SPHere

Fall 2013

Boston University School of Public Health

I SERVED MY COUNTRY. I AM FULL OF FEAR. I DRINK HEAVILY. I HAVE NIGHTMARES. I AM DEPRESSED. I LEFT THE MILITARY, BUT MY WAR ISN'T OVER.

THEY LOOK THE SAME.
THEY DON'T ACT THE SAME.

**HELPING VETERANS
WITH INJURIES YOU CAN'T SEE.**

BOSTON
UNIVERSITY

WHY I GIVE

“From the moment I first walked on the Boston University School of Public Health campus, I knew it was a special place. Everyone I met was inviting and helpful, starting with the girl who pointed me in the right direction on her way to class. This sense of welcoming—and the importance of community—was further amplified when I was accepted as a student and immediately received a note from my advisor, Professor Alan Sager, congratulating me on my acceptance, and asking if I had any questions or if I wanted to visit the School and attend a class. It was very easy choosing BU to continue my education.

While a student at SPH, I was selected as a recipient of the Community Scholars program, which allowed me to take advantage of all that BU had to offer and complete my MPH program. A part-time student, I was working full time at the National Alliance on Mental Illness of Massachusetts, a local nonprofit advocacy organization focused on the disparities faced by individuals with mental illness and their families. I participated in many exciting programs while a student, and have greatly enjoyed my continued involvement with the School, its alumni board, and the broader BU community.

It's important to give back. As public health professionals, most of us are out in the world trying to make it a better place—whether we're in research, academics, program management, health care administration, advocacy, or public policy. Many of us have had a helping hand along the way, and it's our responsibility to help those who come after us as they redefine the future of public health. As an alum, I believe that staying connected with SPH and supporting its annual fund is essential to making sure the same stellar education I received will be there for the next generation.“

Kara Sweeney

Kara Sweeney ('05) is vice president, membership and corporate relations, at the National Council for Community Behavioral Healthcare.

Sweeney received a Community Scholars Award at SPH and has since served on the School's alumni board. She is a member of the Annual Fund Leadership Giving Society.

TO LEARN MORE ABOUT GIVING, PLEASE VISIT SPH.BU.EDU/GIVING, CALL 617-638-4658, OR EMAIL SPHDEV@BU.EDU.

MALEK NAZ FREIDOUNI

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Boston University School of Public Health

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BY DAN MERRIGAN

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Photo of a marine by Todd Headington

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Dear Friends,

We have closed another very successful year at Boston University School of Public Health, and I am proud to report on our many accomplishments and advances during the past 12 months.

First, an update on The Campaign for Boston University. As part of this $1 billion fundraising effort, SPH is committed to raising $40 million over five years; a little over a year into the campaign, we have already reached 60 percent of that goal, or $24 million. We greatly appreciate the generosity of the many individuals, foundations, and corporations that have already given. Your contributions go directly toward advancing our students, faculty, and teaching and research efforts.

SPH continues to produce an impressive breadth of research, as evidenced by this issue of *SPHere*. I especially call your attention to our cover story on veterans (page 10) and the groundbreaking work of our faculty on Gulf War illness and post-traumatic stress disorder. We also have timely articles on genetic testing—Associate Professor Catharine Wang is helping turn information about genetic risks into positive action (page 20)—and the rollout of the Affordable Care Act. As the health care law enters its implementation phase, SPH faculty and alumni weigh in on the benefits and risks of this critical and still contentious legislation. At this fall's 14th annual William J. Bicknell Lecture, keynote speaker Paul Campos, University of Colorado at Boulder law professor and author of *The Obesity Myth: Why America's Obsession With Weight Is Hazardous To Your Health*, offered a provocative perspective on obesity. You can read his Q&A on page 8.

The past year also brought more recognition for our faculty and alumni. Recent award winners include Sera Bond ('04), who received the 2013 Boston University Young Alumni Award for her work in founding Circle of Life International, an organization that focuses on women in crisis; and Alan Jette, professor of health policy & management, who was recently elected to the prestigious Institute of Medicine of the National Academy of Sciences for his outstanding contributions to disability research.

As always, I want to thank the entire SPH community—including alumni, friends, faculty, and Dean's Advisory Board members—who continue to support our efforts. Your enthusiasm, wisdom, and philanthropy are all vital to our School's positive impact on the health of vulnerable populations at home and abroad, and to our continuing growth as a leader in public health education and research.

Sincerely,
Robert F. Meenan, MD, MPH, MBA

[SCHOOL NEWS]

Right to Refuse

SHOULD PATIENTS WHOSE GENES are analyzed for a particular medical condition be automatically tested for a host of other possible conditions—and told about those secondary results?

The American College of Medical Genetics and Genomics (ACMG) has said "yes" to these questions in a policy recommendation. But in a paper published in the journal *Science*, Professor George Annas and two other experts in law and medicine counter with a definitive "no." Annas is the William Fairfield Warren Distinguished Professor and is chair of the Department of Health Law, Bioethics & Human Rights.

"Patients have an established right to refuse unwanted medical tests and the information they might disclose," say Annas and his coauthors, Susan M. Wolf of the University of Minnesota and Sherman Elias of the Feinberg School of Medicine at Northwestern University. "Starting down the path of unconsented testing and reporting in clinical genomics leads to grave difficulties, and should not be done without more careful analysis."

The ACMG has called for doctors who sequence a patient's genes for any medical reason to look for two dozen unrelated genetic conditions and tell the patient if they find any of them. The guidelines have stirred controversy among bioethicists and physicians, with some praising them as an important first step in establishing ground rules for genetic sequencing, and others criticizing them as stomping on patient rights.

"Rejecting the need for the patient's informed consent to look for mutations in a predetermined list of 57 genes is a profound departure from prevailing laws and norms," contend Annas, Wolf, and Elias. "Informed consent is a well-established legal requirement designed to protect patient autonomy—not a matter susceptible to modification by experts in human genetics, no matter how learned."

> **"Starting down the path of unconsented testing and reporting in clinical genomics leads to grave difficulties, and should not be done without more careful analysis."**
>
> **—George Annas et al.**

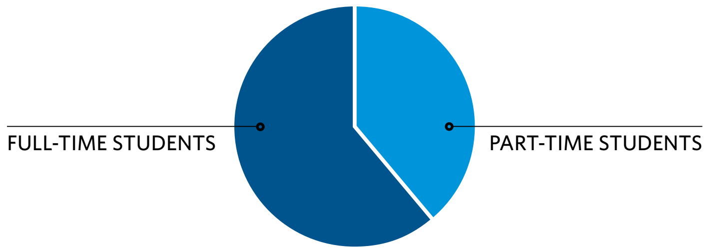
SPH in Numbers

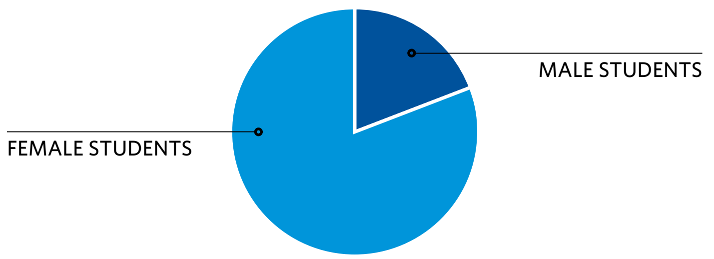
150
FULL-TIME FACULTY

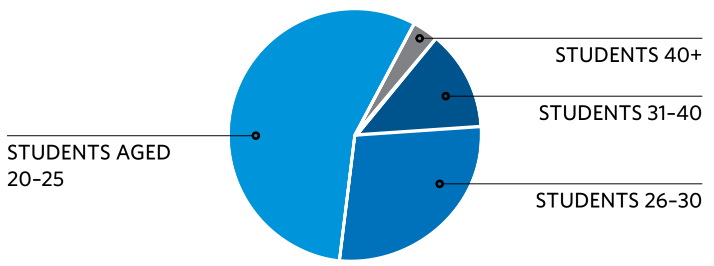
235
PART-TIME AND ADJUNCT FACULTY

1,027
DEGREE STUDENTS

40
COUNTRIES OF ORIGIN







[SCHOOL NEWS]

Black Women's Health Study: **Roundup**

COMPARED TO THEIR WHITE PEERS, BLACK WOMEN HAVE HIGHER rates of breast cancer, diabetes, hypertension, and a host of other conditions. They're also more likely to die earlier. Since 1995, researchers at Boston University's Slone Epidemiology Center have tracked the health of 59,000 African American women through biennial questionnaires to find out why. Here's a roundup of the latest findings.

ABUSE LINK TO ASTHMA…
African American women who reported suffering abuse before age 11 have a greater likelihood of adult-onset asthma compared to women whose childhood and adolescence were free of abuse. Results indicate that the incidence of adult-onset asthma is more than 20 percent higher among women who had been abused during childhood.

…AND TUMORS
A study of 9,910 premenopausal African American women found that childhood sexual or physical abuse raised the risk of uterine fibroids in adulthood. The incidence of the benign tumors was 16 percent higher among women who had been physically abused during childhood, and 34 percent higher among women who had been sexually abused. The risk of fibroids increased with the severity of abuse.

191

… AND COUNTING

NUMBER OF BLACK WOMEN'S HEALTH STUDY PUBLICATIONS SINCE 1995.

OBESITY AND PREGNANCY
Prepregnancy obesity and excess weight gain during pregnancy in African American women are associated with an increased risk of giving birth to an abnormally large baby. Macrosomia, defined as when a newborn weighs more than 4,000 grams at birth (approximately 8.8 pounds), can cause delivery complications such as hemorrhage, infection, the need for a caesarean section, preeclampsia, and perinatal mortality. Researchers who discovered the link noted that obesity was tied to a two-fold increased risk of macrosomia.

MacArthur "Genius" Works to Improve the Human Condition

JULIE LIVINGSTON, A MEDICAL HISTORIAN AND 1993 GRADUATE OF SPH, has been named a 2013 MacArthur Fellow. The honor—commonly called a "genius award"—is recognition of her work exploring the care and treatment of people suffering from chronic illnesses and debilitating ailments in Botswana.

Livingston is the author of *Improvising Medicine: An African Oncology Ward in an Emerging Cancer Epidemic*, the culmination of thousands of hours spent observing—and volunteering at—a cancer ward in Botswana. In the book, Livingston describes the struggles of patients, families, and hospital staff in the southern African country as they try to come to terms with cancer and its moral implications—all in an environment of limited resources.

A professor of history at Rutgers University, Livingston is one of 24 recipients of the MacArthur award, a five-year fellowship that comes with a $625,000 unrestricted stipend. The MacArthur Foundation awards fellowships to talented individuals in a variety of fields who have shown "extraordinary originality and dedication in their creative pursuits."

"This year's class of MacArthur Fellows is an extraordinary group of individuals who collectively reflect the breadth and depth of American creativity," said Cecilia Conrad, vice president of the MacArthur Fellows Program, in a press release. "They are … working to improve the human condition and to preserve and sustain our natural and cultural heritage. Their stories should inspire each of us to consider our own potential to contribute our talents for the betterment of humankind."

PHOTO LICENSED UNDER A CREATIVE COMMONS LICENSE. COURTESY OF THE JOHN D. & CATHERINE T. MACARTHUR FOUNDATION

Saving Two Million Children

What would it cost to prevent the majority of child pneumonia- and diarrhea-related deaths? About $6.7 billion over the next 12 years—less than a quarter of the cost of the 2012 London Olympics.

SPH is part of a consortium of research institutions promoting a strategy to end all preventable child deaths from pneumonia and diarrhea by 2025—a plan that researchers say is achievable with existing medicine, a modest international investment, and strong leadership.

In a series of articles published in *The Lancet*, leading academics and public health professionals from the consortium recommend 15 interventions, from vaccinations to zinc supplementation to hand-washing with soap, which they say could eliminate 95 percent of diarrheal and 67 percent of pneumonia deaths in children younger than five by 2025. In 2011, pneumonia and diarrhea claimed the lives of two million children worldwide.

"Our failure to get any traction on this issue is entirely due to political will," says one of the article authors, Associate Professor Christopher Gill. "It's not that we don't know how to do it or that we don't have the tools. We hope the series will be a call to action."

Hazardous Substance Research Gets $11M

RESEARCHER JENNIFER SCHLEZINGER has spent the past decade examining how environmental contaminants impact B cells, which form in bone marrow and play a vital role in the human immune system. Each step of her research has uncovered clues about the regulatory network that controls bone marrow physiology and also posed new questions about the impact of certain contaminants on immune cell development and bone quality.

Schlezinger's research, and that of dozens of other public health and biomedical researchers, has been done under the auspices of BU's Superfund Research Program, one of the University's longest-running federally funded programs. In early 2013, the School of Public Health-based program, administered by the National Institute of Environmental Health Sciences, again secured a Superfund award—a five-year, $11 million grant.

The goal of all BU Superfund projects is to study the impact of exposure to hazardous substances on reproduction and development. Since 1995, researchers in the BU program have published more than 300 papers probing the toxic effects of chemicals on cancer, reproduction, and development in humans and animals. The latest award will allow studies to continue on the impact of chemicals on bone development, the prenatal health effects of contaminated drinking water, methods for mapping toxic exposures over time and distance, and the effects of contaminants on marine fish.

The Dangers of Office Life

A POTENTIALLY HARMFUL FLAME RETARDANT could be damaging the health of white collar workers. Researchers testing the urine of office staff in the Boston area, as well as dust samples taken from study participants' homes, workplaces, and vehicles, found widespread evidence of a chemical known as TDCPP—chlorinated tris(1,3-dichloro-2-propyl) phosphate. The chemical, a possible neurotoxin that could negatively impact fertility and thyroid function in men, is commonly used in polyurethane foam.

During the study, published in *Environmental Health*, researchers discovered TDCPP in 99 percent of dust samples and concluded that the office environment was the strongest predictor of metabolized TDCPP in urine. There were significantly lower concentrations of the chemical among workers in a new office building than in older buildings.

"It is currently very difficult to avoid flame retardants. Hopefully, better options will become available in the near future," says Courtney Carignan ('13), a doctoral candidate in environmental health and one of six SPH study coauthors. "The best advice we have for people is to wash your hands, especially before eating. Dust control, good ventilation, and air purifiers may also be useful for reducing personal exposure."

KILLER COUCHES
Those workers might not be any safer at home, however. More than half of all couches tested by a team that included Environmental Health Professor Tom Webster contained potentially toxic or untested chemical flame retardants that may pose risks to human health.

Among the chemicals detected was Tris, tris(hydroxymethyl) aminomethane, a chlorinated flame retardant that is considered a probable human carcinogen based on animal studies. In 1977, Tris was phased out of use in baby pajamas because of its health risks, but it still showed up in 41 percent of the couch-foam samples tested.

[SCHOOL NEWS]

Oral Contraceptives Don't Harm Fertility —But Soda Might

LONG-TERM USE OF ORAL CONTRACEPTIVES DOESN'T HURT A WOMAN'S chances of becoming pregnant, according to a study published in *Human Reproduction*. Researchers found that long-term users of oral contraceptives (OCs), like short-term users, experience a temporary delay in fertility, but that longer-term OC use is associated with a higher likelihood of pregnancy. They also noted a slight reduction in fecundability for women who used certain newer-generation oral contraceptives than for older ones, and for women who had first used OCs at an early age.

A collaboration between researchers at SPH and the University of Aarhus in Denmark, the study collected data via the Internet and included questions on sociodemographic background and reproductive and medical history, as well as follow-up questions on pregnancy status, frequency and timing of intercourse, and other lifestyle factors. More than 3,700 women aged 18 to 40 participated.

The Denmark-based study found that women who had taken the medications for more than four or five years were more fertile than those who had used them for less than two years. Even women who used oral contraceptives for more than 12 years had higher rates of conception.

The team speculated that long-term use of OCs might increase fertility by inhibiting follicle depletion over a woman's reproductive life.

In a related study, women who reported drinking sodas regularly—especially sugar-sweetened ones—had lower fecundability, while women who drank tea had increased fertility. One possible explanation is that chemical additives or contaminants in some soft drinks, such as bisphenol A, may hinder fertility.

Fish Connected to ADHD

SHOULD WOMEN EAT FISH DURING PREGNANCY?

The answer is complicated, according to a study that found links between pregnant women's exposure to low-level mercury—primarily from eating fish—and an increased risk of their children exhibiting behaviors related to attention deficit/hyperactivity disorder (ADHD).

Coauthored by Sharon Sagiv, assistant professor of environmental health, the study also found that eating fish during pregnancy had a protective effect, reducing the risk of ADHD-related behaviors in children.

"Women need to know that nutrients in fish are really important for brain development, but they also need to be aware that high mercury levels in some fish pose a risk," says Sagiv. "The message is, eat fish—but don't eat fish high in mercury," such as swordfish, shark, fresh tuna, or king mackerel. Fish low in mercury include flounder, haddock, and salmon.

The study suggests there may be a "protective effect" from fish consumption over the recommended limit—government agencies recommend pregnant women limit their total fish intake to no more than two six-ounce servings per week. The researchers found a reduced risk of ADHD-related behaviors in children whose mothers reported eating more than two servings per week. The risk of childhood ADHD-related behaviors rose with increasing maternal hair mercury levels, which were lower than levels shown to be potentially harmful in most previous studies.

> **"Women need to know that nutrients in fish are really important for brain development, but they also need to be aware that high mercury levels in some fish pose a risk."**
>
> **—Sharon Sagiv**

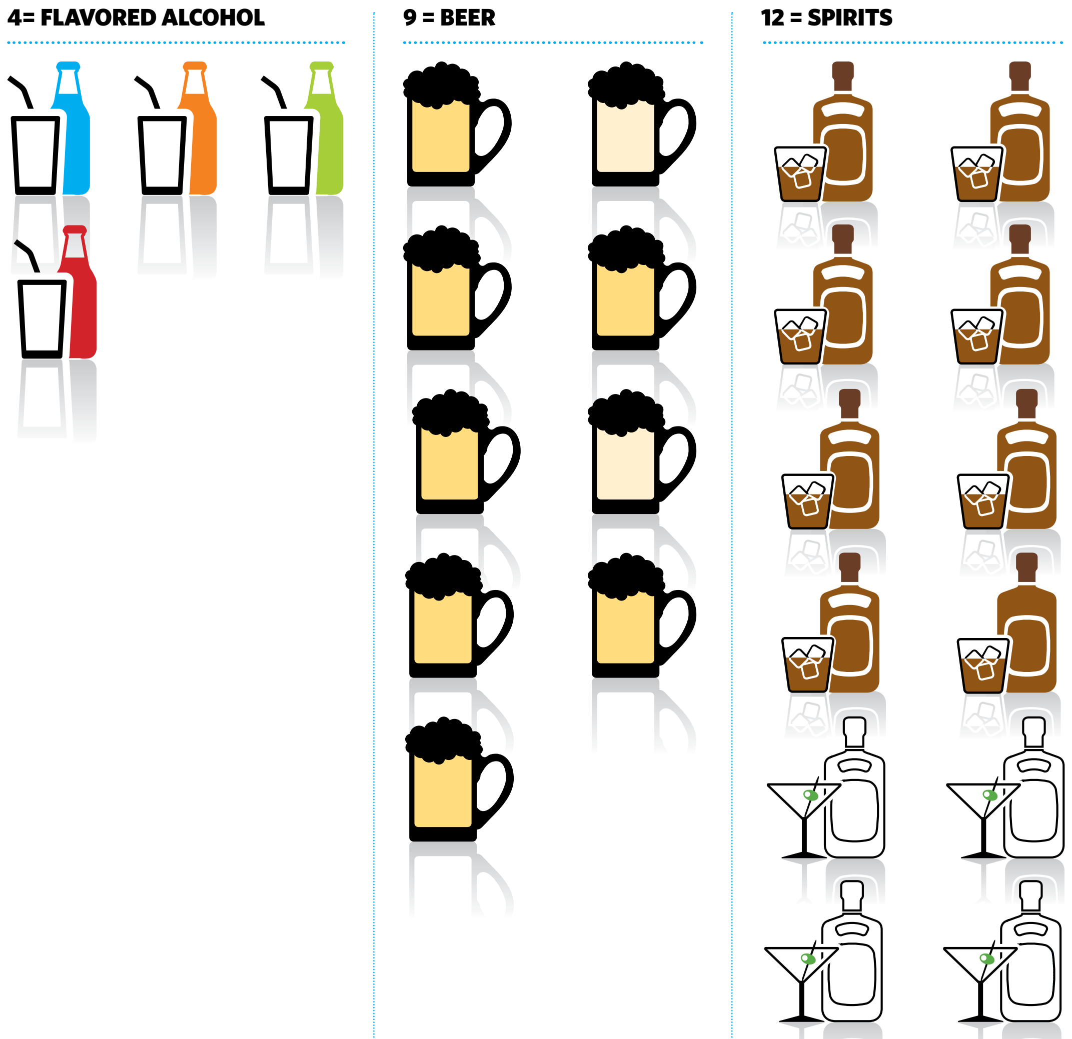
What Teens Are Drinking

JUST 25 BRANDS OUT OF A POSSIBLE 900 ACCOUNT FOR AROUND HALF OF ALL UNDERAGE DRINKING. In the first study to pinpoint alcohol brands that appeal to youth, authors from SPH and the Johns Hopkins Bloomberg School of Public Health suggest "prevention programs and policies can now target specific brands, and advocacy efforts can focus on specific companies that manufacture the products most involved in problem drinking behavior among youth."

MOST POPULAR BRANDS

27.9%	17.0%	14.6%	12.7%	12.7%	11.4%
BUD LIGHT	**SMIRNOFF MALT BEVERAGES**	**BUDWEISER**	**COORS LIGHT**	**SMIRNOFF VODKAS**	**JACK DANIEL'S BOURBONS**

OF THE TOP 25 CONSUMED BRANDS:



WAR ON WEIGHT IS "HAZARDOUS TO HEALTH"

Controversial author and 2013 William J. Bicknell Lecturer Paul Campos on reframing the obesity debate.

BY LISA CHEDEKEL

During the summer of 2013, there was much rejoicing in the public health community when the Centers for Disease Control and Prevention (CDC) released data showing obesity rates among preschoolers were falling in many states.

Heralding the news, CDC Director Thomas Frieden announced, "Although obesity remains epidemic, the tide has begun to turn for some kids in some states. While the changes are small, for the first time in a generation, they are going in the right direction."

According to Paul Campos, author of the controversial 2004 book, *The Obesity Myth: Why America's Obsession With Weight Is Hazardous To Your Health*, obesity concerns have been exaggerated for generations. The University of Colorado at Boulder law professor is a vocal critic of what he considers a self-defeating war against fat, claiming it has no basis in science and can have devastating consequences for women. In the fall of 2013, he continued his critique of America's obsession with weight at SPH, where he delivered the 2013 William J. Bicknell Lecture.

Campos argues that the health risks of obesity have been overblown by medical and public health professionals and the $50 billion a year weight-loss industry. Against a cacophony of voices calling attention to weight—from the CDC to First Lady Michelle Obama—he concludes that the health risks associated with body fat have been overestimated, save for a small minority of people who are at the extremes of body weight.

Campos spoke with *SPHere* about the hazards of the war on weight.

***SPHERE:* WHAT REACTION DID YOU HAVE TO THE CDC'S CHILDHOOD OBESITY FINDINGS?**

CAMPOS: Like most of these reports that come out about weight, I think it's important to contextualize. Obesity among preschoolers, as an indicator, was just invented a few years ago by the CDC—not based in science, but just an arbitrary definition. Basically, they took the 95th percentile of the height-weight chart from the 1960s and 1970s and treated that as a definition of childhood obesity. So it's kind of a made-up definition. And I have trouble seeing a decline in a made-up definition as a big deal.

In terms of context, rates of obesity and overweight have flattened out or declined all over the world. Much of the alarmism about obesity is based on projections that people were just going to get fatter and fatter, and it appears from the data over the last 10 to 12 years that this has just stopped. The alarmism in many ways has never been based on a sound scientific analysis, but on classic moral panic, in the sociological sense.

WHERE IS THAT "MORAL PANIC" COMING FROM?

There are several factors. One is a very straightforward economic one—there's an enormous weight-loss industry in the US. I don't think most of this is really conscious at all—people's economic interests just dovetail with beliefs. We have a very strong aesthetic preference for thinness in this society, and this gets medicalized. It becomes a sign of moral quality.

Another factor is that we have, in many ways, an eating-disordered culture in this country. Anorexia nervosa is rampant. If you look at the normal representation of a female body, it's in the second percentile. That just feeds into this tremendous anxiety about weight.

There's also a generalized anxiety about overconsumption, especially among the upper classes. Look at the popularity of the TV shows about hoarding—there's a fascination with people consuming too much.

SO THERE'S A SOCIAL CLASS ELEMENT TO THIS?

Absolutely. Obesity in our culture has become a marker for lower class status. This is something that makes people of higher economic status nervous. And since we have a culture with a lot of downward mobility at present, that anxiety gets fueled by weight. It's tied up with a lot of discriminatory beliefs and actions.

IF IT'S SO INGRAINED IN OUR THINKING, HOW DO WE FIX IT?

Well, first we have to give up on this phony notion that we somehow know how to make fat people thin. We don't. Every discussion of this subject should start with an acknowledgment that we don't know how to turn fat people into thin people.

I'm all for encouraging people of all sizes to be active and avoid eating-disordered behavior. Physical activity and nutrition are good things. What I'm not for is stigmatizing people and haranguing them about their weight. It doesn't make them thinner, and it doesn't make them healthier. It's like that old aphorism that defines insanity: Doing the same thing over and over again and expecting different results.

Teens Online: What You Don't Know Could Hurt Them

BY THE TIME THEY REACH ADOLESCENCE, most children are familiar with the perils of driving a car: they've been squeezed into car seats and strapped in with seat belts, perhaps witnessed near-collisions, and heard their parents bemoan careless drivers.

And yet when kids log on to the Internet for the first time, it's rare that they have received anything close to that level of parental guidance.

"We would never put a child in a driver's seat and just say, 'Ok, go,'" says adolescent health expert Sophie Godley. "We have constant conversations. We model behavior for them."

Not so with laptops and smartphones, which have become so ubiquitous among tweens and teens that parents and school officials are scrambling to keep up. Studies indicate that close to 80 percent of young people between 13 and 17 have cell phones, and 71 percent of 12-to-17-year-olds report using social networks. A recent study found that about one in five students between 15 and 18 say they have sent a nude or seminude picture or video—or a sexual text message—to another person.

Godley ('15), a clinical assistant professor of community health sciences, has been issuing a call to action to campus, community, and parent groups: if parents and other caregivers don't guide their children through cyberspace, with its vast trove of sexual content, they may find themselves in confusing—even potentially dangerous—situations.

"If you don't talk to your children about sex and sexuality and body image and behavior, other people will," says Godley, winner of the SPH 2013 Educational Innovation Award. "We can't compete with these messages in one 20-minute health class in ninth grade. It's not going to happen."

THEY'RE PROUD HEROES, BUT VETERANS ARE OFTEN ALSO FORGETFUL, SUICIDAL, INJURED, AND ANGRY. NEW RESEARCH IS HELPING THEM ACCESS THE CARE THEY NEED, WHERE THEY NEED IT.

BY **SHERYL FLATOW**

LYNN SANTOSUOSSO was an instructor in the Army Reserve when she volunteered to serve in the Gulf War. She was overseas for six months, and was exposed to nerve agents and chemicals while stationed near King Khalid Military City in Saudi Arabia. When she came home in June 1991, she was uncharacteristically angry, antsy, and unable to sleep. Released from active duty, Santosuosso returned to her reserve unit and also went back to work at her full-time job. Her anger turned into rage, and she was so depressed that there were mornings when she couldn't get out of bed. "I eventually quit my job, moved through a substantial amount of my savings, started drinking more, and sowed some wild oats," says Santosuosso, who left the military in 1997 when her enlistment was up. "It was like an avalanche."

New symptoms occurred, including difficulty breathing, memory lapses, gastrointestinal problems, and cognitive issues. She had suicidal thoughts. Friends kept urging her to get herself checked out. In 1996, a physician at the US Department of Veterans Affairs (VA) in Manchester, New Hampshire, diagnosed Santosuosso with Gulf War illness, but told her "it cannot be documented as such in my records, because the VA would not take the term as a legitimate diagnosis." It wasn't until 2007 that Santosuosso learned she also had post-traumatic stress disorder (PTSD); the diagnosis was long in coming because she had never disclosed her mental and emotional problems, nor the extent of her drinking. "I was afraid of the stigma," she says.

> "WE KNOW THE CAUSE OF GULF WAR ILLNESS: EXPOSURE TO MIXED CHEMICALS. THE QUESTION IS, WHAT DID THESE DO TO THE BODY AND HOW DID THAT PRODUCE GULF WAR ILLNESS?" **—Roberta White**

That's a common concern of many veterans, who too often let PTSD go untreated. And though Gulf War illness was officially acknowledged as real in 2008 by the Department of Veterans Affairs, the consensus among veterans and those fighting on their behalf seems to be that help remains elusive. "It's still difficult to get any VA to put on paper, 'This person suffers from Gulf War illness,'" says Santosuosso. "That's why there are a lot of angry veterans. I don't know anyone who has received benefits from the VA and a disability rating under the term Gulf War illness. We're not taken seriously and we can't get help."

Thanks to work being done at SPH, help might be on the way. The School has a long, mutually beneficial partnership with the VA and has been committed for many years to research designed to improve the care of veterans. In fact, Santosuosso took part in a 1996 SPH study on Gulf War illness. Now, several current studies have the potential to lead to breakthroughs in the treatment of both Gulf War illness and PTSD.

LEGITIMIZING COMPLAINTS

Of the 700,000 people deployed in the Gulf War, between 25 and 30 percent—or some 210,000 veterans—have had chronic health problems over the last 22 years. Their wide-ranging, seemingly disparate symptoms include fatigue, joint muscle pain, headaches, concentration and memory problems, gastrointestinal distress, and skin rashes.

Much of what we do know about Gulf War illness is the result of work done by Roberta White, professor of environmental health and associate dean, research. In one study, she linked pesticides to Gulf War illness; in another series of studies, she used brain imaging to reveal that people in the Gulf who were exposed to the nerve gas sarin had evidence of brain damage. "The higher the exposure, the more changes we see in the white matter of their brains," says White. "So we know the cause of Gulf War illness: exposure to mixed chemicals. The question is, what did these do to the body and how did that produce Gulf War illness? What we've done up to this point in our research at BU has been to legitimize these veterans' complaints as a physical ailment. That has led to the illness being acknowledged as a reason for disability. We are now working on systematic research on treatment."

Kimberly Sullivan, a research assistant professor who trained with White, is currently leading an interdisciplinary team of researchers from a consortium of institutions in a four-year, $5 million study of 300 veterans, to learn whether chronic inflammation in the brain is the trigger for the illness. "This study is designed to assess whether the chemicals Gulf War veterans were exposed to may have kicked off a process that causes damage to neurons that then continually activate the immune cells in the brain called microglia," says Sullivan, who runs, along with White, the congressionally directed Research Advisory Committee on Gulf War Veterans' Illnesses, which oversees research into the illness in the VA. "This can lead to inflammation, muscle pain, headaches, fatigue, and concentration problems by causing a continuous activation loop between the brain and the immune system."

FINDING A TREATMENT

Sullivan is also working on two additional studies—companion pieces, in a sense, to the larger one. All three are funded by the Department of Defense. The second four-year study, done in conjunction with the Boston VA, the Bronx VA, and Mount Sinai School of Medicine, is a treatment trial based on the premise that inflammation *will* prove to be the mechanism that triggers Gulf War illness. Veterans will be given intranasal insulin, a remedy that's been found, in small studies, to be effective in treating Alzheimer's disease. "It's helpful in reducing neuroinflammation, the signaling of those chemical messengers, and it's been shown to improve memory and attention," says Sullivan. "It also modulates cortisol levels, which have been shown to be altered in Gulf War veterans as well. We're really excited about this trial, because if we can show in the initial study that the mechanism really is inflammation, we hope that this could be a viable treatment for multiple symptoms of Gulf War illness."

The third study, a collaboration between SPH and the Boston VA, is a survey of a large cohort of Gulf War veterans that came through Fort Devens, an Army training and reservist institution in Massachusetts. This study aims to get a clearer picture of symptoms and how they change over time. The veterans have been followed and periodically assessed since shortly after the war. "It will help us determine a good case definition," says Sullivan. "That's an ongoing problem: people are using different definitions for Gulf War illness right now. What we're trying to do with these new studies is get these objective markers so that we can say, 'You have this marker, therefore you have Gulf War illness.' I think we're close to understanding the cause. Then we can develop treatments."

GETTING HELP—FROM THE COUCH

For veterans with PTSD, the treatments already exist; the problem is, vets often don't seek help. Symptoms of PTSD include flashbacks, nightmares, and eruptions of anger, often exacerbated by drinking. Fifteen years after the end of the Vietnam War, roughly 15 percent of veterans—500,000 people—still had PTSD. Even after more than a decade, there's no definitive data on the most recent operations in Afghanistan and Iraq, though screening rates suggest that between 20 and 30 percent of veterans have PTSD and/or a mild traumatic brain injury, which share many symptoms.

Yet many veterans suffer in silence, afraid of the stigma; afraid of looking weak; afraid of how it will affect future job opportunities. Another problem is logistics. Therapy requires a time commitment, which many veterans are unwilling or unable to give; often, they live so far from a treatment center that the trip would take longer than the session.

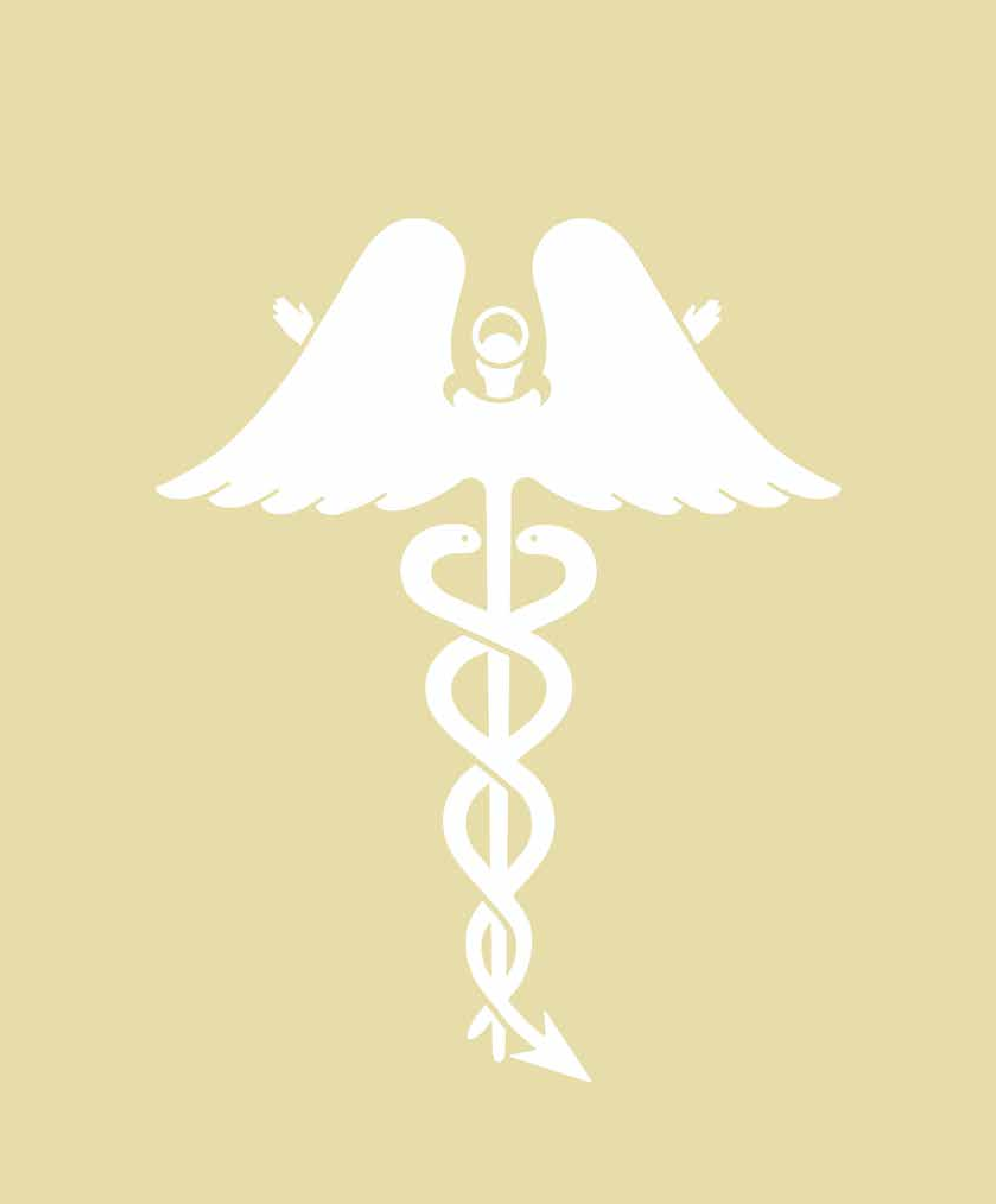
VetChange, a web-based initiative developed by the Boston VA, SPH, and BU School of Medicine, could soon give them the ability to get treatment in the privacy of their own homes. "Fewer than half of all veterans are actively enrolled with the VA," says David Rosenbloom, professor and interim chair, health policy & management. "We built this program to be totally outside that system, so we can reach as many people as possible and give them anonymity." Six hundred veterans of Operation Iraqi Freedom volunteered to take part in the initial randomized, controlled, yearlong trial on alcohol and PTSD, which was funded by the American Recovery and Reinvestment Act.

The program required a commitment of 20 minutes at the computer once a week for eight weeks. Participants were divided into two groups; the second group had to wait for the initial eight weeks to conclude before beginning. There was concern that people would drop out, but they didn't—in fact, the results were as good as "regular" therapy, with a substantial number reporting a decline in drinking. "The waiting list group, or comparison group, was not only willing to wait, but did every bit as well as the initial group," says Terence Keane, director of the Behavioral Science Division at the National Center for PTSD, and a professor and vice chair of the Department of Psychiatry at Boston University School of Medicine. "These are amazing findings."

Keane and the rest of the team are now preparing a second study. "We learned a lot from the first study," he says. "We want to make the next one more efficient and faster, and focus on the things that we think actually helped the most, like feedback and goal setting. We're also hoping to use handheld devices and mobile platforms, so people will be able to participate wherever and whenever they want to." The researchers have also been given $1.5 million in grants—from the Bristol-Myers Squibb Foundation and the VA's National Center for PTSD—to launch free public versions of VetChange.

> "WHAT WE'RE TRYING TO DO WITH THESE NEW STUDIES IS GET THESE OBJECTIVE MARKERS SO THAT WE CAN SAY, 'YOU HAVE THIS MARKER, THEREFORE YOU HAVE GULF WAR ILLNESS.' THEN WE CAN DEVELOP TREATMENTS." **—Kimberly Sullivan**

Many of the researchers involved in veterans' health issues have spent most, if not all, of their careers trying to help those who served in the military. Often, their commitment is as personal as it is professional. "When you work with a group that's been maligned for so long, it makes you want to stick with them even more," says Sullivan of Gulf War veterans. "They've waited 22 years for answers, and at this point it's become a social justice issue." Ⓢ



OBAMACARE:

THE DEVIL IS IN THE DETAIL

Ready or not, the Affordable Care Act's biggest reforms have begun to kick in. SPH experts ponder its likely benefits—and potential pitfalls.

BY **MIKE SAUNDERS** ILLUSTRATIONS BY **ANGUS GRIEG**

W**HATEVER YOU THINK ABOUT THE NATION'S NEW HEALTH CARE LAW,** it's nothing if not resilient. The Patient Protection and Affordable Care Act—sometimes called Obamacare or the ACA—has emerged unscathed from a Supreme Court battle and survived around 40 attempts by the House of Representatives to shoot it down. (Even as *SPHere* went to press, Republican lawmakers were making another effort to change, delay, or defund the ACA, leaving the federal government largely shut down.) But now comes its biggest test—the real world. Can it increase coverage, improve care, and reduce costs?

In January 2014, most of the 2010 law's provisions will go into effect. Health insurance will be mandated for all, and private insurance plans will have to meet minimum coverage standards. There will be no annual coverage limits or exclusions for users with preexisting medical conditions. Reluctant state governors have already established state-run health insurance marketplaces—or decided to let the federal government do it for them. One change that won't come into effect just

> "The most people have talked about at the policy level is this 'bending the curve' to slow the rate of growth. That is all code talk for, 'We are going to continue to spend more per capita on health care than we have.' And none of the forces now in play will actually lead to a reduction in costs." —David Rosenbloom

yet is the employer mandate. In July 2013, the government announced it was postponing by one year the requirement for firms with more than fifty employees to provide insurance coverage to workers.

For the law's backers, however, January 1, 2014 remains a moment of great promise. "We are hoping that in a very short period of time, we will see better coverage, better care, better quality of care, and then better prevention in public health for the entire country," says Howard Koh ('95), assistant secretary for health at the US Department of Health & Human Services (HHS).

CARROT AND STICK

Behind its public face, the new law's biggest benefit could be something most people will never see, according to Professor David Rosenbloom, interim chair of health policy & management. He says the law's implementation of electronic medical records and the accompanying reduction of insurance paperwork will be one of the most positive changes over time. Streamlined record keeping may increase efficiency, while rankings for readmissions, inpatient infections, and other metrics may eventually increase quality by eliminating unhelpful and sometimes damaging interventions.

Rosenbloom notes these structural changes "may translate into higher profits for providers" rather than lower prices for patients, but the ACA was packaged with two major initiatives that aim to link Medicare reimbursement payments to improved performance. One of them, the Hospital Value-Based Purchasing Program, contains a financial motivation for hospitals to improve care and cut costs—as measured by factors such as better patient outcomes, fewer hospital readmissions, and reduced frequency of certain tests and procedures. If they score well against a range of metrics, hospitals are eligible for a share of millions in incentive payments paid for by a 1-percent reduction in Medicare reimbursement.

That's the carrot. The stick comes in the form of penalties, for example, for hospitals with high readmission rates, says Carol VanDeusen Lukas, clinical associate professor of health policy & management. Hospital payments account for the largest share of Medicare spending, and Medicare is the largest single payer for hospital services. In 2009, hospital readmissions cost Medicare $26 billion.

"Say you come into the hospital because you have a heart attack," says VanDeusen Lukas, "and the hospital cares for that and you're released. If a week later, you get hit by a bus and come back to the same hospital, that is counted as a readmission." She also says hospitals will be penalized if a patient admitted for a specific procedure is discharged but then comes back to the hospital within a short time for a planned readmission as part of routine care.

One inherent challenge in applying these measurements to reimbursement is accurately measuring the behavior you're trying to affect, says VanDeusen Lukas, who directs Boston University's Safety Net ACTION Partnership II, which aims to speed the transfer of research from bench to bedside. "A second is limiting unintended consequences. There is some evidence that safety-net hospitals are disproportionately disadvantaged by readmissions penalties because, for example, many of their patients have complex medical and socioeconomic issues that make them less compliant with their medications and more likely to bounce back."

Many of these readmitted patients have chronic conditions being treated by multiple doctors, all making decisions about patient care independently of each other. The ACA aims to improve coordination by encouraging providers to combine into accountable care organizations (ACOs) to serve Medicare patients. While the government says ACOs could save Medicare close to $1 billion by reducing readmissions, Rosenbloom worries that the push for coordination might become one for consolidation, fueling an ongoing nationwide flurry of hospital mergers and practice acquisitions. In March 2013, McKinsey & Company reported that hospitals now own 54 percent of physician practices, compared to 22 percent in 2002. "I think it's big and contrary to the public interest," Rosenbloom says. "There is a lot of evidence that hospital consolidation—and particularly the elimination of competition as a result of hospital consolidation—raises prices. Large complex organizations in the health care system do not turn out to be more efficient or lower cost than smaller ones."

And that brings Rosenbloom to one of his biggest concerns with the new health care law—and the public policy conversations that have surrounded it.

"There really is not yet a strong constituency for actually lowering the cost of health care," he says. "The most people have talked about at the policy level is this 'bending the curve' to slow the rate of growth. That is all code talk for, 'We are going to continue to spend more per capita on health care than we have.' And none of the forces now in play will actually lead to a reduction in costs."

LEGAL RIGHTS

It seems like ancient history now, but well-intentioned plans for a federally administered, one-payer insurance system with universal access flitted around Congress in the early days of the health care debate. These proposals were quickly scrapped as too sweeping, too extreme, too radical a change from the existing health care delivery infrastructure.

And so we find ourselves, says Wendy Mariner, a professor of health law, with an entrenched private industry now subject to increasing levels of federal regulation to ensure the goals of a massive public program.

"I think what is particularly interesting about this is that by getting everybody in the system, we wanted to turn what is internationally known as a human right into a legal right in America. We also, for political and policy reasons, wanted to retain the private insurance industry," she says. "But it is far more difficult to construct and implement a law that requires private industry to conform to public goals than it is to simply have a public program with one set of rules."

In 2012, Mariner co-organized an amicus curiae brief signed by 104 health law professors that supported the

HHS in the Supreme Court case that upheld the constitutionality of health insurance mandates.

Mariner doesn't hold back when asked her views on the sources of some of the cost escalation. "The problem really is that medical care in the US is ridiculously expensive—and unnecessarily so—at least for what we get in quality. We pay providers a lot more money in this country than they get paid anywhere else, and every other developed country seems to be doing just fine in terms of overall quality of care and patient outcomes."

OBAMACARE, TAKE TWO

Health care is now the world's largest industry, according to McKinsey analysts, with a value three times greater than the global banking sector. After more than 20 years of steady increases, health care expenses now represent 17.6 percent of US gross domestic product—nearly $600 billion more than the expected benchmark for a nation of the United States' size and wealth.

Removing incentives to order multiple tests should bring costs down, as should discouraging readmissions in favor of coordinated care. However, neither of these measures actually changes the way hospitals set prices for care delivered to private insurance patients.

Few aspects of health care are as mystifying to consumers—or regulators—as the way hospitals set prices for services. While Medicare reimbursements hew tightly to actual costs plus a slim profit, pricing for procedures covered by private insurance is a high-stakes free-for-all. The same X-ray that Medicare economists say should cost $20 can be priced at $200 at the same hospital for non-Medicare patients, or $250 at a different hospital in the same city. Prices for a generic Tylenol tablet can be 100 times higher in a hospital than in a neighborhood drugstore; charges for the same knee replacement can be twice as much at one hospital than at a crosstown competitor.

VIEW FROM HHS

Assistant Secretary for Health **Howard K. Koh** ('95) believes there are two lesser-known aspects of the ACA that will likely have an outsized impact on the lives of thousands of US residents—an end to coverage limits and new minimum health benefit standards.

"In the past, medical bankruptcy was a major concern for many people," says Koh." As a physician, I regularly saw patients who were struggling to deal with their illness, but also equally concerned about whether their coverage would be taken away from them because of annual limits on coverage or lifetime limits on coverage."

Beginning in 2014, says Koh, those limits will be banned, substantially reducing the risk of medical bankruptcy. "People can finally focus on getting better and have the security of insurance coverage that is strong and affordable for them."

All insurance coverage plans, both private and those offered by state-run insurance exchanges, will be required to meet minimum essential health benefit standards in ten categories, including inpatient services, outpatient care, emergency services, mental health, and social services.

"This is a way of putting forward a comprehensive package of items and services—what we call essential health benefits for all people—on our insurance coverage starting next year," Koh says.

For premiums to remain stable, the pool of new health insurance applicants needs to include the young and healthy, not just the elderly or infirm. To bring as many people as possible into the new exchanges, HHS has embarked on an intensive outreach program.

"We now understand that health is much more than what happens to you at the doctor's office," says Koh. "Health starts where people live, labor, learn, play, and pray. And in public health, there is the theme of the social determinants of health. The Affordable Care Act recognizes that in order to really keep people healthy and keep communities healthy, we need to use that approach."

"The problem really is that medical care in the US is ridiculously expensive—and unnecessarily so—at least for what we get in quality. We pay providers a lot more money in this country than they get paid anywhere else, and every other developed country seems to be doing just fine in terms of overall quality of care and patient outcomes."
—Wendy Mariner

In 2006, Massachusetts became the first state in the nation to pass a law mandating health insurance; six years later, legislators were forced back to the drawing board to try to wrangle costs. In late 2012, the state's Health Care Cost Containment Law went into effect with the goal of slashing an estimated $200 billion from state health care costs over 15 years. At the forefront are public health priorities with programs to reduce rates of preventable chronic diseases such as obesity, diabetes, and asthma. These measures are backed up by hefty fines for hospitals whose costs rise faster than the growth rate of the state's economy. To avoid penalties, most doctors and hospitals will need to cut their overall costs by half.

So it's reasonable to assume, says Mariner, that the ACA will require its own second act to fulfill the "affordable" part of its name, despite the upcoming changes. What may have been unreasonable were predictions that the ACA would achieve the improbable trifecta of expanding coverage and improving quality while reducing costs.

"It works according to theory. What doesn't make sense to me is the expectation that it will bring prices down as much as we think, because people will normally charge whatever they can—particularly in an area in which people have very little understanding of what the service actually costs," she says. "A provider can charge whatever he wants because we don't know what it takes to have a particular kind of operation or a particular diagnostic test. If we went into a grocery store or a deli and they charged us $160 for a salami sandwich, you'd immediately know that makes no sense."

FIGHTING FATE

Getting a genetic test is easy; knowing what to do with the results is not. Catharine Wang wants to turn information about disease risk into positive action.

BY **LISA CHEDEKEL** PHOTOGRAPHY BY **KELLY DAVIDSON**

It was the genetic revelation that grabbed global headlines: actress Angelina Jolie's public disclosure that she had undergone a double mastectomy after testing positive for a rare mutation of the BRCA gene that put her at risk of developing breast cancer.

As the media scrambled to cover all the angles—her mother's death from ovarian cancer at 56, the impact on her family, her aunt's subsequent death from breast cancer—Catharine Wang, associate professor of community health sciences, was quick to put Jolie's decision into a larger genetic context:

"You've got all these people out there, dealing with this new frontier of genomic sequencing. They can be like Angelina Jolie, with a clear family history and a BRCA-1 variation, where the decision to take action can save their lives," says Wang. "But usually, it's not that simple. Patients may not be obviously high or low, in terms of risk—they're kind of in a gray area. What do they do with that information; how do they process it?

"I've never believed that genetic testing is as easy or straightforward as some people might make it out to be. I've seen the 'deer in the headlights' look too many times."

Wang, a behavioral scientist and expert in public health genomics, has spent more than a decade watching the genetic-testing market explode, to the point where consumers can now buy a $99 kit to find out if they or their offspring are at risk for several dozen health conditions. A 2012 study by UnitedHealth Group, Inc., estimated that spending on genetic testing could more than triple by 2021, from about $5 billion to beyond $15 billion annually. And that was before the Supreme Court's June 2013 ruling that genes can't be patented.

"I care about patient outcomes. I'm not so concerned with how scientists come up with the risk estimates—I'm more interested in what patients do with them," says Wang. She's not trying to halt the proliferation of genetic testing, but aims to improve the communication and understanding of risk for patients, with the goal of better health outcomes.

"I think if we're going to be offering that information, we'd better have some idea of how people are going to react to it."

BELIEFS AND BEHAVIORS

Wang first noticed the "deer in the headlights" phenomenon 20 years ago, as a graduate student researching her master's thesis at a clinic in Toronto; there, she watched women being tested for the newly cloned BRCA-1—or breast cancer 1, early onset—gene.

She saw "the gamut of reactions—from women who would fall apart, to women who would discount it completely. A lot of the time, they just didn't know what to make of the information."

Two decades later, that translation of information is even more complicated, because genetic testing is not just available only to people with a family history of disease, but—at a price from commercial companies—to a broad population. The emphasis in genetic counseling has been on high-risk patients, not those who have no family history, she says.

"If I were to give you two numbers—one based on behavioral risk factors, and one based on DNA—how do you weigh them?" asks Wang. The rise in genetic testing has increased the odds that people may get conflicting risk information.

Research has indicated that DNA risk information carries great weight for patients—an insight that raises questions about whether its disclosure will lead people to try to mitigate the risk proactively, by making lifestyle changes, or instead will foster a kind of genetic fatalism. In reality, an individual's chance of contracting any disease typically involves a complicated interplay of genetics and lifestyle choices, with a lot of unknowns. That is the muddle that Wang is trying to navigate, positioning herself in the middle of the doctor-patient conversation to figure out "how to get people to do what we want them to do" to be healthy.

Her work is providing clues about the links between beliefs and behaviors. One study she led found that many women were unaware or skeptical that cancer risk was modifiable through lifestyle changes. A majority of women surveyed ranked heredity as the most important causal factor for both breast and colorectal cancer. Previous studies estimate that up to 38 percent of breast cancers and 45 percent of colon cancers are preventable through healthy eating, exercise, and weight management.

Another study led by Wang suggested that emphasizing a genetic link for obesity may decrease a person's motivation to engage in weight-management behaviors. In that study, participants who endorsed the notion that obesity is inherited were less likely to report engaging in exercise or healthy eating.

Wang is now spearheading research that tracks how participants respond to actual genetic information, not hypothetical scenarios. In a study funded by the National Human Genome Research Institute, she and other researchers are examining behavioral changes among patients who are told either their genetic risk for obesity, or their obesity risk based on lifestyle factors. The study aims to further the understanding of how people might respond differently to genetic versus non-genetic risk information.

SHARING RESULTS—OR NOT

Wang is also examining whether people who undergo genetic testing share those results with others, especially their doctors.

Preliminary survey findings suggest that while consumers overwhelmingly talk about their results with family members, a relatively small percentage show them to health care providers. According to Wang, the usefulness of personal genetic information hinges, in part, on the extent to which consumers share the findings with medical professionals.

"The thought has been that the people who take these tests would be more involved in their medical care. But it's more complex than that," she says. "We need to figure out what's behind the decision to share or not share genetic results, and how we can support the people who need it."

Wang is concerned about a lack of what she calls an "infrastructure" for recording information—for example, the absence of a standardized method for collecting family history information.

During the long-running Family Healthware Impact Trial, she's helped to evaluate a self-administered, web-based tool that assesses family risk for six common diseases and provides personalized prevention messages. In one study published in fall 2012, she found that people with a family history of certain diseases, including heart disease and diabetes, often underestimated their risk for developing them, even after completing a risk assessment and receiving personalized prevention messages. While patients who used the Family Healthware tool were shown to have an increased risk awareness, their estimates still remained lower than their actual risks.

Wang wants to develop more user-friendly ways of collecting family health history information, to help overcome barriers in literacy and computer skills. She is collaborating with clinicians at the BU-affiliated Boston Medical Center and computer scientists at Northeastern University on a tool that makes use of a computer-animated character to ask questions and record patient information. The goal of the project is to enable a diverse patient population to use virtual counselors to collect family health histories, which could be imported into the electronic medical record.

"Family history is so important," says Wang. "Figuring out how to collect it, record it, give people a skill set to talk about it with their doctor—it puts them in a position where they can better manage their own care."

> **"For some reason, whether it's scientists or the media or both, DNA information comes across as so much more important. But if people think that doing X, Y, and Z isn't going to matter because of their DNA predetermination, we're looking at a major public health communication challenge."**

BUT SHOULD WE DO IT?

Months after Angelina Jolie's disclosure, genetic testing is still making headlines worldwide, with some clinics reporting an increase in requests for BRCA testing. That doesn't worry Wang, who says the test is an important tool for women at high risk of breast and ovarian cancer.

But Wang does worry about the public perception of genetic testing, noting that the media tend to focus more on genetics than on lifestyle factors in discussions of some health risks.

"There are so many factors that may inform a person's risk," she says. "For some reason, whether it's scientists or the media or both, DNA information comes across as so much more important. But if people think that doing X, Y, and Z isn't going to matter because of their DNA predetermination, we're looking at a major public health communication challenge."

Wang advocates for more public education about genetics, especially as the science races ahead, with some researchers now striving to do whole-genome sequencing of newborns. While she applauds efforts to unravel and interpret DNA for disease prevention, she is concerned the public health system isn't equipped to guide patients.

"Just because we can do it, doesn't mean we should do it," she says. "At this point, we don't have the infrastructure in place to deal with all this information—our primary care doctors aren't trained; we don't even have the family history standardized in an easy-to-use format."

With head-spinning advances in genetic testing, Wang is anxious to help fill the void in knowledge about how to translate that information into positive health outcomes.

"In theory, I think the progress we've made is really exciting," she says. "But if you came up and told me you wanted to sequence my kids? Not a chance. It's one thing if my child was sick with a rare condition that doctors couldn't diagnose. But that's very different than wanting to screen for any condition that might not manifest until adulthood.

"Until we get a better handle on how to interpret the meaning behind the genetic variation, the information alone is of little value." Ⓢ

→ **OP-ED**

RETHINKING JUVENILE JUSTICE

Youth with substance abuse problems are often left in the hands of the courts—public health professionals should be doing more to help them.

BY **DAN MERRIGAN**
ASSOCIATE PROFESSOR IN THE DEPARTMENT OF COMMUNITY HEALTH SCIENCES

Substance use is particularly pervasive and frequently untreated among adolescents. Substance use disorders typically begin during adolescence and young adulthood. In fact, 90 percent of all adults with dependence started using under the age of 18; half under the age of 15. The scope of the problem is concerning: 1.8 million teens need treatment; only 1 in 16 actually receive treatment; and fewer than half of those in treatment are retained for 90 days.

Though approximately 343,000 young people are arrested annually for drug- and alcohol-related crime, there are no national standards for identifying who they are or for getting them the treatment and recovery services they need. Our current system is often ill-prepared to deal with substance-abusing youth and the problems they present—the services it delivers are frequently fragmented and uncoordinated, and publicly supported programs are chronically short of funding.

Our country's juvenile courts have become the leading service delivery system for children and youth with substance abuse problems, not by choice but necessity. Substance abuse in the young leads to crime and many other high-risk behaviors. Research shows that young people who use drugs and alcohol are more likely to drop out of school, get into fights, break the law and get arrested, and engage in unprotected sexual practices that often lead to disease and unintended pregnancies. Substance abuse among our young is not just a juvenile justice or public health issue—it strikes at the underpinnings of our society.

A NEW APPROACH

Promising evaluation results indicate that a multisystemic continuum of care approach—combining prevention with evidence-based intervention and recovery supports, a system of graduated sanctions coupled with incentives for change, and community involvement—is better than traditional justice approaches. One such initiative is Reclaiming Futures, which since its founding in 2002 by the Robert Wood Johnson Foundation has expanded from a ten-site demonstration effort to cover 37 sites in eighteen states. Reclaiming Futures is not a program. Rather, it is an organizational change and system reform that uses a six-step model (initial screening, initial assessment, service coordination, initiation, engagement, and transition) to interact with the community and improve outcomes for youth in the justice system. In each Reclaiming Futures community, judges work with local leaders to reframe the way law enforcement, courts, probation, detention facilities, treatment providers, families, schools, and the community cooperate. Under judicial guidance, the initiative pulls together leaders and resources in a collaborative effort to mobilize the community and help troubled young people succeed. Reclaiming Futures is a tested model for this approach (you can find out more about it at www.reclaimingfutures.org).

THE ROLE FOR PUBLIC HEALTH

Many of the competencies that define public health-applied scholarship are at the heart of juvenile justice systems reform. The adoption, implementation, and sustainability of Reclaiming Futures and other evidence-based innovations require dynamic, community-based participatory engagement strategies. In turn, they should be coupled with thoughtful consideration of empirically tested public health assessment, communication, advocacy, and policy intervention design frameworks. Descriptive and analytic epidemiology illuminates the magnitude of adolescent substance use and criminogenic activity and patterns of disparities among court-involved youth. Ecological assessment encourages the identification of social factors and other conditions that contribute to childhood trauma and put youth on the path to drug use and delinquency.

More practice-based public health leadership is needed to promote and translate research, and to advocate for effective policies that reduce delinquency, eliminate disproportional minority contact, and achieve better outcomes for court-involved children. A comprehensive strategy viewed through a public health lens and informed by systems and implementation science will lead to improved outcomes for these youth—and more cost-effective use of scarce resources—through a process of multidisciplinary collaborative decision-making, better targeting of treatment and recovery needs in service provision, the adoption of evidence-based practices, and improved risk reduction.

90
PERCENT OF SUBSTANCE DEPENDENT ADULTS STARTED USING UNDER AGE 18

50
PERCENT OF SUBSTANCE DEPENDENT ADULTS STARTED USING UNDER AGE 15

1.8M
TEENS NEED TREATMENT

1 IN 16
TEENS WHO RECEIVE TREATMENT

__Dan Merrigan__ is a leadership advisor for Reclaiming Futures. A former Jesuit priest, he was the founding director of the New England Alliance for Public Health Workforce Development.

Dear Friends,

Thank you for supporting Boston University and the School of Public Health. The SPH campaign, Investing for a Healthier World—part of the University-wide Campaign for BU—has increased philanthropic support from our alumni, students, parents, friends, faculty, and staff. Most importantly, the gifts listed on the following pages are helping to advance the School's mission of outstanding public health education, applied research, and service.

We have raised more than half of the School's $40 million goal, and many new contributors have joined in to support this effort. In May 2013, the graduating class participated in the campaign by designating their class gift toward a scholarship. Trustee Kenneth J. Feld (SMG'70) sponsored the "Battle of BU" challenge among all BU schools and colleges to increase participation in annual giving across the University. We are proud to say that our alumni participation increased by 14 percent, earning us second place in the challenge and a $25,000 bonus gift for the SPH Annual Fund. During the course of the year, over 500 alumni across the country turned out to attend events hosted by Dean Meenan and other faculty members in San Francisco, New York, Chicago, Washington, D.C., Baltimore, and Boston.

Our top campaign priority—supporting students and faculty—has inspired new leadership gifts. Here are a few examples:

- An endowed Community Scholars fund was established through the generosity of Blue Cross Blue Shield of Massachusetts. This is the fourth endowed scholarship gift we've received since the start of the campaign.
- Charles Donahue, a former adjunct professor and parent of a SPH alum, made a gift to underwrite a speakers' forum that will feature SPH faculty and stimulate networking opportunities among our students and alumni.
- Friends and family of Ted Colton, chair emeritus of epidemiology, launched a fellowship fund for doctoral education in the Department of Epidemiology to celebrate Ted's eightieth birthday.

These gifts demonstrate the spirit of commitment and gratitude among our SPH community members and the growing momentum of the campaign. Every gift—from annual to endowment support—makes a difference as we work to improve the health and well-being of vulnerable populations at home and abroad. Thank you again for your generous support of Boston University and the School of Public Health.

Sincerely,

Jeannine M. Rivet

Jeannine M. Rivet ('81)
Chair
Dean's Advisory Board, Boston University School of Public Health
Executive Vice President, UnitedHealth Group

Dean's Advisory Board Appointments

ELIZABETH A. OLEK ('02)
CLINICAL DRUG DEVELOPMENT CONSULTANT

When Elizabeth A. Olek studied for her Master's in Public Health, she was doing something that might have been tough at many other institutions. "The School of Public Health allowed me the flexibility to get a degree while I was working during a fellowship," she says. "That is something that I would have not been able to do at many other schools."

Now a member of the School's advisory board, she sees other areas where her alma mater can distinguish itself.

"The School has great opportunity for growth, particularly in the area of pharmaceutical liaisons and other specializations, which will differentiate it from other schools."

Olek was formerly chief medical officer and senior vice president of clinical development for Achillion Pharmaceuticals. Before joining Achillion, she held senior positions at Novartis, InterMune Inc., and Genetics Institute/Wyeth Research. Olek is also a member of SPH's Pharmaceuticals Program External Advisory Board.

PHILIP REILLY
PARTNER AT THIRD ROCK VENTURES

Philip Reilly is exploring ways that the tools of molecular biology can be adapted to help lower diagnostic and treatment costs for infectious diseases.

"We live in a world that is both very big and very small," says Reilly, a venture partner at Third Rock Ventures, where he focuses on nurturing transformational companies dedicated to breakthrough treatments for genetic disorders. "The public health community faces an enormous challenge to extend and implement technologies currently only available to the richest 10 percent of the world's population. For the foreseeable future, there will be a vastly expanding role for public health schools, and I look forward to helping extend the reach and impact of the School of Public Health."

A widely published author and board-certified clinician, Reilly is a trustee of Cornell University, has twice served as president of the American Society of Law, Medicine & Ethics, was a founding fellow of the American College of Medical Genetics, and is a long-serving American Society for Human Genetics board member.

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Donor support is critical to ensuring that the University maintains its rigorous standards of academic excellence, recruits and retains the best faculty, and educates the highest-caliber students. On behalf of the dean, faculty, staff, and students of SPH, we thank all alumni and friends who have invested in our mission.

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WHY I GIVE

“SPH will remain in my heart as the place where—at the age of 38—I finally learned how to think. The reason? The professors, even more than the course content. It was a young school, and we were all pioneering together. It exuded a family atmosphere, and the professors were friends and mentors. There were so few of us. How perfect that Founding Dean Norman Scotch always called us his ‘first born.’

My first lesson in how to think came from Professor Leonard Glantz, whose first words in our first class were, ‘How much is a leg worth?’ We went on from there, with Professor George Annas tweaking our ability to solve problems and form our own attitudes.

Why have I included the School in my bequests? Other than considering for my two grandchildren, I absolutely must provide a hefty portion of what I will leave so that others will also learn how to think. Times have changed, but we need to foster thinking that leads to creativity, ideas, and devotion to making this a better world.

I hope that those graduates who read my reflections will consider bequests to the School. Many of us never got jobs that made us financial millionaires, but our education made us another type of millionaire. We need to share this with others. We need to set aside a portion, however much, for the School that taught us how to think.”

P. O'Dea Culhane Coughlin

TO LEARN MORE ABOUT GIVING, PLEASE VISIT SPH.BU.EDU/GIVING, CALL 617-638-4658, OR EMAIL SPHDEV@BU.EDU.

P. O’Dea Coughlin (SON’73, SPH’79) studied at SPH while working as a NSG coordinator for surgical clinics at Peter Bent Brigham Hospital, a forerunner of Boston’s Brigham & Women’s Hospital. She has served on SPH’s alumni and visitors boards. A loyal donor, Coughlin has included the School in her will.

CHITOSE SUZUKI

DEAR DONOR

Every year, students write donors to thank them for their generous gifts and describe how the support has helped change lives.

Kate Jackson's letter starts with a seemingly simple statement: "This scholarship has helped provide me with the invaluable opportunity to attend the program as a full-time student." It has been "a gift," she writes, to be able to do more than just study and attend classes. Thanks to the scholarship, Jackson ('14) has been able to meet with distinguished guest speakers, volunteer as a peer tutor and student ambassador, and serve as president of the student-led Health and Human Rights Caucus. Jackson plans a career in health policy advocacy and writes, "The MPH program is preparing me for a career where I will make a real difference."

Kate Jackson ('14) received an award from the Outstanding Scholars Fund, which supports a student in the top 10 percent of the incoming graduate class. The donor to whom Jackson wrote asked to remain anonymous.

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CHITOSE SUZUKI

DEAR DONOR

Every year, students write donors to thank them for their generous gifts and describe how the support has helped change lives.

Anthony Akinbami ('13) trained as a doctor in Nigeria. It was at medical school, he tells the donor who supported his scholarship, that he began to realize that "a number of the leading causes of ill health and death in our communities were preventable." He came to SPH to make a difference.

His degree complete, Akinbami is ready to go back to Nigeria to "contribute to the practice of rigorous research into the determinants of prevalent diseases in that region, with an emphasis on HIV/AIDS." In his letter, Akinbami reflects: "This journey that started about twenty-one months ago would not be possible without your generous contribution, and for that I am immensely grateful. I hope that I can utilize the wealth of knowledge and experience I have received here at SPH to positively impact the health and lives of a countless number of people, both back home and abroad."

Anthony Akinbami ('13) received the Jenny Huddart Scholarship, named in honor of the late SPH adjunct professor and international health expert. The annual scholarship supports students concentrating in international health. Akinbami wrote to Joyce Lyons to thank her for her support.

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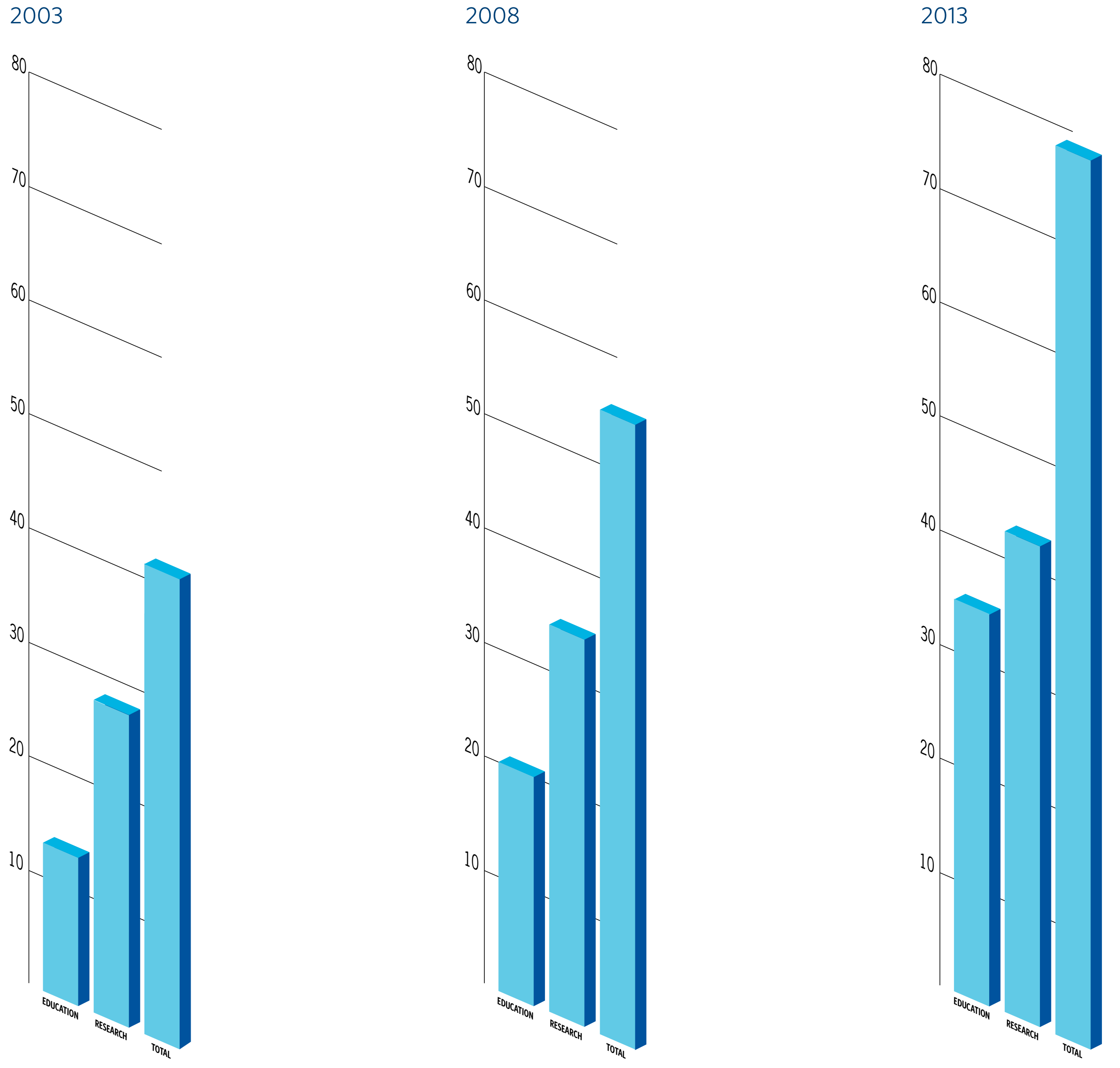
BY THE NUMBERS: A TEN-YEAR PERSPECTIVE

INCOME

(IN MILLIONS)



Income	2003	2008	2013
Education			
Tuition & Fees	$13,821,780	$20,533,117	$35,697,403
Other	$ 150,000	$ 574,450	$ 174,669
Research			
Direct Cost	$24,136,925	$28,529,196	$35,308,799
Indirect Cost	$ 4,492,990	$ 6,614,749	$ 8,477,288
Total Income	$42,601,695	$56,251,512	$79,658,159

People	2003	2008	2013
Full-Time Faculty	147	154	150
Degree Students	565	663	1,027
Student Scholarship Program	$1,448,160	$2,165,856	$7,742,094

Boston University School of Public Health

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