing to adolescent behavioral health problems.

Parker and Ross are both members of SPH's Training Program in Reproductive, Perinatal & Pediatric Epidemiology, a National Institute of Child Health and Human Development-funded, four-year, predoctoral training program.



**HEALTH CARE WORKERS** now have a new weapon in the fight against deadly superbugs.

The Carbapenem-Resistant *Enterobacteriaceae* (CRE) Control and Prevention Toolkit, developed by a team from SPH and Montefiore Medical Center, New York, provides national intervention guidelines for health care professionals, hospitals, and health departments. CREs—more popularly known as “drug-resistant superbugs”—are classified by the Centers for Disease Control and Prevention as an “urgent threat.”

Funded by the US Department of Health and Human Services' Agency for Healthcare Research and Quality, the toolkit covers specific intervention actions such as enhancing screening to identify colonized patients, ensuring hand hygiene compliance, initiating isolation precautions, minimizing use of invasive medical devices, and promoting antibiotic stewardship.

Carbapenemase-producing *klebsiella pneumoniae* (KPC), one of the most notable CREs, first emerged in 1999 in North Carolina. By 2013, it had been documented in 42 states and reached endemic levels

**“These process changes, however small and incremental they may seem, can actually lead to better health outcomes—and possibly save lives.”** —Victoria Parker

in six. KPC colonization is routinely found in patients in both acute- and long-term care facilities; additional risk factors include recent treatment with broad-spectrum antibiotics and advanced age. Various studies have shown mortality rates above 50 percent for patients infected with KPC.

Hospital administrators “need both technical information and implementation advice to lead hospital staff in changing care

processes to reduce the risk of health care-associated infections such as KPC,” says Victoria Parker (GSM'97), a toolkit coauthor and associate professor of health policy & management. “These process changes, however small and incremental they may seem, can actually lead to better health outcomes—and possibly save lives. But these new practices have to be integrated into existing care routines in order to take root for the long term.”

## Case Closed on Legal Drinking Age

**IN 2006, THE NONPROFIT ORGANIZATION** Choose Responsibility called for repealing the 1984 National Minimum Drinking Age Act, which had led all 50 states to establish a minimum legal drinking age of 21. States, it was argued, should be allowed to lower drinking age minimums to 18.

The move helped spark new research on the age-21 minimum. Now, a comprehensive review of that research—led by William DeJong, professor of community health sciences—provides strong evidence that the act is saving lives.

In *Case Closed: Research Evidence on the Positive Public Health Impact of the Age 21 Minimum Legal Drinking Age in the United States*, DeJong found the laws are associated with lower rates of drunk-driving crashes among young people. There is also evidence that the age minimum curbs other hazards of heavy drinking, including suicide, dating violence, and unprotected sex.

“The evidence is clear that there would be consequences if we lowered the legal drinking age,” he says.

In one study, researchers found the rate of youth binge drinking has declined. In 2011, 36 percent of college students said they had engaged in heavy episodic drinking (five or more drinks in a sitting) in the previous two weeks, compared with 43 percent of students in 1988, the first year that all US states had an age-21 law. There was an even bigger decline among high school seniors—from 35 to 22 percent.

According to the review, the National Highway Transportation Safety Administration estimates the law has saved up to 900 lives a year in alcohol-related traffic deaths.

DeJong acknowledges that many young people break the law and drink anyway, but maintains that evidence shows the law is working. Often, minors do not want to be caught drinking, and therefore take fewer risks—like getting behind the wheel—while “there are many young people who do wait until they're 21 to drink.”

DeJong says tougher enforcement of age-21 laws, rather than a repeal, is what's needed. Clinical trials have found that when college towns put more effort into enforcing the law—and advertise that fact to students—student drinking declines.

“Just because a law is commonly disobeyed,” contends DeJong, “doesn't mean we should eliminate it.”



COURTESY OF ROSS & PARKER

GETTY IMAGES (ABOVE)



**WHAT IF?** A study on the effects of airport-related noise on cardiovascular health could go beyond zip codes to individual addresses

**WHAT IF?** Researchers could build a virtual cohort of millions and call on physicians' notes and comorbidities for them all

**WHAT IF?** Researchers could figure out how different types of genomic tests currently available for breast cancer are impacting treatment

**WHAT IF?** Statistical models could show the relationship between interventions and pediatric asthma

# TURNING STATISTICS INTO SOLUTIONS

**SPH researchers can now access the health care data of 149 million Americans. But how to make sense of the numbers?**

BY TRICIA BRICK

**W**hen environmental health professor Jonathan Levy and his colleagues wanted to study the effects of airport-related noise pollution on cardiovascular health, they turned to one of the nation's largest available health databases, the data set of Medicare billing claims. Using statistical modeling, the scientists assessed thousands of zip codes' exposure to aircraft noise and cross-referenced their geographical data with cardiovascular hospital admissions in the Medicare database. Working with a sample of more than 6 million patient records from the database, the researchers found a statistically significant

increase in admissions among people living in affected zip codes.

But what if, rather than being limited to Medicare data that was accurate only to zip code level, researchers had access to information at the level of individual residential blocks or even addresses? What if they could also incorporate risk-factor information about smoking or comorbidity, or details about medications and other treatment?

They're the kinds of research opportunities big data—a buzz phrase for the explosion of complex facts and statistics modern computing has allowed us to generate and store—has the potential to provide. But for most researchers (and not just those in the public health arena),

JAMES SCHNEFF/GETTY IMAGES

figuring out how to access, let alone use, such a wealth of information has proven to be a significant roadblock. For all its promise, big data has largely remained a world of supercomputing and complex mathematics. When faced with millions of numbers and permutations, where do you even start? At Boston University School of Public Health, two new initiatives—one opening access to a database of unprecedented scope and detail, the other providing the technical expertise to crunch the numbers—aim to translate big data’s potential into public health outcomes.

In 2013, SPH announced a partnership with Optum Labs—a research center formed by the Mayo Clinic and Optum, a division of UnitedHealth Group—that gives the School access to health care data from 149 million Americans. Drawing from de-identified claims records, the massive database will allow researchers to cross-reference diagnoses, treatments, mortality, and costs of care with such factors as race, income, educational level, and geographical location.

“One of the limitations of the aircraft noise study is that we did not have extensive individual-level data and only had address information at zip code resolution,” says Levy, associate chair of the environmental health department. “With sufficiently granular data from Optum Labs, we could conduct new epidemiology looking at noise, air pollution, or other environmental stressors that can be reasonably estimated given someone’s address.”

As the first school of public health to have access to the Optum Labs data, SPH will be on the forefront of a revolution in epidemiology, public health, and health outcomes research, addressing important questions that can be answered only with vast samples and generating new hypotheses about human health and disease. “Normally, when you’re relating exposure to an outcome, you are working with a cohort of people for whom someone has gone to a lot of effort and expense to get that health outcome data,” says Roberta White, associate dean for research and chair of the Department of Environmental Health. “What we will have in this Optum Labs data set is millions of people whose health outcomes are already coded so that we know their diagnoses; we know what kind of medications they’re on; we know they had an abnormal EEG or electrocardiogram, that they had peripheral neuropathy, that they had depression. It’s like a cohort, without building a cohort, that’s larger than any we’ve ever had access to.”

SPH researchers have long used such large health databases as those of the Centers for Medicare and Medicaid Services (CMS), the US Department of Veterans Affairs

(VA), and the Centers for Disease Control and Prevention (CDC), and their findings have shaped our understanding of topics across the spectrum of health care research, from the efficacy of individual medications to questions of national policy. The Optum Labs set offers health data from nearly half of the United States population, spanning a highly representative cross-section of age, geography, gender, and income.

“Our investigators are already asking, ‘What are the types of questions that have eluded us in the past because our data was insufficient?’” says Mark Prashker (’93), associate dean of institutional development & strategic planning

and an associate professor of health policy & management. “That’s how we are thinking about how to use these large data sets. It’s almost limited only by your imagination.”

A subset of the Optum Labs database known as Humedica has the potential to be even more groundbreaking. Estimated to encompass some 30 million patients, Humedica contains highly detailed clinical information derived from electronic medical records, including case histories, physicians’ notes, test results, diagnoses, comorbidities, treatment details, and other information.

“With the Humedica data, we’ll be able to better understand what’s going into clinicians’ decisions,” says Professor Dan Berlowitz (’87), who is coordinating the partnership. “We’ll be able to see more of that detailed patient information—what types of comorbidities patients have; are physicians doing or not doing something

because their patients are sicker? This information will give us insight into that clinical decision-making.”

Epidemiologists could develop statistical models about the relationships between various interventions and pediatric asthma outcomes. Health policy specialists might delve into readmission rates, examining clinical decision-making to better understand the factors that impact readmissions. Researchers interested in the effectiveness of personalized medicine could explore the ways in which genomics information is being used within clinical environments in different areas of the country to better understand how these new technologies may affect care.

“Consider breast cancer, where there are now different types of genomic tests available,” Berlowitz says. “How

**“OUR INVESTIGATORS ARE ALREADY ASKING, ‘WHAT ARE THE TYPES OF QUESTIONS THAT HAVE ELUDED US IN THE PAST BECAUSE OUR DATA WAS INSUFFICIENT?’ THAT’S HOW WE ARE THINKING ABOUT HOW TO USE THESE LARGE DATA SETS. IT’S ALMOST LIMITED ONLY BY YOUR IMAGINATION.”**  
—ASSOCIATE DEAN MARK PRASHKER

are these tests impacting treatment? How are they being used? To understand that, we need more clinically detailed information—about the stage of the cancer; how large the tumor is. That’s information that may not be available in standard claims-based data. But that’s the kind of information we will now have access to in this Humedica data.”

Like their colleagues in countless other fields, public health researchers are still learning how to mobilize technology to best use the particular strengths of these ever-larger data sets. “Being able to think about using data to ask these questions is not new,” Prashker says. “What is new is that we’ve reached the tipping point where we know the data is good; we know methodologically how to overcome some of the barriers in using these data sets; and frankly, computing power has gotten to the point where we now feel it’s ready for prime time. But we are really just getting in on the ground floor. We’re going to become better and better at knowing how to use these data sets, to develop more sophisticated methodological tools—and to start thinking in ways we haven’t thought before.”

In the first years of working with the larger data set, many SPH scientists will likely seek to expand on research they have carried out previously on the more circumscribed populations of the VA or CMS databases. But other researchers will be delving into the terra incognita of the data set, seeking correlations that simply couldn’t be seen before. In this task they will face challenges now being tackled by scientists across the world of research.

## MAKING SENSE OF THE NUMBERS

Terabytes, petabytes, exabytes of data: the digital revolution has led to the creation and collection of unprecedented amounts of information. As computing power and storage capacity continue to expand exponentially, scientific research is being transformed by the availability of data sets containing quantities of information so vast that analysis requires advanced computational methods.

It is often said of big data sets generally that they are hypothesis generators: They express correlation rather than causation. But in public health research, a data set of this size can also allow researchers to compile a control group sample that is a near-exact match to the experimental sample for any given number of variables. Given this ability to control for variables and a study population in the thousands or millions, the risk of a correlation occurring by random chance is greatly reduced.

As the availability of and interest in research using big data increase, scientists across BU are incorporating means and methods from informatics—the young, tech-heavy field

concerned with the collection, management, and analysis of data. But even those researchers, like many at SPH, who have long worked with the smaller databases may have much to learn before they can effectively use the Optum Labs data in their research—let alone fully explore the long-term potential of this resource.

“One of the biggest barriers to using these data sets is that it can take years, even decades, for folks to feel they understand a data set, to be able to ask interesting questions,” Prashker says. “So if you’re a faculty member in epidemiology, maybe you use the CDC data but aren’t comfortable working with the other data sets.”

A new initiative aims to take down those barriers, empowering researchers to take advantage of the School’s ever-expanding collections of digital resources. The Interdisciplinary Informatics Initiative (I<sup>3</sup>), which has been seed funded by a generous gift from an anonymous donor, will serve as colloquium, clearinghouse, and community forum: Data set experts will be available to educate researchers at every level, from introducing the strengths and weaknesses of the various data sets to providing advice on how to best utilize each to answer specific research questions. Informaticians, statisticians, and programmers will provide data-mining guidance and technical expertise. And content-area experts will lead collaborative groups focusing on health care issues from costs of care to genetics to environmental exposures to clinical trials.

The initiative will enable researchers to mobilize the School’s decades of expertise with older data resources in order to ask research questions across data sets, extending their research to varied patient populations and across differing levels of data availability. “Maybe you have an idea to look at the effects of air pollution in this data set, but you might not have the expertise to mine it yourself. With this initiative, you’ll be able to ask a research question and have people with informatics expertise help you find the best way to use the data to answer it,” says White. “Having our own group at the School will encourage people to seek out these data sets, to better understand them, and to be aware that they have these resources at their fingertips.”

The initiative also promises to be an invaluable resource for students, who will have opportunities to access the data sets for training, coursework, and their own thesis research. “We want to make sure we’re training the next generation to be able to use this data in their jobs, whether in patient care, in health departments, or in research,” Prashker says. “This is the trend, not just in health care but in other industries: Folks are going to have to be able to use this information or they’re not going to be relevant anymore.”



# THE FUTURE OF PUBLIC HEALTH

Outgoing SPH Dean  
Robert F. Meenan talks  
about what comes next  
for public health.

PHOTOGRAPH BY **KELLY DAVIDSON SAVAGE**



**WHEN ROBERT F. MEENAN BECAME DEAN OF SPH**  
22 years ago, it had no home and a budget of \$8 million. Today, it's housed in the iconic Talbot Building and has a budget of \$85 million.

When he became dean 22 years ago, Robert F. Meenan inherited a small school with a largely local focus. Today, Boston University School of Public Health is an internationally recognized leader in the field, with a \$45 million research portfolio, 1,000 students, and programs spanning the globe.

After more than two decades at the helm, in November 2013 Meenan announced his plans to step down. A rheumatologist with master's degrees in public health and business administration, Meenan (MED'72, GSM'89) oversaw a period of growing student enrollment, expanding research support, and increasing prominence in the national rankings. He also served as a School of Medicine professor and helped establish SPH's global health department and the BU-wide Center for Global Health & Development based at SPH.

"In his more than two decades as dean, Bob Meenan has led the transformation of SPH into one of the preeminent schools of public health in the nation," said BU President Robert A. Brown in announcing Meenan's decision. "He has nurtured vibrant educational and research programs, and has built and supported an outstanding faculty. His legacy will be found in the generations of

SPH graduates who are helping to transform public health and health care delivery around the world."

Meenan recently spoke with *sphere* to discuss his tenure at SPH, the evolution of the School over the past two decades, and the future of public health practice.

***sphere*: What are the biggest challenges for public health graduates today?**

**ROBERT F. MEENAN:** The major challenges our new graduates face are the same ones that all the members of their generational cohort are facing: a tepid economy, rapid pace of change, evolving social roles, and so on. Perhaps the most basic challenge is achieving balance: balance between work and family, balance between human relationships and technology, balance between individual rights and social cohesion, balance between generations, balance between American peace and

prosperity and the peace and prosperity of other nations.

SPH graduates have the decided advantage of being able to work in a variety of roles related to public health and health care. Those fields continue to grow in size and scope, providing robust employment opportunities for those holding advanced degrees in public health. The roles pursued by our graduates also provide inherent meaning and satisfaction from the very nature of the work, and they tend to generate insights and solutions to a number of the balance challenges faced by the millennial generation.

**What do you see as the greatest opportunities in public health?**

With regard to global health, the greatest opportunities continue to be in the classic areas of women's and children's health. Improving the status of women is the most important factor in raising the overall development level in any country, and better health care—including birth control—and education are the keys to advancing the status of women. Similarly, reducing infant mortality is the single best way to improve life expectancy in developing countries. I am very pleased that SPH has strong education and research programs in global health and in maternal and child health that focus on these issues.

With regard to the United States, I see health system reform as the greatest opportunity for public health. Our health care system is the most expensive in the world, but not the best in the world for health outcomes. Furthermore, the cost of our health care system is draining personal and government resources from other investments that promote health and happiness, including education, housing, and public health. Public health professionals should play a leading role in efforts to reform our health care system so that it delivers high-quality care in more effective and less costly ways. There is an old saying that war is too important to be left to the generals. Similarly, health care is too important, and too expensive, to be left to the physicians.

**What are the greatest threats to public health?**

The greatest global threat to public health is a declining and degraded environment.

Threats to the environment include global warming, habitat destruction, air pollution, and industrial toxins. Despite our growing awareness of these problems, they are very difficult to solve. They are all based, to some degree, on the tragedy of the commons, a scenario in which the pursuit of benefit by individuals and societies causes harm to others that those who benefit do not pay for. While the benefits are real and current, the harm is typically more subtle and delayed. We need to improve our understanding and, more importantly, our management of these environmental threats, especially because they may involve irreversible tipping points.

Infectious diseases, an ancient risk to public health, remain an area of concern. It is easy to forget that we have only had vaccinations for 200 years, an understanding of the germ origin of disease for 150 years and, most importantly, effective antibiotics for 75 years. Human health has benefited greatly from the application of public health and medical science in the age-old struggle between unicellular and multicellular organisms. But we assume ongo-

**"I SEE HEALTH SYSTEM reform as the greatest opportunity for public health. Public health professionals should play a leading role in efforts to reform our health care system so that it delivers high-quality care in more effective and less costly ways. There is an old saying that war is too important to be left to the generals. Similarly, health care is too important, and too expensive, to be left to the physicians."**

ing victory in this war at great risk. Bugs evolve much more quickly than humans do. They develop resistance to antibiotics and easily pass that resistance on. Humans in turn have become complacent, promoting drug-resistant strains through the overuse of antibiotics and denying the fundamental value of vaccinations.

**What is the most profound change that is taking place in the practice of public health?**

The practice of public health is being profoundly changed through expansion and diversification. When I became dean in 1992, public health was a relatively small field focused on the classic activities of departments of public health and other governmental agencies. Since then, the field has expanded enormously in size and scope, and public health professionals have moved into a wide range of not-for-profit and for-profit organizations. At SPH, these changes have manifested themselves as steady growth in applications, enrollments, and graduates, and in the diversification of our education and research programs. We now award over 350 graduate degrees each year and offer new education programs ranging from statistical genetics to pharmaceuticals policy to exposure assessment. We have a robust career services office that assists our graduates in finding positions across a broad range of organizations. In addition to public health departments, those organizations now regularly include insurance companies, drug development companies, and health care consulting companies.

**How do you believe that information and communication technologies will change the practice of public health?**

Information and communication technologies will continue to change public health as they will each and every field of human endeavor. Public health professionals will benefit from better information collection, such as the use of cell phones to gather data in remote locations. They will have access to increasingly large databases in genetics, health care, and vital statistics. They will have increasingly sophisticated tools for communicating key public health messages to individuals and populations.



In November 2013, SPH hosted the largest reception in its history in conjunction with the American Public Health Association's annual conference in Boston. Outgoing Dean Robert F. Meenan is pictured with the School's distinguished alumni award winners (from left): Conor Shapiro ('07), president and CEO, St. Boniface Haiti Foundation; Christina Severin ('95), president and CEO, Beth Israel Deaconess Care Organization; and Mahesh Maskey ('01), ambassador extraordinary and plenipotentiary, Embassy of Nepal, Beijing.

KELLY DAVIDSON SAVAGE

At SPH, we have recently undertaken a new initiative in public health informatics based on our unique access to a number of large data sets. In addition to having ongoing access to the Framingham Heart Study data, which is managed by BU, we have long had access to very large Veterans Affairs health care data sets through our affiliations with the health care research centers of excellence at the Boston and Bedford VA medical centers. Most recently, we have become the first school of public health to develop a formal partnership with Optum Labs. Based in Cambridge, Optum Labs has the nation's largest health care data set, and this partnership is providing our students and researchers facilitated access to a remarkable informatics resource. [Read more about this in "Turning Statistics into Solutions" on page 10.]

**How has the character and vision of SPH evolved during your 22 years of service here?**  
The vision of SPH has always involved a consistent and inspiring focus on improving the health of disadvantaged, underserved, and vulnerable populations. What has

changed in the past two decades is the scope of the School's vision. While SPH continues to be situated in and connected with the city of Boston, it has expanded its vision to include national and international issues and populations.

The character of SPH has always been very positive and energized. It was like that when I became dean in 1992, and I'm pleased to say it is still that way today. I attribute the School's remarkable character in part to being a school of public health, in part to being next door to a unique safety-net hospital, and in part to having a wonderful collection of faculty, staff, and students. It has been a true pleasure to lead such a remarkable school.

**What is your proudest achievement as dean?**  
I am proudest of the remarkable growth and maturation that has taken place at SPH during my time as dean. When my tenure started, the School was a local education institution with 400 students, a very modest research program, and an annual operating budget of roughly \$8 million. Twenty-two years later,

SPH is an international-caliber academic institution with over 1,000 students, a large and robust research program, and an annual operating budget in excess of \$85 million.

In terms of specific achievements, I am most proud of our home, the Talbot Building, global health, and the School's steady climb in the rankings. When I first came to the School, faculty and departments were scattered among multiple buildings on campus, including a few that were less than desirable, and the School had no physical identity. That changed dramatically in 1997, when we were able to consolidate all of our departments in a completely restored Talbot Building. The Talbot Building gave us a home, a prominent presence on the Medical Campus, and a critically important sense of pride and accomplishment. The Talbot has since become one of BU's most iconic buildings, featured in marketing materials and adorning the sides of shuttle buses.

The growth of global health has been perhaps the most unexpected and interesting achievement of my tenure. Who could have predicted that a local boy whose primary

**"BACK IN 1992, SPH was ranked 16th out of 26 schools of public health by U.S. News & World Report. Since then, our ranking has climbed while the number of schools has increased. We have moved from 16 to 15 to 13 to our current ranking of 11 among the 40 schools included in the last round of rankings. This trend in our ranking is a clear sign that SPH has not just gotten much bigger; it has also gotten much better."**



training was in rheumatology would oversee an expansion of activities that would result in global health becoming one of the School's largest and most visible programs for teaching and research? But that's exactly what happened, thanks to some key planning and recruitment decisions, and to a growing interest in global health from governments and philanthropists. In addition to having a large and respected Department of Global Health, SPH also houses a University-wide Center for Global Health & Development that conducts groundbreaking research and engages faculty from multiple BU schools and colleges.

Finally, I am very proud that the School's ranking has climbed steadily during my time as dean. Back in 1992, SPH was ranked 16th out of 26 schools of public health by *U.S. News & World Report*. Since then, our ranking has climbed while the number of schools has increased. We have moved from 16 to 15 to 13 to our current ranking of 11 among the 40 schools included in the last round of rankings. This trend in our ranking is a clear sign that SPH has not just gotten much bigger; it has also gotten much better.

**SPH's faculty does exceptionally well in attracting federal research grant funding.**

**Why is there still a need to raise support for faculty at SPH through endowed professorships and faculty teaching and research funds?**

Development support is vital for SPH because the School has a two-part mission that involves the transmission of knowledge through education and the creation of knowledge through research. Both are very expensive endeavors. On the education side, we strive to manage tuition so that our graduates do not have substantial debt as they enter the workforce. Donations that support scholarships are enormously helpful to our efforts. I am proud to have established an endowed scholarship fund at SPH that will be an ongoing source of support for students.

On the research side, the grants that our faculty receive do not cover the full costs of doing research or cover their full salaries. Donations that support faculty play a critical role in allowing us to maintain a robust and productive research enterprise. I am pleased that SPH is on track to meet its \$40 million fundraising goal within the ongoing Campaign for Boston University, and I am deeply appreciative for the generosity of our alumni, faculty, and staff, and especially of the members of the SPH Dean's Advisory Board.

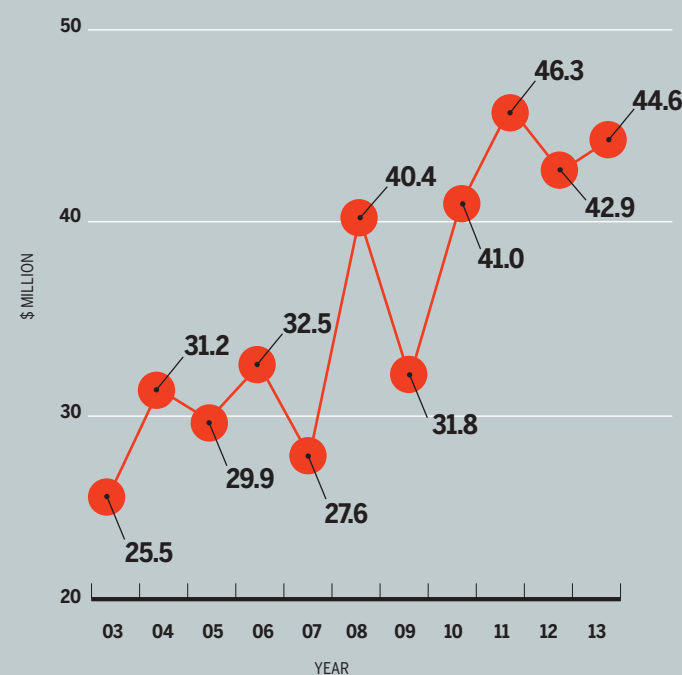
## SPH by the Numbers

### CURRENT STUDENTS' COUNTRIES OF ORIGIN:

**48**

|                                  |            |                            |                          |
|----------------------------------|------------|----------------------------|--------------------------|
| ARMENIA                          | EGYPT      | MYANMAR                    | SPAIN                    |
| AZERBAIJAN                       | ETHIOPIA   | NEPAL                      | SRI LANKA                |
| BANGLADESH                       | GERMANY    | NIGERIA                    | TAIWAN, R.O.C.           |
| BHUTAN                           | GHANA      | PAKISTAN                   | TANZANIA                 |
| BOLIVIA                          | HUNGARY    | PEOPLE'S REPUBLIC OF CHINA | TUNISIA                  |
| CAMEROON                         | ICELAND    | PERU                       | TURKEY                   |
| CANADA                           | INDIA      | REPUBLIC OF GEORGIA        | UGANDA                   |
| CHILE                            | INDONESIA  | REPUBLIC OF KOREA          | UNITED KINGDOM           |
| COLOMBIA                         | IRAN       | REPUBLIC OF SINGAPORE      | UNITED STATES OF AMERICA |
| CZECH REPUBLIC                   | JAPAN      | LIBYA                      | VENEZUELA                |
| DEMOCRATIC REPUBLIC OF THE CONGO | KAZAKHSTAN | MEXICO                     | ZIMBABWE                 |
| ECUADOR                          | MEXICO     | SAUDI ARABIA               |                          |

### SPH RESEARCH AWARDS, FY03-FY13



KELLY DAVIDSON SAWAGE

### SCHOLARSHIPS

**\$8,546,906**  
Scholarship budget 2013-2014

### BU CAMPAIGN UPDATE

**\$30,000,000**  
Total raised by SPH so far  
**75%**  
Raised of total goal

### BU GIVING DAY

**71** donors supported the SPH Annual Fund

### RANKING

**11** *U.S. News & World Report* best graduate schools of public health

### FACULTY

**152** Full-time  
**250** Part-time and adjunct



# WHY THE MPH NEEDS TO CHANGE

THE REPORT THAT SET THE STANDARD FOR PUBLIC HEALTH EDUCATION IS 100 YEARS OLD. IT'S TIME FOR A RETHINK.

BY JESSICA ULLIAN

In 1914, when researchers William T. Welch and Wickliffe Rose first championed formal public health education, the issues they raised were decidedly local: they were deeply concerned with offering “practical sanitary training” to combat the public health threats arising from increasing urbanization, and wanted to establish “Institutes of Hygiene” that would emphasize both academic research and career-focused training.

A century later, the structure outlined in the Welch-Rose Report still shapes public health education, but the field has grown in ways its early supporters never imagined possible. At Boston University School of Public Health, for example, student practicum work can range from examining care at local homeless shelters to reducing infant mortality in Zambia. Nationally, applications for the Master of Public Health degree doubled between 2000 and 2012, and health care workers are in demand in a wider range of industries.

In anticipation of the Welch-Rose Report centennial, the Association of Schools and Programs of Public Health convened an expert panel to explore how the MPH degree could adapt to such changes. In January 2014, the panel—consisting of 19 members drawn from across the country and chaired by outgoing SPH Dean Robert F. Meenan—published its recommendations in *Framing the Future: A Master of Public Health Degree for the 21st Century*. The panel noted the rise in undergraduate public health programs, the new career opportunities for MPH candidates, and the increase in global health issues that concern even local health care workers. To address these issues, *Framing the Future* outlined the ideal 21st-century MPH curriculum, calling for programs to differentiate master’s degrees from undergraduate public health majors by providing more skill-building courses for graduate-level students, offering concentrations that reflect the needs of growing industries such as pharmaceuticals or medical device manufacturing, and adding a global health component to their core coursework.

Having played a major role in driving the national conversation, the School is putting the new standards in place at home with its plan for a new curriculum, MPH2015. The curriculum is designed to recognize the increasingly broad applications for public health knowledge and equip students with the academic and practical skills they need to launch their careers.

“Many students with a passion for doing something meaningful are getting exposed to public health earlier now, and it’s really exciting them,” says Professor Lisa Sullivan (GRS’86, ’92), chair of biostatistics and associate dean for education, who served with Meenan on the national panel. “What we’re trying to do here [at SPH] is anticipate the needs in the field, and prepare these students to be successful and actively sought out by employers.”

The proposed new BU curriculum would shift the student experience to an earlier emphasis on generalist core courses and then a later focus on in-depth concentrations and the practicum experience. These moves come in response to a greater demand for specialization among new public health workers, Sullivan says, and build

on SPH’s strong faculty and existing global focus. They also reflect the School’s effort to ensure that students are able to transition effectively into the workplace after graduation.

“The critical things employers want to see in graduates are problem-solving skills, understanding of health systems, management and teamwork, budgeting and finance, analytic methods, and health communication,” she explains. “At the same time, they’re looking for much more specialization, so we are changing the curriculum to go broader and deeper at the same time.”

The core will focus on three areas: quantitative methods, health policy and management, and population health. Proposed concentrations and students’ practicum hours will both increase, offering a more significant and comprehensive opportunity to do something in a real workplace and tackle genuine public health challenges. Anticipating that the new requirement may be a challenge for students in part-time or dual degree programs, Sullivan and the MPH2015 task force are exploring some academic courses with a strong practical component as models. One example is the International Health course IH 743, Implementing Health Programs in Developing Countries: Making Programs Work, where Boston-based students use technology to consult and assist real, complex health programs in countries all over the world.

The career component of the revamped MPH degree will be capped by a new required course offered by the career services department, which has added a sixth full-time staffer to expand its concentration-specific counseling. The pass-fail course, which will be offered several times a year, will guide students through the career preparation process with both general tips and field-specific information.

“We are saying very strongly to our MPH students that preparing for your career does not just mean having the technical public health skills, but also the skills that will help you land the job where you can use them,” says Mark Prashker, associate dean.

Pilot courses for MPH2015 will begin in 2015; the new curriculum will be formally implemented in the next year. ☺

## SPH by the Numbers

### 2013 GRADUATE EMPLOYMENT DATA

**91%**  
Employed or pursuing advanced education within 6 months of graduation

**\$52,200**  
Average salary

**75%**  
Employed in domestic public health

**16%**  
Employed in combination of domestic and international public health

**9%**  
Employed in international public health

### APPLICATION NUMBERS

Total applications, Fall 2014:  
**2,658**

Total MPH applications, Fall 2014:  
**1,973**

### DOCTORAL STUDENTS AT SPH

**56** PhD

**10** DSc

**42** DrPH

### MS STUDENTS AT SPH

**39**

Women across the world are finding it harder to have kids. Researcher Lauren Wise is launching the nation's largest Internet-based study of fertility to find out why.

# PREDICTING FERTILITY

BY LISA CHEDEKEL PHOTOGRAPHY BY CONOR DOHERTY

In 2006, as Lauren Wise was immersed in researching the fertility of men exposed prenatally to the now-banned drug DES (diethylstilbestrol), she and her husband decided it was time to begin their own family. At 32, the Boston University School of Public Health epidemiologist had already published dozens of papers about reproductive risks.

But as the months ticked by fruitlessly, Wise gained personal insight into the same fertility quandary she had explored professionally.

"I'm thinking, 'I'm 32, I should be able to have babies right away,'" she recalls. "But it took longer than I expected. It was frustrating."

Several months later, Wise got pregnant with her first child. And two years after the birth of her daughter, she became pregnant again, soon after beginning to try.

Those varied experiences deepened her determination to identify the myriad factors that influence fertility—a drive that now has her leading the largest Internet-based study of fertility in the United States.

"I think my own experience helped me to understand the complexities of reproduction—physiologically and emotionally," Wise says. "It made the concepts very real for me. It fueled my interest and passion."

Wise, an associate professor of epidemiology and a senior epidemiologist at BU's Slone Epidemiology Center, is the lead investigator of the PRESTO (Pregnancy Study Online) project, which aims to identify lifestyle factors such as diet, exercise, and medication use that may affect fertility and pregnancy outcomes. The study relies on Internet-based methods to recruit and follow 2,500 women, ages 21 to 45; it's also



Associate Professor Lauren Wise will study potential fertility factors from lubricant use to whether male partners carry their cell phones in their pants' pockets.



recruiting male partners, where possible, to examine other factors that may impact the chances of pregnancy.

For Wise, PRESTO is just the latest phase of a search for answers about women's reproductive health that began 14 years ago, when she started work as a research data analyst at Slone. Her trail, winding from Boston to Denmark, has produced some intriguing findings that challenge old assumptions about fertility and raise new questions about the roles that stress, diet, and environment play.

"We know that fertility rates are declining in the US and the rest of the world, and some of that is related to women delaying childbearing," Wise says. "But given that, can we identify other factors that might be causing the trend? To me, being able to find answers to questions that have been asked for decades, but also to ask new questions, is extremely gratifying."

### IDENTIFYING OBSTACLES

Infertility is among the most painful problems a couple can face, with emotional repercussions that can last for years—or a lifetime.

Fertility rates in the US hit a record low in 2012 for the second consecutive year for women aged 15 to 44, in part because of a decline in the number of teenage pregnancies. In Massachusetts, the Department of Public Health reports that fertility rates are dropping and remain 16 percent below the national average.

The causes are often hard to pinpoint and can be difficult to treat. In 2012, more than 176,000 cycles of assisted reproduction were performed at clinics in the US, with the use of in vitro fertilization and other technologies doubling over the last decade.

Wise's focus on infertility builds on a theme running through her work: identifying obstacles to women's reproductive health, then figuring out ways around them.

As an undergraduate at Bowdoin College in Maine, the Canadian native wrote her honors thesis about contraceptive use, exploring the quandary of women who wanted to both get pregnant and avoid the risk of sexually transmitted diseases.

"I've always had an interest in women's reproductive health, and over time, there's been a more women-centered perspective on the research agenda," she says. "It's been satisfying to be a part of that."

For the last 12 years, Wise has been on the Slone team working on the long-running Black Women's Health Study, which has examined fertility and other factors among African American women. She first got involved in the study after college, when she landed a one-year job at Slone as a research assistant, processing and editing paper questionnaires.

To date, she has led more than 15 studies on the causes and incidence of uterine fibroids in black women. Diagnosed in about 30 percent of reproductive-age women, uterine fibroids can cause pelvic pain, heavy menstrual bleeding, infertility, and pregnancy complications. They are the primary cause of hysterectomy in the US.

Wise's research has found that fibroid growth is influenced by factors ranging from genetics, childbearing, diet, and obesity, to dairy and alcohol consumption—and possibly even the use of hair relaxers. She is now leading a study, funded by the National Institutes of Health, looking at whether psychosocial factors, such as child abuse, socioeconomic adversity, and depression, increase fibroid risk.

Her interest in the determinants of uterine fibroids started with her doctoral dissertation, which examined reproductive and hormonal risk factors of the condition. She was drawn to the topic partly because it had received so little attention.

"It's a huge problem for African American women, who are two to three times more likely than white women

**"I've always had an interest in women's reproductive health, and over time, there's been a more women-centered perspective on the research agenda. It's been satisfying to be a part of that."**

to be diagnosed with fibroids. It affects women in their prime and undermines their quality of life," Wise says. "Yet it's been so understudied."

In 2011, her work on fibroids won her the prestigious Young Investigator's Award for Distinguished Research in Public Health from the Association of Schools & Programs of Public Health and Pfizer.

"A good scientist is curious, inquisitive, skeptical, persistent, and enthusiastic—Lauren is all these things, as well as a good manager of her research team," says Kenneth Rothman, professor of epidemiology and one of the first US researchers to suggest using online methods to conduct research on fertility. "She is an expert on women's health, and equally accomplished in the epidemiologic methods needed to address the complicated problems that she is drawn to study."

Besides fibroid research, Wise has tackled other women's health issues, including risk factors for macrosomia and preterm birth (funded by the Hood Foundation), as well as menopause, endometrial and breast cancers, and infertility.

### FINDING FERTILITY PREDICTORS

Wise's latest project, PRESTO, will build on the findings of an Internet-based study of fertility in Denmark that she helped launch with Rothman and Danish colleagues in 2007. The Danish study, headed by Elizabeth Hatch, an SPH professor of epidemiology, has produced a series of high-interest results, covering everything from the impact on fertility of consuming caffeine (it's OK—soda is not) to age (fertility peaks around 30 for men and women and declines slightly later than suggested in previous studies). Researchers have also found that over-exercising may make it harder for healthy-weight women to conceive, while moderate exercising is beneficial, and that shorter menstrual cycle length, obesity, and weight gain are associated with delays in pregnancy.

According to Wise, the PRESTO study is breaking new ground in the US by relying on the Internet for recruiting and interacting with participants—study methods that may prove more cost-effective than traditional research techniques.

"The process of studying people via the Internet is really still in its early days," she says. "We're testing several ideas here, including whether this kind of research method will work in the United States as well as it does in Denmark. There are cultural differences" related to trust and willingness to participate in scientific studies, she adds.

Wise and her team are searching for fertility factors by casting a wide net that looks beyond age to issues such as lubricant and antidepressant use, socioeconomic factors, and even whether male partners carry their cell phones in their pants' pockets.

Coupled with data from the Danish study, Wise says, findings from PRESTO could identify certain key "fertility predictors"—while also revolutionizing the methods used to study epidemiology.

"With women waiting longer to start a family, we really need to identify factors that lead to successful pregnancies in older women—and we just don't know enough yet," Wise says. "Our hope is to turn up things that might be modifiable, for men and women."

As part of PRESTO, participants fill out detailed dietary questionnaires that may provide clues about what kinds of foods help or hurt fertility. Because little is known about dietary factors, it is an area where Wise hopes to make substantial inroads.

A subset of women will participate in a smaller study (E-PRESTO) that will seek to determine whether chemical compounds such as plasticizers and bisphenol A (BPA), contained in some consumer products, reduce fertility.

The research team also plans to track birth outcomes for participants' children who are born in Massachusetts through the commonwealth's birth registry—affording new information on factors that may contribute to adverse outcomes.

### FUELED BY HOPE

With more than 100 published studies, Wise hasn't lost her curiosity or intensity. When she talks about PRESTO, she brightens as she contemplates possible breakthroughs in understanding how diet, exercise, and menstrual cycles influence fertility.

Although she had two successful pregnancies of her own—she has a 6-year-old daughter and a 4-year-old son—she still draws on the early frustrations and fears of waiting to start a family in her thirties.

"I think I can relate on some important level to what many women experience. Reproduction is not an easy thing," she says. "That's why I'm so fascinated by it, because I think there are so many steps along the way where something can go wrong—and I'm always amazed when a healthy baby comes into this world.

"If there are things I can do to discover truths about factors that might promote fertility, I want to be able to share that information with other couples. That's the hope that keeps me going." ☺



**Dear Friends,**  
Thank you for supporting Boston University and the School of Public Health. The SPH campaign **Investing in a Healthier World**, part of the University-wide Campaign for BU, is building momentum and has increased giving among our Dean's Advisory Board members, alumni, friends, faculty, staff, and graduating

students. To date, we have raised \$30 million toward the School's \$40 million goal. Examples of leadership giving in support of the School's mission over the past year include:

- **Tramuto Foundation International Scholarship** Through his family's foundation, Dean's Advisory Board member Donato Tramuto has established an endowed fund that will provide tuition support for international students.
- **John P. Howe Scholarship Fund** BU Trustee Emeritus Fred Chicos has established the John P. Howe Scholarship Fund in honor of John Howe III (MED'69), a member of the SPH Dean's Advisory Board and vice chair of the BU Board of Trustees. Howe has also contributed to the fund, from which the first scholarship will be awarded in the fall of 2014.
- **Seed Funding for Big Data Research** An anonymous donor has made a generous gift to launch pilot studies through a new precedent-setting partnership with Optum Labs, the nation's largest health care data set. This gift will catalyze student and faculty research to tackle the largest and most pressing issues regarding public health and the health care delivery system in the United States.

Looking ahead to the next years of the Campaign, we have much to celebrate, notably the transition of Bob Meenan from the SPH deanship to his new post as special assistant to President Robert A. Brown. We applaud Bob's skill and commitment in guiding the School to a position of national leadership in improving public health, especially for vulnerable populations.

Lastly, we are launching plans to celebrate SPH's 40th anniversary in 2016. As we continue to reach out to build stronger connections with the School's stakeholders, I am very grateful to all the individuals, foundations, and corporations that commit philanthropic support to SPH. Your contributions help our students and faculty apply their knowledge, research, and time to creating a healthier world for all.

Sincerely,

*Jeannine M. Rivet*

Jeannine M. Rivet ('81)  
Chair

Dean's Advisory Board, Boston University School of Public Health  
Executive Vice President, UnitedHealth Group

# Thank You, Donors!

Boston University School of Public Health extends a very special thank you to those alumni, parents, and friends who made gifts between July 1, 2013 and June 30, 2014.

## \$100,000-\$249,999

Anonymous (2)  
Terry L. Andreas (COM'64) and John Hewig ■  
Merwyn Bagan (MED'62, SPH'95) and Carol J. Bagan ■  
Frederick H. Chicos  
Donato J. Tramuto

## \$50,000-\$99,999

Anonymous

## \$25,000-\$49,999

Christian C. Draz ■  
John P. Howe (MED'69) and Tyrrell E. Flawn ■  
Robert F. Meenan (MED'72, GSM'89) and Yana Kotlar ■ ■ ■

## \$10,000-\$24,999

Carolyn M. Colton (SED'71) and Theodore Colton ■ ■ ■  
Charles L. Donahue and Nancy T. Donahue ■ ■ ■  
Joel H. Lamstein and Sarah Lamstein ■

## \$5,000-\$9,999

Anonymous  
Sally J. Deane (SED'71, SPH'88) ■ ■ ■  
Leslie L. Kolterman and John Kolterman ■ ■ ■  
Heather H. Pierce (SPH'02) and Mark Schofield ■

## \$2,500-\$4,999

Robert A. Brown and Beverly A. Brown ■ ■ ■  
Hsi Pin Chen (CAS'89, SPH'91; MED'96, '96) and Kenneth E. Hancock (ENG'92, '01) ■  
L. Adrienne Cupples (GRS'74) and John Cupples ■ ■ ■  
David T. Felson (SPH'84) and Elaine R. Landes ■ ■ ■  
C. Robert Horsburgh and Brita E. Lundberg ■ ■ ■  
Christine S. Hunter (MED'80, CAS'80) and Robert H. Hunter ■  
Amalie M. Kass (SED'63) ■  
Elaine B. Kirshenbaum (CAS'71, SED'72, SPH'79) and Howard D. Kirshenbaum ■  
Mina P. Paul (SPH'97) and Ajay Saini (SMG'82) ■ ■ ■  
Philip R. Reilly and Nancy L. Reilly ■  
Michael J. Taylor ■

## \$1,000-\$2,499

Anonymous  
Elaine J. Alpert (SPH'85) and William S. Marsh (GSM'07) ■ ■ ■  
George J. Annas and Mary F. Annas (CAS'85, SED'86) ■ ■ ■  
Mireille Aramati (SPH'86, MET'87) and Fredric J. Feldt ■  
Leslie I. Boden ■ ■ ■  
Harold Cox ■  
Larry A. Cross (SPH'93) ■  
Allen Gifford and Laurel K. Leslie ■  
Joseph L. Giordano (GSM'01) and Julia F. Giordano (GSM'01, '02; SPH'02) ■  
Leonard H. Glantz (CAS'70, LAW'73) ■ ■ ■  
Elizabeth E. Hatch and Whitney Hatch ■ ■ ■  
Michelle Henshaw (SPH'96, SDM'07) ■ ■ ■  
Trevor Huffmaster (CAS'97) and Donna Cruz-Huffmaster ■  
Karen Kames ■  
James E. Kass ■  
Ghassan A. Khoury (SDM'96, '97; SPH'99) and Thenia Kazou (SDM'97, '02) ■  
Theodore Mallon ■  
Mary E. McCurley (SSW'05, SPH'06) Michael E. O'Brien (SMG'01) and Rachel E. Cohen (CAS'01) ■ ■ ■  
Patricia A. O'Brien ■ ■ ■  
Elizabeth A. Olek (SPH'02) ■  
Jay D. Orlander (SPH'92) and Anna J. Mitus (MED'83, CAS'83) ■ ■ ■  
Nadine P. Peters (LAW'02, SPH'03) ■  
Kara J. Peterson (GSM'08) and Richard DiBona ■ ■ ■  
Kevin C. Phelan and Anne D. Phelan ■  
Jean E. Ramsey (MED'90, SPH'08) and David T. Ramsey ■ ■ ■  
Mark J. Roseman (SPH'88, '97) ■  
Michael S. Rosenblatt (SPH'89, GSM'97) and Patricia L. Roberts (MED'81, CAS'81) ■ ■ ■  
Vincent J. Russo (MED'64, SPH'83) and Sheila K. Russo ■  
Lora L. Sabin and Jonathan Hecht ■ ■ ■  
Jonathon L. Simon and Kirsten S. Russell ■ ■ ■  
Robert J. Sklarew and Toby J. Sklarew ■  
Roseanna Spizzirri (SPH'80, GSM'91) ■  
Kara Sweeney Guerriero (SPH'05) ■  
Miriam W. Weil (SPH'90) and David S. Weil ■ ■ ■  
Robert F. White ■ ■ ■  
Julie C. Wisniewski (SPH'00) ■  
Ilga B. Wohlrab (SPH'99) and Hartmut Wohlrab ■ ■ ■  
Sam S. Wu (CAS'87, GRS'90, MED'92, SPH'92) and Patricia C. Tsang (CAS'92, MED'92, GRS'92)

## \$500-\$999

Amy R. Aulwes (SPH'94) Frederick Baekeland and Joan D. Baekeland Patricia P. Barry (SPH'87) and David M. Barry ■  
Suzanne Bouveron (SPH'91) and Joseph T. Wroblicka  
Lynne Brodsky (MED'83, SPH'88) and Rob Levine  
Li-Chiang Chen (COM'93, '95)  
Linda B. Cottler (SPH'80) and Matthew R. Cottler  
Daniel R. Deutsch (LAW'86) and Brenda S. Deutsch (SPH'83) ■  
Kimberly A. Dodd (CAS'92, MED'02, SPH'10)  
Frances A. Drolette  
Sarah P. Dwyer and William J. Dwyer (CAS'68) ■ ■ ■  
Harvey M. Eisenberg  
Judith Embrescia  
Paul S. Farsai (SDM'94, '95; SPH'97) Frank G. Feeley ■  
Susan A. Flanagan (SPH'83)  
Davida A. Fox-Melanson (SED'68) ■  
Lisa Fredman ■  
Robert A. Furman (SPH'95) and Carole R. Bohn (SED'76, '81) ■ ■ ■  
Margot P. Gill  
Deborah E. Glotzer (SPH'90) and David A. Waltz  
Hugh Greenway and Joy B. Greenway  
Robert J. Haynes and Mary E. Haynes  
Suzette M. Levenson (SED'76, SPH'84) and Robert M. Levenson ■  
Edward I. Masterman and Sydell Masterman ■  
Heather H. Miselis (SPH'00; MED'00, '04) and Nathan R. Miselis (GRS'95) ■  
Daniel J. Oates (CAS'00, MED'00, SPH'05) ■  
Adam J. Rose (SPH'07) and Joanne D. Rose ■  
David L. Rosenbloom and Alice Richmond ■  
Marie-Helene Saint-Hilaire and Neil D. Beneck (SPH'94) ■ ■ ■  
Jeffrey H. Samet (SPH'92) and Michele S. Marram ■ ■ ■  
Michael B. Siegel and Rebecca Sherman ■  
Ralph J. Timperi (SPH'83) and Jennifer Cochran (SPH'87)  
William C. Van Faasen  
Lawrence W. Vernaglia (SPH'94, LAW'94) and Elizabeth Rudow-Vernaglia  
Bruce W. Weinstock (CAS'83, MED'86, SPH'97) and Lisa Kempler (MET'93) ■  
Michael R. Winter (CAS'87, SPH'93) ■

## \$250-\$499

Daniel P. Alford (SPH'86, MED'92) and Barbara J. St. Onge ■  
Raghavan Amarsingham (SPH'93)  
Mary K. Barger (SPH'09) and John Kelleher ■  
Tamar F. Barlam (SPH'09) ■ ■ ■  
Leonard Bernstein (SDM'60, SPH'95) and Jane H. Bernstein  
Ann M. Borzecki (SPH'97)  
Harriet K. Brand (SED'74, SPH'94)  
Brian K. Brighton (SAR'97, SPH'02, MED'02) and Erin C. Brighton (CAS'98, SPH'01)

Carolyn C. Case (SPH'11) and Frederic C. Case  
Wilson S. Colucci (MED'75) and Jill Downing (SON'74, SPH'07) ■  
P. O'Dea Culhane Coughlin (SON'73, SPH'79) ■  
Arthur F. Ensroth (SPH'04) and Barbara L. Waszczak  
Bryan J. Eustis (SPH'04)  
Rebecca Furth  
David R. Gagnon (SPH'89, GRS'98) and Carla M. Van Bennekom (SPH'86) ■  
Richard C. Garrison and Louisa Garrison  
Gillian C. Gill  
Jennifer M. Gill (SPH'08)  
Daniel J. Gottlieb (SPH'97) ■  
William J. Halpin (SSW'03, SPH'06)  
James J. Heffernan (MED'77, SPH'92) and M. Anita Barry (SPH'88)  
John A. Hermos (MED'65) and Rosalie J. Hermos (SPH'91) ■  
Eric S. Jonas (SAR'00, SPH'08) and Tricia S. Jonas (CGS'96, CAS'98)  
Mary E. Keough (SPH'80)  
Mark A. Keroack (SPH'00) and Ann Errichetti  
Eric D. Kolaczyk and Josee Dupuis ■  
Sayaka Koseki (CAS'07, GSM'11, SPH'11) ■  
Wayne LaMorte (GRS'85, SPH'94) and Clare D. LaMorte (SPH'99) ■ ■ ■  
Angela M. Leung (MED'03, SPH'10)  
Judy Levin-Charns (SAR'75, SED'86) and Martin P. Charns ■ ■ ■  
Joan Litzow  
Jamie W. Marshall (SSW'05, SPH'06)  
Robert A. Mesa (SAR'09)  
Jana L. Meyer (SPH'04)  
Karen I. Pahl (SPH'92) and Joseph M. Polito  
Edward T. Porcaro (SPH'82)  
Karen Quillen (SPH'04) ■ ■ ■  
Patricia A. Roche ■  
Ivan D. Ross (SPH'13, GSM'13) ■  
Richard Saitz (CAS'87, MED'87) and Angela H. Jackson ■  
Mark J. Samuelson (MED'94, '97)  
Kimberly A. Shaffer (SPH'04)  
Sheila R. Shulman (SPH'87) and Lawrence Shulman ■  
Rose S. Strain (SPH'78, GSM'81)  
Kimberly K. Tolan (SPH'90) and Dean R. Tolan  
Sonja L. Tong (SPH'05)  
Jennifer M. Tsoi (SPH'07) ■  
Jennifer Turgiss (SPH'13) ■  
Amarachi A. Umez-Eronini (CAS'09, SPH'11)  
Taryn Vian (UNI'10) and Donald K. McInnes ■  
Steven M. Yood (MED'92) and Marianne U. Yood

**\$1-\$249**  
Anonymous (2)  
Hayat S. Abdulkarim (CAS'08, SPH'12)  
Melissa K. Afbale (SPH'15)  
Sachin Agarwal (GRS'02) and Rachana Agarwal ■  
Nancy Agneberg  
Bilal Ahmed (SPH'11)  
Kathryn K. Ahnger-Pier (SPH'12)  
Nelson E. Airewele (SPH'11)  
Toyin Ajayi  
John Akaligaung

Sisay T. Akalu (SPH'95)  
George R. Alcott  
Hasan M. Alhelo  
Shelley A. Amberg (SPH'12)  
Christopher N. Ames (LAW'80) and Joann E. Manson  
Jennifer L. Ames (SPH'13)  
Shreyasee Amin (SPH'99)  
Erin B. Anderson (CAS'11)  
Kellie L. Anderson (SPH'02) and Mark W. Anderson  
Alessandra Anemona  
James Antonucci  
Rosemary E. Antonucci (SMG'87)  
Joseph S. Anzalone (SPH'92) ■  
Jose G. Arciniegas (SPH'05, SDM'10)  
Arquimedes Areche (SPH'03)  
Matthew B. Au (CAS'12) ■  
Taliser R. Avery (SPH'11)  
Lauren P. Babich (SPH'05, '13) ■  
Rachel L. Bacon (SPH'14)  
Susan B. Baird (SPH'79) ■  
Akanksha Bali (SPH'14)  
Jerassimos Ballas (CAS'00, SPH'02)  
Alan L. Balsam (SPH'82)  
Bahby T. Banks (SPH'05)  
Matthew H. Baratta (SPH'07)  
Robert T. Beattie (SPH'79) and Susan P. Beattie  
Mark A. Beilstein (SPH'00)  
Lindsay K. Belanger  
Fran Belkin  
Deborah E. Belle  
Diane Bensek ■  
Dan R. Berlowitz (SPH'87) ■  
Berthlyn M. Bernier (SSW'97, SPH'99)  
Toby N. Bernstein (SPH'86)  
Ariel A. Berry (SPH'14)  
Alice B. Bisbee (SPH'86) ■  
Czarina C. Biton (SPH'04)  
Lois L. Block (SPH'80) and Paul J. Block (MED'77)  
Nancy L. Bloom (SPH'87) and Jacob L. Bloom ■  
Carol D. Bois (SPH'83)  
Sera A. Bonds (SPH'04) and Adam H. Rosenbloom (SPH'05)  
J. F. Boone and June M. Boone  
Anne Marie Borden (SPH'92)  
Ryan Borg (SPH'09)  
Leila H. Borowsky (SPH'96) and Mark L. Borowsky  
Brianne L. Bostian  
Christian Brady (SPH'95)  
Leif H. Brierley (SPH'14) ■  
Mohamad I. Brooks (SPH'07) and Erin T. Brooks (SPH'09, MED'13) ■  
Sally E. Brown (SPH'82)  
Sara R. Bruce (SPH'95) and George I. Bruce  
Valerie J. Buckley (SPH'03) and Matthew T. Buckley  
Barbara H. Buell (SPH'94) and Paul Langner  
Elizabeth A. Burden (SSW'91, SPH'92)  
Denise P. Bury (SPH'91)  
Rachel S. Busby (SPH'06) and Christopher M. Busby  
Ivan G. Busulwa (SPH'12, GSM'12)  
Elizabeth N. Bwogi (SPH'05)  
Samuel Cabot (GSM'68) and Claire S. Cabot (CAS'64) ■

Bin Cai (SPH'88)  
Fatih Cakir  
Kristen A. Calcagni (CAS'04, SPH'08)  
Turhan Canli  
Paul L. Caron (LAW'88) and Courtney Caron  
Meagan A. Carpenter (CAS'04, SPH'08)  
Vicky L. Carpenter (SON'72) and Harry Carpenter  
Ruth A. Carretta (SPH'88)  
Nancy A. Carroll (SPH'84)  
Beth Carvette (SPH'94) and Peter Scarpaci  
Alana Casciello (SPH'13)  
Margaret M. Casey (SPH'89)  
Zyrene Celik  
Myrnan Chan MacRae (SSW'98, SPH'99) and John MacRae  
Marco A. Chaoul (COM'87, CAS'87) and Erika R. De La Garza (COM'89)  
Lih-An Chen  
Mengfan Cheng (SPH'14)  
Teresa Cheng (SPH'10) ■  
Christina S. Cheral (SPH'14)  
Ruth Choi  
George Chow  
Elissa M. Ciment (SPH'00) and Ari J. Ciment  
Christina M. Ciociola (SSW'98, SPH'99)  
Richard W. Clapp (SPH'89) and Paula Georges ■  
Mary H. Clark (SPH'88)  
John J. Cloherty (SPH'89) and Elaine Cloherty  
Noelle M. Cocosos (SPH'06, '12)  
Mark J. Coen (CAS'91, LAW'94, SPH'96) and Sarah L. Coen (SMG'01)  
Aaron J. Cohen (SPH'85, '91) and Ann Cohen ■  
Alexander M. Cohen (SSW'10, SPH'11)  
Geoff A. Cohen and Susan A. Timberlake  
Lisa Cohen  
Adena Cohen-Bearak (SPH'99) and Arnold H. Bearak (ENG'80)  
Casey A. Cokkinias (SPH'14)  
Sarah F. Coleman (SPH'14, SAR'14)  
Alicia L. Colizza (SPH'14)  
Christopher P. Conkey (GSM'87) and Susan C. Conkey ■  
Rosemary E. Connors (SON'67, SPH'88)  
Evan P. Cook (MET'86) and Patricia T. Cook (SPH'81) ■  
Elizabeth Cooney (SPH'08)  
Alyson J. Cooper (SPH'10)  
Nicole Cormier (SPH'13)  
Jonathan L. Cote (GSM'15) ■  
Deborah A. Cox (SPH'01)  
Steven Cravis  
Kara A. Cremer (CAS'11) ■  
Lisa A. Cremer (SSW'08, SPH'09) and George I. Bruce  
Kristine M. Crockett (SPH'09) ■  
John Crosskey and Linda C. Crosskey  
Jeffrey L. Cruikshank ■  
Meredith Cruikshank  
Cristina Cruz (COM'09, SPH'13)  
Kathleen M. Cuddy (SPH'85)  
Paula M. Cullinane (MED'88, SPH'93) and Jeffery Fuller  
Caitlin M. Cumming (GSM'15, SPH'15)  
Stephanie A. Curreri (SAR'12)  
Mallory H. Cyr  
Dan Dao (SPH'09)

■ President's Society Annual Fund Leadership Giving Society Member | ■ Young Alumni Giving Society Member | ■ Faculty/Staff Member | ■ Parent | ■ Deceased

Jessica A. Davine (SSW'08, SPH'10)  
 Leah C. Davis (CFA'12) ■  
 John Debairos (SMG'76)  
 and Carol M. Debairos  
 Kevin Delaney (SPH'10, GSM'10)  
 Elizabeth A. DeMare ■  
 and Arthur A. Faden  
 Christin Dematto (SPH'07)  
 Patricia M. Demers (SON'77, SPH'88)  
 Judith D. Depue (SED'72, '77; SPH'93)  
 and Thomas J. Lamonte  
 Parth V. Desai (SPH'12, MED'12)  
 Mary B. DeSilva  
 Michael S. Dettelbach  
 and Holly Rothermel ■  
 Diane C. Devlin (SPH'09) ■  
 J. Michael Devlin (SPH'87)  
 Emmanuel D'Harcourt  
 Yaminette Diaz-Linhart (SSW'10, SPH'11)  
 Amanda J. DiPaolo (SPH'13, GSM'13)  
 Albert J. DiPerna and Maureen E. DiPerna ■  
 Ruth S. Dobbie (SON'57, '71)  
 and John M. Dobbie  
 Tracy L. Dodge (SPH'10)  
 Sarah V. Doersam (SPH'12, SAR'12)  
 Katherine E. Donato  
 Brian Donohue (SPH'14)  
 Almas Dossa (SAR'81, '81; SPH'97) and  
 Ronald B. Wilkinson (GRS'80, MET'03)  
 Terence G. Dougherty (SPH'83)  
 and Rosemary Dougherty  
 Daniel G. Drolet (SSW'14, SPH'14)  
 Devan M. Dumas (SAR'14, SPH'14) ■  
 Joline E. Durant (MET'04)  
 and Melvin Durant ■ ■  
 Robyn L. Eckerling (SPH'06)  
 Erika M. Edwards (SPH'05, '11)  
 and Brian D. Edwards ■  
 Arthur Eisenberg (CAS'55, SSW'57)  
 and Elaine F. Eisenberg

Priscilla J. Elliott (SPH'90)  
 and Clark Elliott ■  
 Rennie F. Elliott (SPH'10)  
 and John Bry (SPH'08, GSM'12)  
 Ellen F. Faden (SPH'82)  
 and Arthur A. Faden  
 Angela Y. Fan (SPH'09)  
 Michael J. Farabaugh (SPH'03)  
 Jessica L. Fargnoli (CAS'05, SPH'09)  
 Ahad A. Fazelat (SPH'01; MED'01, '05)  
 and Joyia E. Fazelat (MED'05)  
 Katherine L. Feidler (SPH'06)  
 Carrie G. Feliz (SPH'03) and Ruben Feliz  
 Marie-Lilia M. Felon (CAS'03, SPH'10)  
 Zhandra C. Ferreira-Cesar Suarez (CAS'10,  
 SPH'12) ■  
 Rosemarie A. Ferri (SPH'89)  
 and Mark R. Ferri  
 Thomas J. Fitzgerald (SPH'13)  
 Oren K. Fix (SPH'05)  
 Elliott Flah (SPH'14, LAW'14)  
 Russell D. Fleischer (SPH'90)  
 and Mechelle R. Fleischer  
 Maureen A. Flynn (SPH'07) ■  
 Colleen T. Fogarty (SPH'04)  
 and Jeffrey Sciortino  
 Elayne Fogelson  
 Madelyn Foster  
 Bernadette Fox  
 Matthew A. Fox (SPH'02, '07) ■  
 Amanda Frank (SSW'08, SPH'10)  
 Anne Frazer-Caterino (SSW'97, SPH'98)  
 and Darren J. Caterino  
 H. Susan Freireich (SPH'91)  
 Lise E. Fried (SPH'03) and Rose Dobosz  
 Evelyn Frieder (SON'73)  
 Mary-Lynn Fulton (SPH'99)  
 Donald R. Furman (LAW'85)  
 and Karin A. Gregory (SPH'85)

Rachel J. Gaddes (SAR'06, SPH'08)  
 Mary L. Gaeddert (SPH'11)  
 Timothy J. Gagne (SPH'03)  
 and Lila H. Solomon  
 Lisa M. Galbraith (SPH'96)  
 and Brian J. Galbraith  
 Kara Galer (SPH'14)  
 Carmen Garcia (SPH'08, SDM'10) ■  
 Rita M. Gardner (SPH'98)  
 Arvin Garg (SPH'99, MED'99)  
 and Priya Garg ■  
 Michel Valentin Gbala Sapoulou (SPH'14)  
 Christina M. Gebel (SPH'14)  
 Alan C. Geller (SPH'90)  
 and Vivian M. Bendix (CAS'73)  
 Claire R. Gerstein (SSW'72)  
 Mary E. Gibbs  
 Jennifer M. Gilbert (CAS'14, SPH'14)  
 Catherine R. Gill  
 Christopher J. Gill and Noriko Wada ■ ■  
 Jeremy Gill  
 Louise A. Gillis (SON'66, '68)  
 Katherine Ginnis (SSW'98, SPH'08)  
 Cynthia Glennon (CAS'03, SPH'10)  
 Sophie Godley ■  
 Yoav Golan  
 Jessica K. Goldberg (CAS'04, SSW'10, SPH'11)  
 Anna M. Goldenheim  
 Michael A. Goldman (COM'75) and Susan  
 F. Goldman (SPH'81, SSW'95)  
 Miguel A. Gonzalez (SPH'95)  
 Sandra H. Goodenough (SPH'81)  
 Mark D. Goodwin (SPH'87, SSW'87)  
 Katelyn E. Gormley  
 Barbara W. Graves (SPH'84)  
 Nina H. Greenbaum (SPH'95)  
 Susan Greenfield  
 Karin A. Gregory (SPH'85)  
 and Donald R. Furman (LAW'85)

Merrill D. Griff (SPH'81)  
 Martha M. Grotton (SPH'89)  
 Hatice Gungordur  
 Jessica M. Hagewood (SPH'12, SSW'13)  
 Sandra Haiman (SPH'02)  
 Sami U. Hamdan  
 Davidson H. Hamer  
 and Elizabeth L. Burkhardt ■  
 Cristina S. Hammond (SPH'99)  
 and William S. Hammond  
 Kaying Hang (SPH'97)  
 Carolyn J. Hardin (SPH'89)  
 and Daniel E. Hardin  
 Cathleen Hardisty  
 Laurel N. Harduar-Morano (SPH'04)  
 and Aaron Morano  
 Hugh G. Hare (SPH'87) and Linda R. Hare  
 Jill Harkin (SPH'00) and Ferghal Harkin  
 Vincent Harris  
 Christopher Hart  
 John M. Harutunian  
 Tatsuhiko Hatase  
 Alan S. Hatton (SED'12) ■  
 Sonia E. Hauser (SPH'93)  
 Elizabeth M. Havener (SPH'11)  
 Jamar M. Hawkins (MET'12)  
 Suzanne M. Healy (SPH'01)  
 and Robert J. Healy  
 Judith S. Hearst (SPH'80) and Nathan Wei  
 Jacqueline P. Hellen (CAS'10)  
 Elizabeth R. Henehan (CGS'11)  
 M. Lise Hildebrandt (SPH'04)  
 Suzanne Hitchcock-Bryan (SPH'92)  
 and Richard L. Bryan  
 Heidi L. Hoffman (SPH'94)  
 Justin Holcomb  
 Matthew T. Hollister (SPH'14) ■  
 Riad Homsy and Suha Tamim ■  
 Tania Hossain (SPH'03)  
 Laura Hou (SPH'13)  
 Laura Housman (CAS'88,  
 SPH'94, GSM'00)  
 and Kenneth Housman (GSM'85)  
 Gillian D. Hurwitz (SPH'13)  
 Catharine J. Husbands (SPH'03)  
 and Collin P. Husbands  
 Lynn N. Ibekwe (SPH'13)  
 Ochide Iep (SMG'02)  
 Osadebamwen Ighile (SPH'14)  
 Sheikh Usman Iqbal (SPH'03, GSM'07)  
 Alex M. Ireland (SPH'14)  
 Ginee Jain (SPH'10)  
 Sharon M. Jakus-Waldman (SPH'98)  
 Thea L. James (SPH'06) ■  
 Laura Jana  
 Kerlyne E. Jean  
 Yuxin Jiang (SPH'07)  
 Courtney Johnson  
 Cynthia E. Johnson (SPH'09)  
 and John M. Wortham (GSM'88;  
 GRS'88, '97)  
 Hannah L. Johnson (SPH'00)  
 and Nolan B. Johnson  
 Janis E. Johnson (SPH'08)  
 Morgan Johnson  
 Katherine Johnston (SPH'14)  
 Shasta A. Jorgensen (SPH'10)  
 Tanya E. Joseph  
 Nadia M. Juzych (SPH'99)  
 and Mark S. Juzych  
 Jennifer Kaldenberg ■  
 Pili M. Kamenju (SPH'14)

Edythe I. Kames (PAL'56)  
 and Kenneth F. Kames  
 Linda Kames  
 Marwan Kanafani (MET'12, SPH'14, GSM'14)  
 Tanya Karpiak  
 Robert A. Katz (SPH'83) and Phyllis M. Katz  
 Janice F. Kauffman (SPH'85)  
 Marsha A. Kaufmann (LAW'86, SPH'99)  
 Patricia L. Kavanagh (SMG'92, MED'03) ■  
 Diane Kellogg  
 James A. Kemp (SPH'94)  
 Andrea B. Kennedy (COM'05)  
 and Patrick L. Kennedy (COM'04) ■  
 Erin M. Kennedy (SPH'14)  
 Mary Keville (SPH'79)  
 and Stephen J. Keville  
 Colleen M. Keyes (SPH'00; MED'00, '04)  
 Sonya Khan (SPH'11)  
 Douglas P. Kiel (SPH'86)  
 and Kellene T. Kiel  
 Michelle M. Kilty (SPH'13, SAR'13)  
 Christopher Kim (CAS'06, SPH'08) ■  
 Frances B. King (GRS'80)  
 and Robert A. Erbetta ■  
 Kathleen A. King (CAS'06, SPH'13)  
 Paul King and Mary King ■  
 Sindri L. Kinnier  
 Maria D. Kirsch (SPH'94)  
 and Michael Skoler  
 Kaley E. Klanica (LAW'04, SPH'05)  
 Reva W. Kleppel (SSW'85, SPH'86)  
 and Jerry B. Plumb (LAW'86)  
 Jamie L. Klufts (SPH'14, SAR'14)  
 Linda K. Ko (SPH'00) and Eric J. Choi  
 Barbara K. Kondilis (SSW'98, SPH'99)  
 Tamara E. Konig (SSW'06, SPH'08)  
 Elisa A. Koppelman (SPH'13)  
 and Nicholas J. Cracknell ■ ■ ■  
 Elise A. Korte (SPH'14)  
 David S. Kugler (SPH'94; MED'96, '97)  
 and Dorothy Kugler  
 Carolina T. Kuhn (SPH'05)  
 and Bernard Kuhn

# WHY I GIVE

## As an SPH Community Scholars

Program recipient, I had the opportunity to further develop my public health knowledge while continuing to work full time in my community. With the rising cost of education throughout the world, pursuing graduate studies while working in nonprofit health care delivery is becoming increasingly difficult. Many of us eventually have to choose between changing careers to be able to fund higher education or living many years with significant debt. SPH offered me an alternative.

For all of its incredible achievements in research, policy, and advocacy, I believe what distinguishes SPH from other top public health schools is its commitment to producing highly trained and competent public health practitioners. The Community Scholars Program embodies this commitment—it's an example of SPH saying it values the change students are trying to effect in the community.

FIND OUT MORE AT [WWW.BU.EDU/SPH/GIVE](http://WWW.BU.EDU/SPH/GIVE)

**Bryan Eustis ('04)** is strategic operations officer for Partners in Health and founder and executive director of BME Strategies. The Community Scholars Program encourages experienced public health professionals to pursue an MPH while continuing full-time employment with a half-tuition scholarship.



Heidi B. Kummer (SPH'04)  
 and Karl H. Breuing  
 Jared Kutzin (SPH'07)  
 Jonathan LaBrecque (SPH'14, SSW'14)  
 Catherine A. Lager (MED'96)  
 and Herbert N. Brown  
 Beth M. LaLiberte (SPH'94)  
 and David M. LaLiberte  
 Ivy LaPlante (SPH'14)  
 Angela K. Laramie (SPH'00)  
 Lynda Laurence  
 Jennifer Lavail  
 Margaret A. Laws (SPH'14)  
 Jaime E. Lederer (SSW'08, SPH'10)  
 Jessie Lee (SPH'13)  
 Lucia Lee  
 Jaime Leite (SPH'91, GRS'91)  
 Adam Lessard (SPH'13)  
 Richard J. Levin (LAW'75)  
 and Arlene W. Levin  
 Lin Li (SPH'12) ■  
 Tomas F. Lichauco (SPH'87)  
 Marie A. Liles (SPH'09)  
 Annabelle C. Lim Morton (SPH'03)  
 and Jeffery Morton  
 Elizabeth A. Lincoln (SPH'93)  
 Christine A. Lloyd-Travaglini (SPH'97) ■  
 Rebecca S. Loren and Noah Z. Loren  
 Monica K. Loscalzo (SPH'14)  
 Maria V. Loy (SPH'06)  
 and Bertrand M. Loy  
 Francesca R. Lu  
 Na Lu (SPH'14)  
 Sean A. Lunde (SPH'10, GSM'10)  
 Heidi E. Lyle (SPH'95)  
 and Francis Jarmolowicz ■ ■  
 Katherine Lynch (SPH'06)  
 Caroline B. Lyon (SPH'98, MED'98)  
 Andrea A. Maalouf (SDM'87, SPH'93) ■  
 Katherine M. MacKenzie  
 Sydney MacNaughton  
 Kathleen MacVarish  
 and James MacVarish ■

David W. Mailhot (SPH'84)  
 and Maureen T. Mailhot  
 Amanda B. Makulec (SPH'10)  
 Amena E. Malik (SPH'08)  
 Patricia M. Malone (SPH'94)  
 Katherine R. Mandeville (SPH'06)  
 Nitin Manjunath  
 Dorcas L. Mansell (SPH'91)  
 Venessa G. Manzano (SPH'04)  
 and A. Mark Habana  
 Kelly A. Marksbury (GSM'09) ■  
 Sarah S. Marter (SPH'83)  
 and Don J. Hatfield  
 Sarah Mashek  
 Caitlin R. Masters (SPH'13)  
 David J. Matteodo (SPH'85)  
 and Donna M. Matteodo  
 Alexandra E. May (SPH'13)  
 John M. McAteer (CAS'11, SPH'13)  
 Jonathan C. McCall (SPH'06)  
 Maggie McCarthy  
 Nicole L. McCollough  
 Meghan McCutcheon (SPH'07, GSM'07)  
 John L. McDonald (SPH'82)  
 Kenneth R. McElheny  
 and Frances McElheny  
 Christine D. McFarlin (SPH'97)  
 William P. McIlhargay  
 and Kathryn McIlhargay  
 Joyce L. McKenney Goulart (SPH'83)  
 R. McKnight and Sonya McKnight  
 Susan L. McLaren (SPH'82)  
 and Philip J. Guymont  
 Donald A. McLean (SPH'94)  
 Jody E. McLean (ENG'04, SPH'08) ■  
 John McWeeney  
 Eden A. Mdluli (SPH'12)  
 and Gcinisizwe Mdluli  
 Maryann Medeiros (SPH'88)  
 and Daniel Medeiros  
 Nisha Mehta (CAS'05, SPH'13, SSW'13)  
 Tara R. Melillo (SAR'11, SPH'14)  
 Melissa Mendelson (SPH'06)

Gayle Irene I. Mendoza (SPH'08)  
 Douglas E. Mesler (SPH'97)  
 and Linda L. Mesler (LAW'90) ■  
 Paula J. Messenheimer (SPH'85)  
 Lisa Metropolis-Toby ■  
 Margaret R. Meyer (SPH'12, GSM'12)  
 Marissa C. Mihos  
 Ashley Miller (SPH'13) ■  
 Jonathan Miller and Diane Fassino  
 Melecia C. Miller (SPH'11)  
 Allen A. Mitchell and Paula L. Mitchell ■  
 Gianina M. Monestime (SPH'14, SAR'14)  
 Ruth F. Montgomery (SPH'80)  
 Lynn L. Moore (SPH'87, '93) ■  
 Shannon M. Moore (SPH'14)  
 Kaitlyn E. Moran (SPH'14, SAR'14)  
 Niida L. Moreno-Ruiz (SPH'07)  
 Megan Morgalis  
 Kimberly M. Morgan (SPH'14)  
 Suzanne M. Morrison (SPH'98)  
 Anne Moyer  
 Peter H. Moyer (SPH'03)  
 and Grisel G. Moyer ■  
 Mary C. Murphy-Phillips (MET'03) ■  
 Susan M. Murray (SPH'83)  
 and Wayne J. Merritt  
 Alexander J. Musallam (SPH'11)  
 Javed Mustafa (SPH'06) ■  
 Dipesh Navsaria (CAS'94, SPH'95)  
 Asha E. Neptuna (SPH'11, MED'11)  
 Elizabeth J. Nerad  
 Michaele Nesbitt-Johnson  
 Ronald Newman  
 Chun Y. Ng (SPH'10)  
 Thienanh H. Nguyen (SPH'13) ■  
 Alyce M. Nicolo (COM'07) ■  
 Ellen Nigrosh  
 Sonia G. Nixon (SPH'12)  
 Patricia B. Noe (CAS'01)  
 Monica V. Nulkar (SPH'91)  
 and Vinay Nulkar  
 Myat A. Nyein  
 John Oberteuffer

Edythe I. Kames (PAL'56)  
 and Kenneth F. Kames  
 Linda Kames  
 Marwan Kanafani (MET'12, SPH'14, GSM'14)  
 Tanya Karpiak  
 Robert A. Katz (SPH'83) and Phyllis M. Katz  
 Janice F. Kauffman (SPH'85)  
 Marsha A. Kaufmann (LAW'86, SPH'99)  
 Patricia L. Kavanagh (SMG'92, MED'03) ■  
 Diane Kellogg  
 James A. Kemp (SPH'94)  
 Andrea B. Kennedy (COM'05)  
 and Patrick L. Kennedy (COM'04) ■  
 Erin M. Kennedy (SPH'14)  
 Mary Keville (SPH'79)  
 and Stephen J. Keville  
 Colleen M. Keyes (SPH'00; MED'00, '04)  
 Sonya Khan (SPH'11)  
 Douglas P. Kiel (SPH'86)  
 and Kellene T. Kiel  
 Michelle M. Kilty (SPH'13, SAR'13)  
 Christopher Kim (CAS'06, SPH'08) ■  
 Frances B. King (GRS'80)  
 and Robert A. Erbetta ■  
 Kathleen A. King (CAS'06, SPH'13)  
 Paul King and Mary King ■  
 Sindri L. Kinnier  
 Maria D. Kirsch (SPH'94)  
 and Michael Skoler  
 Kaley E. Klanica (LAW'04, SPH'05)  
 Reva W. Kleppel (SSW'85, SPH'86)  
 and Jerry B. Plumb (LAW'86)  
 Jamie L. Klufts (SPH'14, SAR'14)  
 Linda K. Ko (SPH'00) and Eric J. Choi  
 Barbara K. Kondilis (SSW'98, SPH'99)  
 Tamara E. Konig (SSW'06, SPH'08)  
 Elisa A. Koppelman (SPH'13)  
 and Nicholas J. Cracknell ■ ■ ■  
 Elise A. Korte (SPH'14)  
 David S. Kugler (SPH'94; MED'96, '97)  
 and Dorothy Kugler  
 Carolina T. Kuhn (SPH'05)  
 and Bernard Kuhn

## PREVENTING INJUSTICE

When he traveled to developing countries as an undergraduate, Vadim Kogan ('15) says he “saw firsthand the pressing need for trained public health professionals.” An award from SPH’s Outstanding Scholars Fund—which supports a student in the top 10 percent of the incoming graduate class—is allowing him to study full time for a career “in global health, conducting research on communicable diseases in the field and planning and implementing effective public health interventions.”

This scholarship, says Kogan, has given him the opportunity to develop the skills he needs to make a difference in the world: “I hope that with the education this scholarship has helped support, I will be better able to work to help prevent the injustices I have seen. I thank the donor who funded the scholarship for their generosity and for believing in this generation of public health students.” Visit [www.bu.edu/sph/give](http://www.bu.edu/sph/give) to support the Outstanding Scholars Fund.



KELLY DAVIDSON SAVAGE

CHITOSE SUZUKI

■ President's Society Annual Fund Leadership Giving Society Member | ■ Young Alumni Giving Society Member | ■ Faculty/Staff Member | ■ Parent | ■ Deceased



Aileen M. Ochoa (SPH'14)  
 Stephanie Oddleifson (SPH'88)  
 and Robert J. Dunlavey  
 Maryellen M. O'Donnell (SPH'78)  
 and James J. O'Donnell  
 Amenawon H. Ogiefo (SPH'14)  
 Janice L. Okeefe (SPH'93)  
 and Thomas J. Okeefe  
 Elizabeth M. Ollen ■ ■ ■  
 Alicia S. Orta (SPH'13) ■  
 Adrienne Ortega (SPH'06, LAW'09)  
 and Abraham R. George  
 Brita S. Orwoll (SPH'14, SSW'14)  
 Alison J. Osattin (SPH'98)  
 Anthony W. Osinski (SPH'13)  
 Chukwuemeka U. Osondu (SPH'13)  
 Peters T. Otlans (SPH'10; MED'10, '14)  
 Vita Paladino-McElroy (SSW'93) ■  
 Kate A. Palitsch (SPH'14)  
 Lauren E. Palitz  
 Evelyn N. Palm (SPH'07)  
 and Henry F. Palm  
 Madhuri Palnati (SPH'04)  
 Jeremy Palumbo  
 Victoria A. Parker (GSM'97) ■  
 Suraj Patel  
 Steven L. Paul and Lesley C. Griffiths-Paul  
 Walter M. Pavasaris (SED'93)  
 and Beverly A. Pavasaris (SPH'83)

Katherine T. Pellino (CAS'14, SPH'14)  
 Neda D. Joury-Penders (SPH'00)  
 and Kevin F. Penders  
 Barbara M. Perry (SPH'83)  
 and Steven Perry  
 Elise R. Petersen (SSW'10, SPH'11)  
 Kirsten J. Petersen  
 Constance L. Phillips (SPH'91)  
 and Stephen J. Hines  
 Niko M. Phillips-Dias (SPH'96)  
 and Martin Dias  
 Michele Pitoniak-Crawford (SPH'87)  
 and James Crawford  
 Richard D. Plotz (SPH'92) and Judith Plotz  
 Stephen C. Price and Lynn Perlman  
 David A. Prouty (SSW'10, SPH'11)  
 Deborah Putnam (SSW'92, SPH'94)  
 James F. Queenan (SPH'85)  
 and Melody L. Queenan  
 Carla Rachman  
 Elizabeth J. Ragan  
 Tim Ragan and Margaret L. Ragan ■  
 Justin-Ben B. Ragasa  
 Nabeelah Rahmathulah  
 Nilufar A. Rakhmanova (SPH'03)  
 Steven J. Ralston (SPH'11)  
 Sanjay Ram  
 Angelica C. Ramirez (SPH'14)  
 Jirair Ratevosian (SPH'07)

Maya A. Rauth (SPH'13)  
 Sharon H. Ravid (SPH'07)  
 and Michael Ravid ■  
 Maurice J. Raymond (SED'75)  
 and Sandra L. Raymond  
 Peter Reich (SPH'79) ■  
 Jennifer J. Reske-Nielsen (SPH'07, MED'11)  
 and Casper Reske-Nielsen (MED'12)  
 Stephanie J. Reynolds-Bigby (SPH'11)  
 Fiona M. Rice (SPH'01) ■  
 Claire Y. Ridge (SPH'94)  
 Katherine E. Riley (SPH'12)  
 Jamie M. Ring (SPH'04) and Sean Ring  
 Barbara J. Rippberger (SSW'80, SPH'82)  
 and Charles M. Rippberger ■  
 Whitney K. Robbins (SPH'88) ■  
 Sarah P. Roberts (SPH'12)  
 Elizabeth S. Robitaille (SPH'87)  
 and Denis A. Robitaille ■  
 Carissa L. Rodrigue (LAW'09, SPH'10)  
 Emily K. Rosenfield (SPH'10)  
 Abigail M. Ross (SSW'08, SPH'10) ■  
 Julie B. Ross (SPH'00)  
 Jennifer G. Rothschild (SPH'01;  
 MED'01, '05)  
 Patrick J. Rowland (MET'93, '01)  
 and Cathleen Rowland (SPH'99) ■ ■  
 Kathleen M. Rowlings (SPH'96) ■  
 Tessa N. Runels (CGS'13)

Betty J. Ruth (SSW'84, SPH'85)  
 and Ken S. Schulman ■  
 Sarah E. Sabshon  
 Hiroki Saito (SPH'11) and Kayoko Saito  
 Betsy B. Sandberg (SPH'96)  
 Tatiane C. Santos (SPH'04)  
 Kellen M. Sarb (GSM'13)  
 Linda L. Saunders (SPH'84)  
 and Richard C. Saunders  
 Monica Sawhney (CAS'08, SPH'09)  
 Frederick L. Schaefer (SPH'84)  
 and Celia M. Schaefer  
 Abigail B. Scherrer (CGS'88, CAS'90,  
 SPH'10) and Karl Scherrer  
 Lauren M. Schiffer (SPH'05, SSW'05)  
 Christopher Schmid  
 Alina M. Schmidt (SPH'08)  
 Cynthia L. Schoettler (SPH'10;  
 MED'10, '14)  
 Justin W. Schreiber (SPH'10)  
 Darcie Schultz (SPH'10)  
 Neena S. Schultz (SPH'14, SSW'14)  
 Kimberly A. Schwartz (SPH'14)  
 and Daniel Schwartz ■  
 Alexander C. Schwarzer (SPH'11, GSM'11)  
 and Julianne S. Schwarzer  
 Norman A. Scotch (CAS'51, GRS'52)  
 and Freda L. Scotch (SPH'80) ■  
 Thayer E. Scott (SPH'92) ■

Colleen H. Seferian (SPH'98)  
 Robert B. Segan (SPH'11, GSM'11)  
 Peter R. Serafini (GSM'15, SPH'15)  
 Diana Seufert (SON'82) ■ ■ ■  
 Ron Seyffert and Audrey Seyffert  
 Disha J. Shah (SPH'14)  
 Janet A. Shahood (SPH'89)  
 Nargiz B. Shamilova (SPH'02)  
 Abhishek Sharma (SPH'15)  
 Norm Shaw  
 Kimberly M. Shea (SPH'06, '11) ■  
 Ruichao Shen (GRS'05) and Xinxin Guo  
 Scott E. Sherman (SPH'91)  
 Seema K. Sheth (SPH'04)  
 Juliette E. Shih (CAS'93, SPH'97)  
 Zainab O. Shuaib (SPH'11)  
 Mary B. Shupe (SPH'90)  
 and Jeffery T. Shupe  
 Steven Siegel and Carrie Siegel ■  
 Carole B. Silk  
 Rhoda Silverlieb  
 Howard Simon  
 Sherry Simon  
 Melissa F. Sinclair  
 Koundinya P. Singaraju (SPH'02)  
 Kelly Smith ■  
 Kerri E. Smith (CAS'05, SSW'07, SPH'09)  
 Mark L. Smith (SPH'91)  
 and Stacy Swain (SPH'92)  
 Catherine L. Snow (SPH'11)  
 and Seth M. Hersey  
 Robert C. Snow (SPH'85)  
 Rebecca J. Song (CAS'10) ■  
 Liana Soyfer  
 Jonathan M. Spector  
 Beryl W. Spencer (SPH'80)  
 Ann B. Spires (SPH'09)  
 Matthew J. Spitzer (SPH'13)  
 and Kerry A. Spitzer ■  
 Jennifer Steger  
 Kathleen A. Steger-Craven (SPH'84)  
 and Donald E. Craven ■  
 Rachel A. Stein Berman (SPH'10,  
 MED'10) ■  
 Adam P. Steinberg (SPH'05)  
 and Karrie A. Stone  
 Alisa L. Stepanian (SPH'08)  
 Elaine D. Stephens (SPH'82)  
 and Christian L. Stephens  
 Sarah L. Stone (SPH'05)  
 Erica L. Streit-Kaplan (SSW'00, SPH'01)  
 and James H. Kaplan (CAS'97,  
 LAW'00)  
 Kathleen F. Stuchiner (SPH'88)  
 and David J. Stuchiner  
 Amy Studenic (SPH'14)  
 Alexander K. Su (CAS'11, SPH'13)  
 Fangui J. Sun ■  
 Wenlu Sun (SPH'14)  
 I. Antoinette Sutherland (SPH'95)  
 Benjamin E. Swerdlow (SSW'14, SPH'14)  
 Edward A. Szkutak (SPH'08)  
 and Karla J. Szkutak ■ ■  
 Harvey Tabachnick and Judith Tabachnick  
 Pejman Talebian (SPH'94, MED'94) and  
 Viktoria P. Talebian (SDM'97, '01)  
 Elise M. Tamplin (SPH'87)  
 and David Tamplin  
 Carol S. Taniguchi (SPH'95)  
 Alison B. Tarmy (SSW'99, SPH'00)  
 and Jeffrey Tarmy  
 Maya H. Tatsuno (SPH'13, GSM'13) ■

Melissa R. Taylor (SPH'95)  
 Theresa G. Taylor (SPH'84)  
 and Michael R. Taylor  
 Jessica E. Teng (SPH'09)  
 Leah H. Tennen (SPH'04, SSW'04)  
 Alice W. Terrill (SAR'53)  
 and Arthur G. Terrill  
 Hameer H. Thatte (SPH'13; MED'13, '14)  
 Donald M. Thea ■  
 Ashley E. Thomas (SPH'14)  
 Robert M. Thomas (SSW'14, SPH'14)  
 Lisa A. Thomas-Prince (SPH'97)  
 Andrew J. Ting (SPH'91, GRS'91, MED'96)  
 and Maribeth Ting  
 Valerie J. Tobia (SPH'13, SSW'13)  
 Carol R. Tobias and Michael D. Tobias  
 Margaret E. Tompsett  
 Evette D. Toney (SPH'01)  
 Melissa A. Toussaint (SPH'00)  
 Wendy E. Trafton (SPH'08)  
 Scott Troppy (SPH'98) ■  
 Milton G. Twombly  
 Juan I. Ubiera (SPH'93)  
 Pablo Tarsicio Uribe Leitz (SPH'13)  
 Jennifer L. Valerio (SPH'11)  
 Esther E. Velasquez (SPH'09, SSW'09) ■  
 Elena Vovc (SPH'06)  
 Gareth Wakeling  
 Martin Wakeling  
 Alan James Waker (SPH'93)  
 and Mary L. Keenan  
 Allan J. Walkey (SPH'10) ■  
 Meredith O. Wallace (SPH'12)  
 and Mark Wallace  
 W. Jeff Waller and Lois L. Waller ■  
 Angela W. Walter (SSW'07, SPH'08) ■  
 Susan Walton-Cizik (SPH'93)  
 and Peter N. Cizik  
 Sophia B. Ward (SPH'12)  
 and James F. Ward  
 Carolyn E. Weber (SPH'13)  
 Shannon Weber and Meredith E. Munn  
 Christopher Webster  
 Thomas F. Webster (SPH'00)  
 and Christine Poff ■  
 Tara T. Weckstein (SPH'93)  
 and Douglas J. Weckstein  
 Carolyn J. Wehler (SPH'01) ■  
 Emily C. Welch (SPH'14, SAR'14)  
 Lauren Wells  
 Nora L. Wells (SPH'09, GSM'09)  
 Robert M. Welton (SPH'01)  
 and Rosa Welton  
 Martha M. Werler (SPH'89)  
 and David Fonseca ■  
 Alexis G. Werner (SPH'11)  
 Jacqueline C. Wetzel (SPH'97)  
 and Greg Ennis  
 D. Joyce White (SAR'80, SPH'96)  
 and Jonathan A. White (LAW'78)  
 Lisa Beth A. White (STH'08)  
 Sarah A. White (SPH'08)  
 and Robert H. White  
 Vanessa A. White (SPH'96)  
 Julie H. Wicklund (SPH'95)  
 and David P. Wicklund  
 Sean J. Wiedemeier  
 Joanne E. Wilkinson (SPH'06) ■  
 Cassandra C. Williams (CAS'09, SED'09,  
 SPH'10) and Matthew R. Williams  
 (CAS'09)  
 Kelsey L. Williams (SPH'11)

## AN END TO GUINEA WORM



The Carter Center features a countdown on its website that checks off the remaining cases of Guinea Worm, a parasitic disease the center is working hard to make history. If it succeeds, this will be the first time that such a condition has been eradicated. **Hubert**

**Zirimwabagabo (14)** is helping to make it happen in Chad. Zirimwabagabo greatly benefited from the Jenny Huddart Scholarship during his time at SPH. Supported by Joyce Lyons, president of Initiatives, Inc., the scholarship is named in honor of the late SPH adjunct professor and international health expert.

“My journey at such a prestigious school would not have been possible without that generous support,” says Zirimwabagabo of the annual scholarship, which is open to students concentrating in global health. “I am happy to be using all the skills I acquired at SPH as a consultant for the Carter Center Guinea Worm Eradication Program in Chad. I hope to apply my newly gained knowledge to manage and evaluate health programs and help improve health conditions in Africa.”

Visit [www.bu.edu/sph/give](http://www.bu.edu/sph/give) to find out how you can help a student acquire the skills they need to change the world.

Michele V. Williams (SPH'98)  
 Olivia Winfrey (SPH'11)  
 Gary A. Winter (SSW'95, SPH'96)  
 Lauren A. Wise ■  
 Emily Y. Wong (SPH'12)  
 Shirley Y. Wong (CAS'07, SPH'11)  
 Marvyn S. Wool (SPH'82)  
 and Constance B. Wool  
 Aadaeze Wosu (SPH'13)  
 Blair Wylie  
 Edriss Yassine (SPH'14)  
 Youseph Yazdi and Susan M. Yazdi  
 Olga Yevtukhova (LAW'10, SPH'11)  
 Marianne U. Yood (SAR'86; SPH'90, '98)  
 Min J. Yoon (SPH'08)  
 Irimi M. Youssef (SPH'01)  
 Suyong Y. Yun Kirby (SPH'03)  
 Allison F. Zaitchik (SPH'14, SSW'14)  
 Amy L. Zapata (SPH'97) and S. Zapata  
 Miao Zhang (SPH'14)  
 Jessica L. Ziemek (SPH'14)  
 Dorothy E. Zirkle (SPH'10)

### CORPORATIONS, FOUNDATIONS, AND ORGANIZATIONS \$1M-\$4.9M

Bill & Melinda Gates Foundation

### \$500,000-\$999,999

Azucareros del Istmo Centroamericano  
 CDC Foundation

### \$250,000-\$499,999

Anonymous  
 Bristol-Myers Squibb Foundation  
 Merck & Co., Inc.  
 North American Insulation Manufacturers Association  
 Suyong Y. Yun Kirby (SPH'03)  
 Santander Bank, N.A.

### \$100,000-\$249,999

Alpha-1 Foundation  
 Andreas Foundation  
 Bedford VA Research Corporation, Inc.  
 Burroughs Wellcome Fund  
 Christie Foundation, Inc.  
 Clinton Health Access Initiative, Inc.  
 International Pharmaceutical Federation  
 K.A.H.R. Foundation  
 Oak Foundation

## WAYS TO SUPPORT SCHOLARSHIPS



**Akanksha Bali (14), Vidhya Parameswaran (15), Shruti Sachdeva (15), and Abhishek Sharma (15)** are the 2014 Jhamandas Watumull Scholars. The Jhamandas Watumull Fund is a family foundation that supports higher education.

To find out more about providing scholarships, either through gifts or estate planning, visit [www.bu.edu/sph/give](http://www.bu.edu/sph/give) or call 617-638-4658.

CHITOSE SUZUKI

PHOTO COURTESY OF HUBERT ZIRIMWABAGABO

■ President's Society Annual Fund Leadership Giving Society Member | ■ Young Alumni Giving Society Member | ■ Faculty/Staff Member | ■ Parent | ■ Deceased

# BY THE NUMBERS: A TEN-YEAR PERSPECTIVE

## MATCHING GIFT CHALLENGE

Inaugurated in 2013 in honor of the founding chair of the SPH epidemiology and biostatistics department, the Theodore Colton Fellowship Fund in Epidemiology was established by Colton's family, friends, and colleagues to support doctoral students in the Department of Epidemiology. Colton launched SPH's first doctoral degree program during his tenure.

To inspire giving to the fellowship fund, Colton has announced a matching gift challenge: he will generously match additional contributions to the fund, dollar for dollar, up to a total of \$20,000. For more information on the matching challenge and to make a gift to support the Colton Fellowship Fund, please contact Leslie Kolterman at lkolt@bu.edu or 617-638-4092.



Save the Children  
The Sunshine Lady Foundation, Inc.

### \$50,000-\$99,999

David and Lucile Packard Foundation  
Mary Kay Foundation  
New Hampshire Charitable Foundation  
Systagenix

### \$25,000-\$49,999

Allergan Sales Inc.  
Art beCAUSE Foundation  
Boston Public Health Commission  
Boston VA Research Institute  
Conrad N. Hilton Foundation  
The Health Foundation of Central Massachusetts  
Helen Hart Hurlbert Foundation  
Liberty Mutual Foundation  
March of Dimes National Foundation  
Worcester Housing Authority

### \$10,000-\$24,999

Beth Israel Deaconess Medical Center  
Blue Cross Blue Shield of Massachusetts  
Donato J. Tramuto Foundation  
Doris Duke Charitable Foundation  
Fidelity Charitable Gift Fund  
John Snow Institute Inc.  
Pfizer Inc.  
United States Olympic Committee

### \$5,000-\$9,999

Physicians for Human Rights

### \$2,500-\$4,999

The Amalie M. Kass 1995 Trust

### \$1-\$2,499

The Ayco Charitable Foundation  
Beryl W. Spencer Living Trust  
Bois Consulting Co., Inc.  
Boston Medical Center  
BUSPH Graduating Students  
EventBrite  
Jhamandas Watumull Fund  
Lawrence Cross Revocable Trust  
Massachusetts Environmental Health Association  
McKnight Living Trust  
Medtronic Foundation  
The Merck Foundation  
Patient-Centered Outcomes Research Institute  
Thrasher Research Fund

### MATCHING GIFTS

Ben & Jerry's Foundation  
Cubist Pharmaceuticals  
General Reinsurance Corporation  
Medtronic Foundation  
Merck & Co., Inc.  
Pfizer, Inc.  
UnitedHealth Group  
W.K. Kellogg Foundation

### IN KIND GIFTS

Blue Cross Blue Shield of Massachusetts  
Feldesman Tucker Leifer Fidell LLP  
Foley & Lardner LLP

### CLAFLIN SOCIETY MEMBERS

The following people have generously included SPH in their will, trust, or estate plans:

Laura A. Armstrong (SPH'81)  
Patricia O'Dea Coughlin (SON'73, SPH'79)  
Priscilla J. Elliott (SPH'90)  
Robert F. Meenan (MED'72, GSM'89)  
Peter Reich (SPH'79)  
Kurt Tramosch (SPH'87)

### ENDOWED PROFESSORSHIP

Edward R. Utley Professorship Fund in Legal Medicine

### ENDOWED SCHOLARSHIPS

Community Scholars Endowed Scholarship Fund  
Jenny Huddart Scholarship Fund  
John P. Howe Scholarship Fund  
Lamstein Family/JSI Scholarship Fund  
Outstanding Scholars Fund  
Robert F. Meenan Endowed Scholarship Fund  
Tramuto Foundation International Scholarship Fund  
William Randolph Hearst Endowed Scholarship Fund

### ENDOWED LECTURESHIPS

William J. Bicknell Lectureship Fund  
Cathy Shine Lectureship Fund

### ENDOWED SPECIAL PURPOSE FUNDS

Allan R. Meyers Fund for the Advancement of Careers in Disability Studies  
David Ozonoff Unsung Hero Award Fund  
Center of International Health Fund  
George J. Annas, JD Endowment Fund

Katherine M. Skinner Memorial Prize Fund for Commitment to the Study of Women's Health Issues

### STUDENT ACADEMIC AWARD FUNDS

Allan R. Meyers Memorial Prize Fund for Excellence in Health Services  
Dr. William B. Patterson Memorial Prize Fund for Excellence in Environmental and Occupational Health  
Herb Kayne Prize Fund for Excellence in Biostatistics  
The John Snow, Inc. Award Fund in International Health  
Leonard H. Glantz Award Fund for Academic Excellence  
Public Health Practice Fund: Award for Student Excellence in Public Health Practice  
The Theodore Colton Prize Fund for Excellence in Epidemiology

### FACULTY TEACHING AWARD FUND

Norman A. Scotch, PhD. Excellence in Teaching Award Fund

### MEMORIAL GIFTS

Ruth Willner Siegel Memorial Teaching Fund

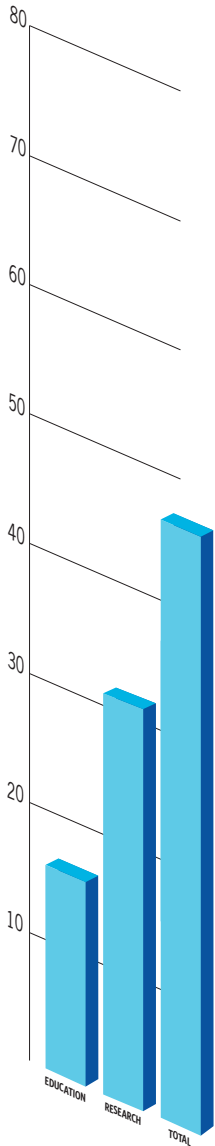
### SPECIAL PURPOSE FUNDS

Boston University School of Public Health Scholarship Fund  
Charles L. Donahue Frontiers in Public Health Speakers Series Fund  
Community Scholars Fund  
Environmental Health Gift Fund  
Field Practicum Fund in International Health  
International Health Department Gift Fund  
Joe Lopez Lectureship Fund  
Multiple Myeloma Research Fund  
The Theodore Colton Fellowship Fund in Epidemiology

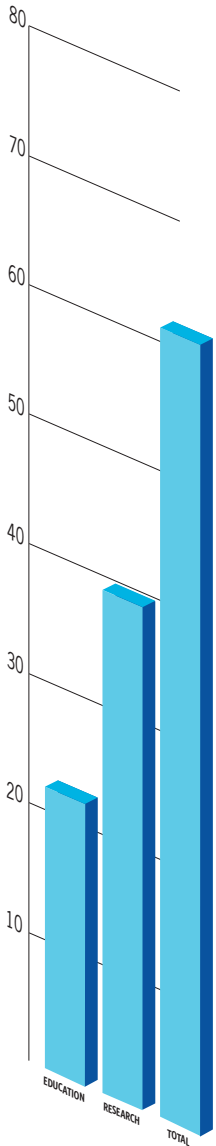
## INCOME

(IN MILLIONS)

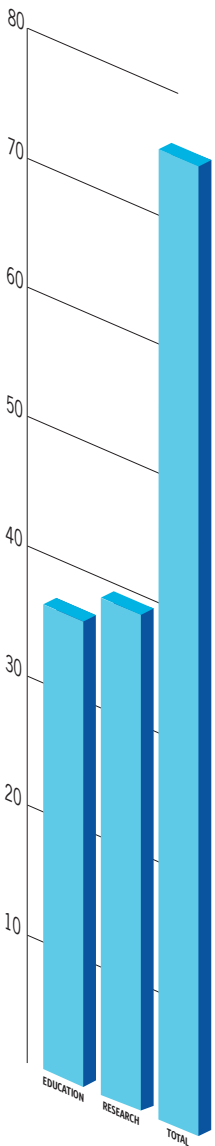
2004



2009



2014



| Income                   | 2004                | 2009                | 2014                |
|--------------------------|---------------------|---------------------|---------------------|
| Education Tuition & Fees | \$15,161,827        | \$21,562,845        | \$36,271,972        |
| Other                    | \$175,000           | \$369,241           | \$198,240           |
| Research Direct Cost     | \$25,531,871        | \$31,636,960        | \$30,388,903        |
| Indirect Cost            | \$4,821,228         | \$7,419,707         | \$8,125,179         |
| <b>Total Income</b>      | <b>\$45,689,926</b> | <b>\$60,988,753</b> | <b>\$74,984,294</b> |

| People                      | 2004        | 2009        | 2014        |
|-----------------------------|-------------|-------------|-------------|
| Full-Time Faculty           | 147         | 154         | 152         |
| Degree Students             | 655         | 638         | 1,025       |
| Student Scholarship Program | \$1,743,379 | \$2,099,398 | \$7,742,094 |

MICHAEL D. SPENCER



**Boston University** School of Public Health

715 Albany Street  
Boston, MA 02118

NONPROFIT  
US POSTAGE  
PAID  
BOSTON MA  
PERMIT NO. 1839



# ways to give

➤ **617-638-4658**

➤ **[www.bu.edu/sph/give](http://www.bu.edu/sph/give)**

➤ **BOSTON UNIVERSITY  
SCHOOL OF PUBLIC HEALTH  
DEVELOPMENT & ALUMNI  
RELATIONS OFFICE**