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**Changing the course
of public health**

**Boston University School of Public Health
Dean's Report 2010–2011**

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ON THE COVER: Roberta White, professor and chair of environmental health at the BU School of Public Health, is credited with research that helped trace illnesses among veterans of the first Gulf War to toxic exposures. As associate dean of research at the school, Dr. White stresses work that tackles real-world problems and that uses science to make a direct impact on people's lives.

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Boots on the Ground:

Our Faculty, Alumni and Students Make a Real-World Impact

Often I am asked: what makes Boston University School of Public Health unique, compared to other schools?

Since the School's establishment in 1976, our focus has been on making direct, measurable improvements in the lives of vulnerable populations — from residents of rural African villages, to those living in Boston public housing, to the hundreds of thousands of veterans returning home from war. BUSPH faculty, students and alumni are all committed to this endeavor: Not just to research and resolve public health problems on a theoretical level, but to design and implement programs that will actually affect the lives of people on the ground.

We have 'boots on the ground' in Boston, across the country and all over the world, working to solve problems ranging from obesity, to childhood malaria, to care for people with disabilities, to veterans' illnesses. As you will read in the following pages of the 2011 BUSPH Dean's Report, research by our faculty has changed public health practice and policy in myriad areas: from ensuring that veterans of the first Gulf War receive compensation for illnesses related to exposures to toxins, to helping people understand genetic risk factors, to saving newborns' lives in resource-poor countries by changing the standard practice of umbilical cord care.

Our alumni are scattered all over the globe, making an impact from perches ranging from non-profit organizations working out of remote health outposts, to the top echelon of the health insurance industry — all the way to the White House.

Through the school's practicum experience and opportunities to join faculty in research projects, our students also are afforded a chance to have a direct impact on public health issues in underserved communities. Students are helping to solve a mysterious epidemic of kidney disease in Nicaragua, tackle health problems unique to lesbian and gay communities, and track sources of pollution in urban neighborhoods.

This boots-on-the-ground approach is what makes BUSPH unique — and will, for generations to come. I am pleased to be able to acknowledge in these pages some of our faculty, alumni and students who are producing lasting, meaningful change — as well as the donors who are helping to make their impacts possible.

Robert F. Meenan, MD, MPH, MBA
Dean

Catharine Wang: Genetic Risk

At the Intersection of Beliefs, Behavior and Genetics

BY SHARON BRITTON

The Boston University School of Public Health has a diverse faculty that includes well-known researchers in fields ranging from environmental health to epidemiology to health policy and ethics. The focus of BUSPH teaching and research is on practical, passionate problem-solving that seeks to fix systems and change behaviors that cause illness and injury. Some of the school's researchers have prompted profound policy changes, such as the establishment of a nationwide standard on blood-alcohol levels for drivers, and programs that are saving newborns' lives in Africa. Here are some of their stories.

The cloning in 1994 of the breast cancer gene BRCA-1 was a cause for excitement in the medical profession. Clinicians were suddenly optimistic that women who were identified as having an elevated genetic risk for the disease would benefit from intensive surveillance, or from potential prophylactic treatments.

But as a graduate student working on her master's thesis in health behavior at the time, Catharine Wang, MSc, PhD, had another, more nuanced view. She had sat in on hundreds of doctor-patient sessions in which women were counseled about their genetic risk profiles and had watched as the women tried to absorb the information.

"Some patients would get more and more glassy-eyed. Some would become increasingly upset," she recalled. "Others would begin to focus on what the risks meant for their daughters." No two women would digest the information in the same way. And all of them faced myriad subsequent decisions with which they struggled.

The experience set the course for Wang's professional life.

"Risk communication was already interesting to me," she explained. "But this showed me that there were many challenges involved in communicating complex genetic risk information in a way that people could understand and use to make informed decisions. . .

"We knew very little about how people processed the information they were receiving, or about why people might respond to genetic risk information differently," she said.

Now, as an assistant professor of community health sciences at Boston University School of Public Health, Wang is conducting research to help understand how people perceive genetic risk, and what that means for public health.

She is determined to figure out better ways to communicate genomic information to patients about a variety of diseases, and to help people make better health choices as a result.

In 2010, Wang and colleagues published the results of a survey in the journal *Cancer Causes and Control* that found the vast majority of 439 healthy women ranked heredity as the most important causal factor for both breast and colon cancer — 84 and 78 percent, respectively. That strong belief in heredity was evident despite past research showing that about 38 percent of breast cancers and 45 percent of colon cancers could be prevented through a combination of exercise, weight management, and healthy eating.

The study demonstrated "the variability in the causal beliefs women have about breast and colorectal cancer," Wang and her co-authors wrote. "Yet, women must first endorse that lifestyle behaviors, such as diet and physical activity, play a role in the onset of these cancers before they actively take preventive action to reduce their risk."

With a grant from the National Genome Research Institute, an arm of the National Institutes of Health, Wang is now delving deeper into the genetic belief system, hoping to learn whether providing information to patients regarding obesity risk is clinically useful.



"This study will give participants risk information based on genetics and other factors," she said. "We are going to be able to tell whether the genetic information adds value to traditional risk information that people typically get about obesity."

Wang said there is still much to unravel about how people view genomic information. It is possible, she postulates, that her research might identify different subtypes of people: those who tend toward genetic determinism, those who understand that genes and lifestyle together play a role in health, and those who believe they can control their health completely through lifestyle.

"We are trying to see whether there are certain clusters of people, which will help us identify who is at greatest risk of potentially misinterpreting this information. Then we can develop interventions tailored to these subtypes," she said.

Wang is also principal investigator on a National Cancer Institute-funded study to examine the impact of genetic and environmental risk information on colorectal cancer.

Wang's research comes at a time when health consumers are starting to be bombarded with advertising about products, medicines and genetic tests that seek to cash in on the interplay between genes and lifestyle. Particularly worrisome to her is the emergence of over-the-counter genetic testing kits, such as one introduced last year by Pathway Genomics. Intended for sale at Walgreens, the kit was pulled from distribution in the wake of pressure from the FDA.

"The problem is that you have something that looks diagnostic, so people think they can make medical decisions based on it," said Wang. "But the data haven't been demonstrated to be valid. We just don't know the clinical utility of this information."

Though still early in her career, Wang already has been recognized for her work. In 2010, she received a Merit Award from the National Institutes of Health for her service on the National Cancer Institute's PDQ Cancer Genetics Editorial Board. In 2009, she was named a Boston University Peter T. Paul Career Development Professor.

The progress of her research so far is cause for optimism, she said.

"In 15 or 20 years, I hope we are at a point where we have learned how to use genomic information to personalize disease treatment and prevention, so that public health can help people make better decisions," she said.

“In 15 or 20 years, I hope we are at a point where we have learned how to use genomic information to personalize disease treatment and prevention.”

George Annas: The Ethics of Health Care

Father of Patients' Rights

Pulls No Punches on Ethics

BY LISA CHEDEKEL

George Annas reaches into a crammed bookcase in his office and pulls out a neatly bound, 165-page document.

The Genetic Privacy Act, written by Annas and two colleagues at the Boston University School of Public Health, was supposed to become law 16 years ago, when it was first proposed for federal action. Instead, the government that had asked Annas and colleagues for a detailed policy on how DNA should be used opted not to codify those protections in law.

That doesn't bother Annas, professor and chair of the BUSPH Department of Health Law, Bioethics & Human Rights, who is used to having his ideas kicked around for years — even decades.

“You don't want rich people living off poor people who are selling body parts to stay alive.”

As one of the country's leading medical ethicists, he wields influence as much through the debate generated by the issues he tackles, as through the way his ideas materialize in public policy.

“The federal government wanted a standard on genetic privacy, so we drafted one. Then they got nervous and decided, well, they didn't really want it,” Annas recounted. “Now it's 2011, and the issue is still being debated. We've had a major impact on that discussion.”

The privacy of DNA information, which Annas dubs an individual's “future diary,” is just one of hundreds of issues that the graduate of Harvard's law and public health schools has taken on in the last 35 years, since he wrote his first book, *The Rights of Hospital Patients*. Seventeen books on which he was author or editor, and more than 300 articles, have followed.

Patients' rights, especially those regarding informed consent, have remained Annas's passion; he is known in academic circles as “the father of patients' rights.” He has weighed in on nearly every major ethics issue related to medicine — from human experimentation to torture to prison hunger strikes.

His brain never shuts off, he admits. Ask him about his hobbies, and he waves the question off.

“*This is fun*,” he says. “I love this stuff.”

Then, reaching for an answer, he adds, “My son is trying to teach me how to cook. How's that?”

Annas is known as a pull-no-punches speaker and writer who comes down hard on policies that compromise patient safety or infringe on human rights. He is disturbed that medical ethics have “totally broken down in this country,” to the point that physicians have lost their professionalism and been transformed into “employees abiding by their employers' values,” rather than healers tending to the sick.

Among his most well-known barbs is this line from 2005, pertaining to a controversy over whether egg donors should be compensated by stem-cell researchers: “You don't want rich people living off poor people who are selling body parts to stay alive.”



Annas, who was named a William Fairfield Warren Distinguished Professor at BU in 2009 — achieving the highest honor bestowed upon senior faculty members involved in scholarship, research and teaching — is widely credited with bringing an ethics focus to the university's medical campus.

Annas came to BU in 1972 as director of the Center for Law and Health Sciences at the law school. Before the School of Public Health was established in 1976, he and colleague Leonard Glantz, also a professor of health law, bioethics, and human rights, began teaching an ethics course, Rights of Patients and Their Providers, to students at the medical school. The class has been integrated into the standard medical school curriculum.

To the world outside BU, Annas has become a powerful voice for global health and human rights, arguing that individual rights should be respected in all interventions, including anti-terrorism measures and medical trials.

He has insisted that military doctors should always be physicians first, not players in national-security schemes, and has urged that the Institute of Medicine lead an effort to craft a definitive, uniform code of ethics for all medical professionals, no matter in which capacity they serve.

In 1996, Annas and fellow BUSPH Professor Michael Grodin, MD, founded Global Lawyers and Physicians, a transnational professional association of lawyers and physicians working to promote human rights and health. The idea behind the non-profit group was to bring lawyers and doctors together as allies, rather than adversaries, to ensure that human rights were protected internationally.

"Doctors and lawyers can have a powerful voice in trying to enforce laws to help people," Annas said.

“Doctors and lawyers can have a powerful voice in trying to enforce laws to help people. They play unique roles in international human rights issues, such as torture. They haven't always exercised that power.”

“What George recognized was that the special vulnerabilities of patients, along with the imbalance in power and knowledge between patients and clinicians, required a recognition or creation of rights for this group.”

—Leonard Glantz

“They play unique roles in international human rights issues, such as torture. They haven’t always exercised that power.”

The group now works with refugees, torture survivors, and asylum seekers through the Boston Center for Refugee Health and Human Rights at Boston Medical Center.

Glantz, who continues to work alongside Annas, praised him as “an important pioneer, advocate, and thought leader” who began advocating for patients’ rights “at a time when clinicians often did not tell patients their diagnoses, let alone involve them in making treatment decisions.”

He said the hallmark of Annas’s work is his dedication to furthering human dignity. The publication of Annas’s first book, *The Rights of Hospital Patients*, raised eyebrows.

“Of course, groups like prisoners and racial minorities had rights that needed to be enforced — but patients?” Glantz said. “What George recognized was that the special vulnerabilities of patients, along with the imbalance in power and knowledge between patients and clinicians, required a recognition or creation of rights for this group.”

Thirty-five years later, Annas has not slowed down. His focus on patient care has expanded to broader human rights, leading him to take on topics ranging from the torture of military prisoners to capital punishment.

His recent book, *Worst Case Bioethics: Death, Disaster, and Public Health*, looks at how worst-case scenarios distort debate, limit options, and rationalize human rights abuses.

In a review of the book, Michael Greenberger, professor of law at the University of Maryland Law School, praised Annas as the “undisputed dean” in the field of public health law, saying: “It has fallen on the shoulders of Professor Annas [and several colleagues] to serve as the conscience of the public health legal community by consistently raising the importance of individual rights in addressing emergencies and, even more importantly, by cogently explaining the manner in which we can respond effectively to emergencies while protecting liberty.”

Since 1991, Annas has written Health Law, Ethics and Human Rights, a regular feature in the *New England Journal of Medicine*, in which he has addressed virtually every major issue in law and medicine, including U.S. Supreme Court decisions. These writings are a key reason why Professor Bernard Dickens of the University of Toronto has dubbed him “America’s preeminent medico-legal analyst.”

Meanwhile, Annas watches the issue of genetics privacy get stickier by the day, with so many advances in DNA research being made. While the federal government has never passed a genetics privacy act, a number of states have adopted privacy rules with elements of Annas’s model.

“This is an issue that’s not going away,” said Annas, who is now at work on a book that explores how the new genetics should be integrated into medical practice. “Soon, the question is going to be how your entire genetic sequence will be used, once it becomes an integral part of your medical record.”

He paused and smiled.

“It’s only going to get more interesting,” he said.

Roberta White:
Toxic Exposures

The Long Road to Change

Using Science to Help Veterans Prove Their Case

BY LISA CHEDEKEL

Was it all in their heads?

Roberta "Bobbie" White remembers wondering that, when she was first called in to try to solve the mystery of Gulf War illness, a multi-symptom ailment afflicting U.S. troops who went to Iraq in 1990–91, after Saddam Hussein invaded Kuwait.

"As we were starting our research, people within the Veterans Administration and the Department of Defense were publishing papers [about veterans' health complaints] saying, 'This is from stress.' For all I knew, they could have been right," recalled White, PhD, who chairs the Boston University School of Public Health's Environmental Health Department and is associate dean for research. "I went in with a completely open mind."

White's open mind has been one of her trademarks as a neuropsychologist whose detailed studies on the effects of exposures to chemicals on brain functioning, using both behavioral measures and neuro-imaging techniques, have brought her international attention.

An environmental detective by training, White originally was hired by BU in 1980 to work on a study of occupational lead exposure. That research contributed to evidence that led the federal Occupational Safety and Health Administration to revamp its recommendations for limits on exposure to lead. Over the years, White also has studied solvent exposures in adults and children and prenatal exposure to methyl mercury, which led to revisions in the guidelines for seafood consumption by pregnant women.



In the case of Gulf War illness, her 17 years of research into the connections between chemical exposures and health outcomes paid off in a significant policy change: Last year, after a Gulf War research committee steered by White and other experts released a landmark report, the U.S. Department of Veterans Affairs [VA] agreed to re-examine the disability claims of veterans suffering from ailments they blamed on their war service.

“For a long time, we were just going on what the veterans were saying. They were telling us, ‘We were exposed to nerve agents’ — but the Pentagon was saying, ‘No, no, there were no exposures.’ We didn’t get much traction.”

“It’s exciting to do a piece of work and see that people may actually benefit from it,” White said. “I’ve always viewed myself as just a neuropsychologist who is doing lots of tests, below the radar, to look at the links between exposures and health. To see that work have a real impact is very rewarding.”

White’s work with veterans began by chance, through her affiliation with the Boston VA. In 1993, she and another researcher were contacted by the central office of the VA to help sort out why so many veterans of the Gulf War were complaining of a strange set of symptoms: chronic fatigue, headaches, dizziness, memory problems, muscle and joint pain, skin rashes, nausea, and more.

In early testing of veterans from Massachusetts’ Fort Devens, White’s team found that the stress theory had no basis in fact. Rates of PTSD, or post-traumatic stress disorder, among returning Gulf War veterans were extremely low.

Chemical exposures, on the other hand, were common. Troops who served in the war reported several exposures: to pesticides; to pyridostigmine bromide (PB), a powerful chemical contained in anti-nerve gas pills given to troops; and to sarin gas fumes from the 1991 detonation of an Iraqi munitions dump at Khamisiyah, which potentially affected 100,000 troops.

White’s team began to map correlations between the various exposures and behavioral and cognitive outcomes. But because much of the exposure data was self-reported, their initial findings had limited impact.

“For a long time, we were just going on what the veterans were saying,” White explained. “They were telling us, ‘We were exposed to nerve agents’ — but the Pentagon was saying, ‘No, no, there were no exposures.’ We didn’t get much traction.”

Eventually, researchers on White’s team were able to obtain detailed data from the Pentagon that enabled them to model troops’ exposure to nerve gas from the sarin “plume” in Khamisiyah. With this information in hand, the team uncovered a dramatic correlation between the intensity of exposure and evidence of cognitive dysfunction. They also were able to obtain data on PB intake.

Why were so many veterans of the Gulf War complaining of a strange set of symptoms: chronic fatigue, headaches, dizziness, memory problems, muscle and joint pain, skin rashes, nausea and more?

Their findings ended up as a key element of a comprehensive report released in 2008 by the Research Advisory Committee [RAC] on Gulf War Veterans' Illnesses, a congressionally-mandated panel on which White serves as scientific director. The panel found that Gulf War illness was a "real condition," with clear links to some chemical exposures that affected at least one in four U.S. veterans of the Gulf War.

The RAC report made international news headlines — and eventually led the VA to take a second look at veterans' disability claims.

For White, it was a sea change in the way her research had been viewed.

"Before that RAC report, there was always a lukewarm reception to our findings," White said. "I would go to all these meetings and say, 'Listen, we need to believe these veterans and get them compensated,' and everyone would look at me like I was crazy.

"It's part of the nature of the work I do," she added. "Whenever you do this kind of environmental and occupational work, there are always the skeptics, the detractors, the resistance. It's part of the challenge."

Today, veterans' advocates praise White for her persistence and commitment to the science of Gulf War illness, despite resistance from the military.

"Dr. White remains an outstanding hero to all our military veterans, especially our 250,000 Gulf War veterans who remain ill," said Paul Sullivan, executive director of the advocacy group Veterans for Common Sense. "She was an early, strong, experienced, and objective scientific voice."

White said she never had a special interest in veterans' issues — and only recently has she recognized links between her work and her own history.

Her father, grandfather, and several uncles were in the military. Her father, who was career Air Force, died when she was seven years old. He committed suicide soon after returning from Korea.

"He really came back changed — I remember that," White said. "There was no PTSD diagnosis back then, but the VA did consider his death service-related. I had VA benefits as a war orphan."

In the last few years, White has made a point of visiting her father's grave in the Presidio in San Francisco. The visits stir a mix of sadness and pride.

"When I'm in that cemetery, I really feel my connection to veterans," she said. "It's not a population I ever specifically intended to work with — but I'm very glad I have."

“Dr. White remains an outstanding hero to all our military veterans, especially our 250,000 Gulf War veterans who remain ill. She was an early, strong, experienced, and objective scientific voice.”

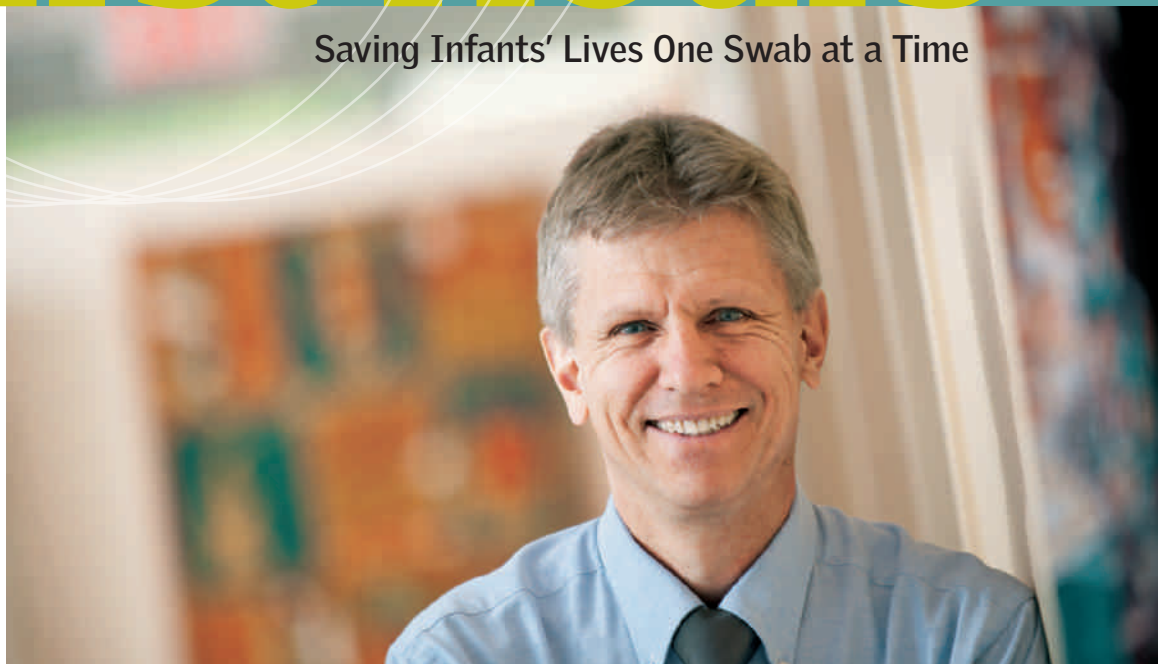
—Paul Sullivan, Executive Director, Veterans for Common Sense

David Hamer: Infant Mortality

Babies' Fragile

First Hours

Saving Infants' Lives One Swab at a Time



BY MICHAEL SAUNDERS

Whether bounding down a hallway to hail a departing colleague or reviewing research on a bumpy bus ride across Zambia, David Hamer seems a man always in motion. Even sitting relatively still in his office, Hamer perches on the edge of his chair, potential energy just on the verge of becoming kinetic.

As a researcher at the Boston University Center for Global Health & Development, Hamer, MD, is currently a principal investigator on two major studies in Zambia and in Boston. He's also a co-investigator on other studies — in Zambia, Tanzania, India, and Ecuador — that keep him shuttling between Boston and several continents.

For much of the next three years, a considerable portion of Hamer's energy will be devoted to the Zambia Chlorhexidine Application Trial (ZamCAT), an extensive study of the beneficial effects of applying a common disinfectant to umbilical cord stumps. This simple procedure, swabbing a cut-and-tied umbilical cord, could help save the lives of millions of children each year.

"Worldwide, about 42 percent of all deaths of children under 5 are in the first month of life," Hamer said. "We're very interested in focusing on that because there are some basic things you can do that have a great impact."

Hamer has carved out a career in research into diseases that disproportionately afflict some of the world's weakest inhabitants: newborns in developing countries. In the mid-1990s, his focus was on childhood diarrheal diseases and malaria. Several years later, he broadened into pneumonia and malaria, with additional work in malnutrition. He still continues to investigate malaria and pregnancy.

Almost 10 years ago, he helped to design and carry out a trial looking at the types of illnesses that strike babies in the first two months of life, as well as the risk factors that indicate a need for referral to a health

“Worldwide, about 42 percent of all deaths of children under 5 are in the first month of life. We’re very interested in focusing on that because there are some basic things you can do that have a great impact.”



facility. That interest in neo-natal health propelled him down the path to ZamCAT, which focuses on treatment of the umbilical cord and prevention of infection.

Each year, about 4 million babies die during the first month of life, many from infections during their critical first few hours. In rural parts of sub-Saharan Africa, as in other undeveloped locations around the world, birth customs vary widely, depending on local traditions. Many births occur at home, attended by older female relatives and friends responsible for initial treatment of the umbilical cord.

In some parts of Sudan, the cut cord is tied with roots; in Zimbabwe, birth attendants often chew fibrous bark into twine. In some countries, the cord isn't tied at all.

Keeping the umbilical stump clean and dry until it falls off naturally is a long-standing practice in many developed countries. After an extensive 1999 review of existing research, the World Health Organization recommended the dry-cord care method for neonatal caregivers in undeveloped countries. But the WHO said there was not enough evidence to recommend widespread use of topical antibiotics on cord stumps, suggesting instead that further research was warranted.

Enter ZamCAT, which began in 2009 with \$8.4 million from the Bill & Melinda Gates Foundation, which is sponsoring similar research on Pemba Island in Tanzania. There have been three similar studies in south Asia that showed that chlorhexidine application reduced neonatal mortality by about 20 percent.

Hamer believes the data obtained in the ZamCAT will be even more compelling. He and his colleagues, including co-principal investigator Katherine Semrau, BUSPH assistant professor, are measuring the effects of applying a 4-percent chlorhexidine solution against results from a control group receiving the recommended practice of dry cord care.

Several advantages put chlorhexidine atop a short list of possible antimicrobial agents, Hamer said. One such advantage is that the effects of one application of chlorhexidine last for a day or more. Also, it's a disinfectant, not an antibiotic, so there are no antibiotic-resistance side effects. Chlorhexidine also is relatively inexpensive; researchers in Nepal estimated that costs for the treatment would be as little as two cents per dose.

While the simple treatment may save newborn lives, Hamer says the study has some broader benefits.

"I think there might be some indirect benefits to the population through some of our efforts to strengthen essential newborn care practices," Hamer said. "We're also advising pregnant women to deliver in health facilities, as opposed to delivering at home, because if you have a complication at home, you're a long way from access to emergency obstetrical care."

Hamer hopes that data obtained in Zambia and Tanzania will help to convince the WHO to officially recommend chlorhexidine application as a preferred method of cord care. As with any widespread change, he acknowledges, years of careful review and deliberation are likely.

"They do not want to make a policy change globally without studies in sub-Saharan Africa, because that's the part of the world, after south Asia, where the greatest number of babies die in the first month of life," Hamer said. "These studies are important additions to the evidence base."

Hamer has carved out a career in research into diseases that disproportionately afflict some of the world's weakest inhabitants: newborns in developing countries.

Alan Jette: Disabilities and Rehabilitation

How Do You Know It

Works?

BY SHARON BRITTON

“I had a very strong interest in working with people with disabilities, in trying to understand what we should do more of, and what we should stop. When I tried to do the research, it was clear that nobody had a handle on how to measure the disability impact.”

Listening to instructions through a radio headset, the nearly blind skier followed Alan Jette down a snow-covered Loon Mountain in New Hampshire last March, recapturing the joy of a skill that had faded gradually, along with her eyesight.

“I wore a bright orange bib and she followed right behind me,” said Jette, who specializes in guiding sight-impaired skiers as a volunteer for New England Disabled Sports. The woman had begun the day “frightened, tentative and emotional,” he said, but after a few hours, “she was skiing the mountain top to bottom, and she was smiling ear to ear.”

For Jette, the winter volunteer work is a natural extension of a long career dedicated to improving the lives of individuals with disabilities — not one-on-one as a therapist or clinician, but behind the scenes as a leading researcher in disability science.

Jette, MPH, PhD, is director of the Health & Disability Research Institute (HDRI) at Boston University School of Public Health. He and his team, which included the late Stephen Haley, PhD, professor of health policy and management, who died this year, specialize in improving rehabilitation outcomes measurement. While highly technical and somewhat obscure to the public, outcomes measurement is vitally important to clinicians seeking better treatments for disabled patients, and to policy makers looking to improve health care cost-effectiveness.

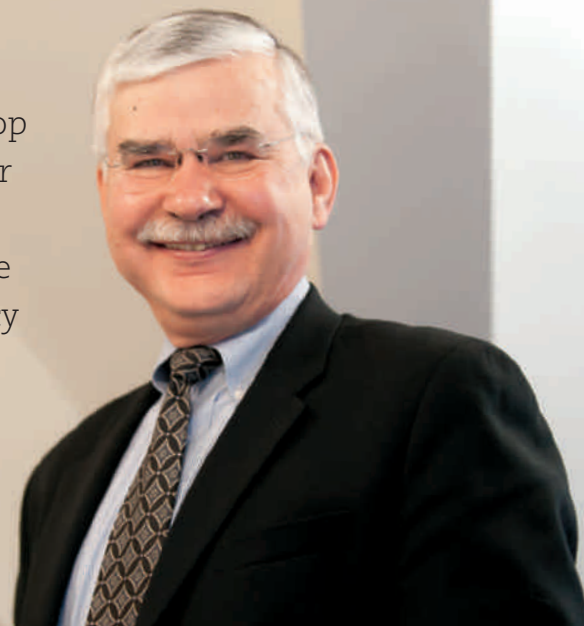
“I had no intention of focusing my research on outcomes measurement,” said Jette, a health policy and management professor who started his career as a physical therapist more than 30 years ago. “But I had a very strong interest in working with people with disabilities, in trying to understand what we should do more of, and what we should stop. When I tried to do the research, it was clear that nobody had a handle on how to measure the impact.”

The lack of available tools was understandable, given rehabilitation’s relatively recent rise within medicine, growing out of the need to improve the lives of injured veterans of World War II. Rehabilitation is a clinical field that has relied on empirical observations to make improvements. But as a method for measuring outcomes, direct observation is limited. Rehabilitation scientists need to know what to measure, in order to evaluate whether treatments have benefits.

Jette’s first measurement study was published in the 1970s, and he has gone on to publish widely in gerontology, rehabilitation, and public health literature. Over the last decade, he and his colleagues at the HDRI have been adapting assessment methodology that has been used in other fields and applying it to the standardized measurement of physical function.

Among their creations is a computer-assisted outcomes measurement tool that evaluates function in adults with a range of physical and cognitive impairments. The tool is applicable across a variety of settings, such as acute-care hospitals, rehabilitation hospitals, outpatient clinics, nursing homes and home care. Before such a tool was developed, each setting required a unique outcomes instrument, making it impossible to evaluate a patient’s progress throughout an entire episode of rehabilitation care.

“We are helping the Social Security Administration develop measures to determine whether or not particular injuries or diseases impact how people function, and whether or not they are disabled in the ability to do their work. They will be able to revise their methods for making decisions. The policy implications are huge.”



Being able to evaluate outcomes across treatment settings is vital not only to clinicians, but also to insurance companies and to Medicare, which are eager to direct people to the most appropriate care.

“Alan’s greatest contribution to the whole process has been to take the latest, most novel methodology for doing outcomes assessment and apply it to the rehabilitation field,” said Leighton Chan, MD, chief of rehabilitation medicine at the National Institutes of Health Clinical Center. “Assessment technology has been around for a while, but taking it and applying it to physical function has required a lot of groundwork, and Alan and Steve have done all that.”

The pioneering work in outcomes measurement made Jette and the HDRI a logical choice to win a \$4 million, five-year NIH grant in 2010 to develop the Boston Rehabilitation Outcomes Center (Boston ROC), a collaborative of local institutions providing researchers with the most up-to-date outcomes measurement tools. In the last decade, there have been a number of advances in techniques and methods, but no cohesive system for disseminating them to researchers and clinicians. The center will be a resource for researchers to learn about new and emerging outcomes measurement tools. The center also will launch several pilot programs, including one aimed at measuring factors associated with the reintegration of Iraq and Afghanistan war veterans into their communities. That program is being done in collaboration with researcher Linda Resnik of Brown University.

Jette and his team are now putting their outcomes measurement tools to work on a multi-million dollar contract with the Social Security Administration to improve the agency’s ability to make decisions about who should get work disability benefits. Historically, said Jette, the agency has determined disability based on a discrete medical diagnosis, such as the loss of a limb or another type of physical impairment. But this simplistic approach is inadequate today, when many jobs do not require physical labor, and when disability claims are soaring.

“We are helping the Social Security Administration develop measures to determine whether or not particular injuries or diseases impact how people function, and whether or not they are disabled in the ability to do their work,” said Jette. More precise measurements will ensure that benefits are distributed more fairly, he said.

“They will be able to revise their methods for making decisions. The policy implications are huge.”

facts > and figures

[Source: World Health Organization]

Over a **billion** people —
15%
of the world’s population — have some
form of **disability**.

Between **110 million**
and **190 million** people
have significant difficulties in functioning.

35%-50% of people
surveyed in developed countries, and
76%-85%
in developing countries, received no treat-
ment for serious **mental disorders**.



Ali Noorani: Immigrants' Rights

The Fight for Immigrants

Fixing a Broken System

The Boston University School of Public Health, established in 1976, has more than 6,000 alumni scattered across the United States and the globe in a variety of careers — from founders of non-profit agencies bringing health care to impoverished communities, to insurance and pharmaceutical company executives, to top health advisors in the Obama administration. More than 91 percent of the Class of 2011 found jobs within six months of graduating. Here are some of the alumni stories.



BY ELANA ZAK

For Ali Noorani, it all began with a sandwich.

He and his father were having lunch at a deli near Noorani's home in Salinas, Calif., when the restaurant staff tossed a homeless man out for stealing food. Plate and sandwich in hand, Noorani's father stood up, walked outside, and gave the man his meal.

"I was 10 years old. The experience always stuck with me," said Noorani, who received a master's degree in public health from Boston University School of Public Health in 1999. He said his parents, Pakistani immigrants, taught him the value of helping other people and righting wrongs — lessons that fueled his interest in public health and immigration.

Today, Noorani is one of the country's most distinguished advocates for immigrants. Whether he is debating immigration enforcement hard-liner Lou Dobbs on national television or being an outspoken opponent of Arizona's stringent illegal-immigration law, Noorani fights to fix what he calls "a broken immigration system."

As executive director of the National Immigration Forum, one of the nation's leading pro-immigration advocacy organizations, Noorani is dedicated to restoring justice to that system. The group's main goal is to see comprehensive reform legislation passed that would put millions of undocumented immigrants in the United States on a legal path to citizenship.

Currently, undocumented immigrants live in the shadows, and immigration raids and deportations tear families apart, Noorani said. American-born and immigrant workers are pitted against each other.

"A broken immigration system not only harms immigrants, but pushes the American dream out of reach for many Americans who have been here for years," he said. "We are advocating not only for legislative change, but also to see our country once again value immigrants and immigration."

In March 2010, Noorani helped to lead the March for America, an event that attracted 200,000 people to the National Mall in Washington, D.C. Noorani served as chair of the Reform Immigration for America Campaign, which organized the event.

Before heading to Washington in 2008, Noorani was executive director of the Massachusetts Immigrant and Refugee Advocacy Coalition (MIRA), which supports organizations advocating for the rights of immigrants and refugees. There, he worked on a variety of community health and social justice issues and more than tripled MIRA's staff and programs.

Prior to working at MIRA, he had served as director of public health at the Health Services Partnership of Dorchester, managing programs in areas ranging from HIV/AIDS prevention to youth development and environmental health. Noorani also worked for community health organizations in Dorchester, Mass., and for the City of Boston, coordinating funding and technical assistance to environmental justice projects across the city.

"He's often the guy in the room willing to say stuff that other folks aren't willing to say," commented Rich Stolz, who worked with Noorani as campaign director on the Reform Immigration for America

“A broken immigration system not only harms immigrants, but pushes the American dream out of reach for many Americans who have been here for years. We are advocating not only for legislative change, but also to see our country once again value immigrants and immigration.”

Campaign. “He names the elephant in the room. He is willing to live on the edge — this place where it’s not always comfortable and where you can be criticized.”

Noorani has written for publications such as the Huffington Post and is frequently quoted in the media. In 2007, the Massachusetts Public Health Association honored him with the Alfred L. Frechette Award for his work as a public health pioneer. That same year, Boston University honored him with the University’s Young Alumni Award. BUSPH named him a Distinguished Alumnus in 2010.

Noorani was born in the United States, but saw his own family members trying to navigate the complex and often-intimidating immigration system. Hearing the stories of documented and undocumented immigrants, on Statehouse steps across the country or in Congressional hearings, continues to inspire him. Organizing coalitions to push for change is something he prides himself on.

“At the end of the day, this is about people. We don’t do this work to make history,” he said. “We do this work to make the future.”

“We don’t do this work to make history. We do this work to make the future.”



Jeannine Rivet: Social Responsibility

Shining the Light of Trust and

Responsibili

Beyond the Corporate Walls

BY LISA CHEDEKEL

In Phoenix earlier this year, passersby who happened upon a gathering of the insurance giant UnitedHealth Group and its customers would have seen what appeared to be a bicycle-building workshop, not a typical business meeting.

About 150 corporate types spent two hours assembling kids' bikes for the local YMCA, Salvation Army, and Boys & Girls Club.

That's the mark of Jeannine Rivet — not your typical corporate bureaucrat.

As executive vice president of Minnesota-based UnitedHealth Group, Rivet, who received an MPH from Boston University School of Public Health in 1981, has quietly yet boldly expanded the social responsibility role of the country's second-largest health insurer.

Rivet, a former nurse who has been with UnitedHealth since 1990, is considered the company's chief bridge-builder, forging relationships between the firm's employees and management, UnitedHealth and its partners, and the company and the community. When CEO and President Stephen Hemsley wants UnitedHealth to branch into a new area, Rivet is a key executive he calls on to bring different sectors of the company together to get the operation up and running.

But while she spends much of her time facilitating deals and laying out strategy, Rivet is most proud of her impact in making sure that the company's 88,000 employees remain connected — to each other, and to the world outside their office walls.

"Our behavior and the shadow we cast are things I've always been aware of and concerned about," said Rivet, her rapid-fire speech tinged with a Rhode Island accent. "We're here to help people live healthier lives — that's what we're about. I've always thought the way to do that is through building relationships and building trust — the way I did with patients when I was a nurse."

In addition to holding a top management role as executive vice president for UnitedHealth focused on strategic relationships, Rivet in recent years has taken on both social responsibility and nursing advancement as key projects. While the company has always had programs fostering community involvement, Rivet gave those programs a structure and a name — the Office of Social Responsibility — and set targets for expanding UnitedHealth's role in the community.

In 2007, for example, employees volunteered 35,000 hours in service to community groups — a significant contribution. Three years later, that number leapt to 200,000 hours, and it continues to climb. Under Rivet's leadership, UnitedHealth added a "Dollars for Doers" incentive program, through which the company donates \$200 to a charity of an employee's choice for each 30 hours of volunteer service performed.

“Our behavior and the shadow we cast are things I’ve always been aware of and concerned about. We’re here to help people live healthier lives — that’s what we’re about. I’ve always thought the way to do that is through building relationships and building trust.”



Employees' perceptions of the company also have changed in recent years. In 2007, 58 percent of UnitedHealth workers said they believed that senior management's actions were "consistent with their words." Now, that percentage has climbed past 70 percent — an increase that Rivet trumpets.

"That's important to me because it's all about trust — whether employees feel like the company is responsive to them or not," Rivet said. "That's a number I'd love to see at 100 percent someday."

Hemsley praised Rivet as a "resourceful and compassionate" leader who makes decisions "in the best interest of the people we serve."

"During her 21-year career with UnitedHealth Group, Jeannine has held a range of pivotal roles at critical times in the company's development," he said. "No matter what the challenge is, we know she's there when we need her, with positive leadership."

Because of her own background in nursing, Rivet has taken up the cause of nurses. Recognizing both the nursing shortage and high rates of turnover, she pulled together nursing leaders from across UnitedHealth to craft professional and career-development programs. The programs are aimed at enhancing patient care, as well as promoting a nursing culture focused on developing leaders with both strong clinical and business skills. UnitedHealth is one of the country's largest employers of nurses, with more than 7,000 nurse professionals in 43 states.

After an informal program to coordinate best practices among the nurses, Rivet worked to establish the Center for Nursing Advancement in 2008. Besides offering advanced educational opportunities, leadership training, and a mentorship program, the center also has an award program for nurses.

"I don't think there's anyone else doing what we've been able to do, in terms of instituting the leadership, recognition, and mentoring programs," Rivet said. "Our turnover rate has already declined, and we have a number of our nurses in non-traditional roles, such as product development. It's been exciting to see it evolve."

Rivet sees much of her role as trying to simplify the complexities of healthcare delivery — a particularly challenging task in an era of both federal and state healthcare reform.

But as embedded as she is in the insurance world, she views UnitedHealth as one player on a larger team that includes clinicians, employers, and everyday consumers, all shooting for the same result: access to high-quality, affordable health care.

"The health system is very complex — that's a given," Rivet said. "Our purpose is to make health care work for everyone — to help people live healthier lives."



As executive vice president of Minnesota-based UnitedHealth Group, Rivet, who received an MPH from Boston University School of Public Health in 1981, has quietly yet boldly expanded the social responsibility role of the country's second-largest health insurer.

Howard Koh: Health Disparities

Driven to End Disparities

From Boston City Hospital to the White House

BY LISA CHEDEKEL



Howard Koh remembers seeing the inequities of the U.S. healthcare system up close 30 years ago, when he was a physician in training at Boston City Hospital.

An older African American woman patient, coming in for her first visit, complained that whenever she leaned over, something would fall out of her belly and tap her on the knee, he recounted.

Koh examined the woman and quickly ordered tests. The “something” that was bothering her, he learned, was her enlarged liver — the result of metastatic breast cancer that had gone undetected and untreated.

“It was tragic,” Koh recalled from his office in Washington, D.C., where he now serves as assistant secretary for health for the U.S. Department of Health and Human Services (HHS). “I remember thinking, ‘Where was this woman’s opportunity for early detection? How could this happen?’”

He paused.

“It shouldn’t happen.”

Koh’s focus on health disparities, in terms of both health outcomes and access to care, has been a constant throughout his career — from his days as a clinician, through his tenure as commissioner of public health in Massachusetts, to his high-profile position in the Obama administration. The 1995 Boston University School of Public Health graduate, who also has served on the faculty of the BU schools of public health and medicine, has now taken that focus and turned it into national policy.

Earlier this year, Koh unveiled a comprehensive HHS plan aimed at stemming racial and ethnic disparities in health. Among other initiatives, the plan calls for diversifying the healthcare workforce by recruiting undergraduates from underserved communities for public health and biomedical careers; allocating more resources to community health centers; reducing disparities in cardiovascular disease, asthma, diabetes, cancer, and other conditions; increasing collection and analysis of data on race, ethnicity, and other demographic categories; and reducing rates of the uninsured.

“It has a lot of meaning for me,” Koh said of the plan. “I’ve seen these issues as a practitioner, as a state commissioner — through many, many prisms. For the first time, our nation has a roadmap to make sure everyone has a chance to attain his or her full potential for health. To be involved in developing this plan, it’s very exciting.”

Koh came to the disparities issue early in life. The son of Korean immigrants, he remembers seeing his extended family try to navigate the healthcare system, hitting language and cultural barriers.

As a young physician, he became acutely aware that forces beyond biology were impacting patients’ health — their socioeconomic status, neighborhood, education and family issues, and access to care.

“This issue has really driven me throughout my career,” said Koh, who earned a medical degree from Yale University. “It’s important to me, personally and professionally. When we talk about disparities, we’re talking about inequality. There’s an element of unfairness here.”

Years before he became state public health commissioner, Koh carried a message of prevention, rather than reaction. In the town of Andover, where he and his wife raised three children, he played a key role in pushing an anti-smoking bylaw at a town meeting that made the staid community one of the first in Massachusetts to ban smoking in public places.

Earlier this year, Koh unveiled a comprehensive HHS plan aimed at stemming racial and ethnic disparities in health.



As state commissioner from 1997 to 2003, Koh was credited with strengthening the health department's commitment to promoting diversity and reducing disparities. He was recognized for his leadership of the Massachusetts Coalition for a Healthy Future, the group that pushed for the state's groundbreaking tobacco-control initiative. He also oversaw advances in areas such as cancer screening, bioterrorism response after 9/11 and the anthrax scares, health issues of the homeless, and newborn screening.

"Almost from the moment he was appointed commissioner, Dr. Koh made it clear that he had a particular interest in ending disparities," recalled John Auerbach, commissioner of the Massachusetts health department since 2007. "He strengthened the department's work with communities of color and with immigrant and refugee populations, and he gave voice to the needs and concerns of the most vulnerable residents of the state in speech after speech."

Koh served as director of cancer prevention and control at the BU Medical Center and was a professor of dermatology, medicine, and public health at the BU Schools of Medicine and Public Health. He is one of a few U.S. physicians who have earned board certification in four medical fields: internal medicine, hematology, medical oncology, and dermatology, as well as holding a public health degree.

After leaving the state post, Koh was a professor and associate dean at the Harvard School of Public Health. He has published more than 200 articles in medical and public health journals on topics ranging from disparities to disease prevention to skin oncology.

A major focus of his research work has been on cancer prevention and control, including community-based strategies to reduce cancer disparities and promote early detection. He served as the principal investigator of MassCONNECT (Massachusetts Community Networks to Eliminate Cancer Disparities Through Education, Research, and Training), a five-year project aimed at reducing cancer disparities in low-income minority communities by improving screening.

While Koh was at Harvard, Auerbach was Boston's health commissioner and collaborated with him on initiatives to combat cancer in black and Latino communities. Auerbach said that Koh's support helped the city to develop "comprehensive efforts on cancer, including specialized services, public information campaigns and prevention initiatives — always done with the intent to reach the most at-risk and isolated individuals."

In his two years in the federal job, Koh has continued to push prevention — for example, through anti-smoking and anti-obesity programs. He was involved in HHS's recent Healthy People 2020 initiative, which sets goals for disease prevention.

When he thinks back to his time at the old Boston City Hospital, Koh remembers the boomerang phenomenon: Patients would come in to be patched up and discharged, only to reappear a few days later with the same or different ailments. Preventative care was not part of the dynamic.

He says he is grateful to be in a position to try to change that.

"As a clinician, I'd find myself saying, 'There's got to be a better way,'" he said. "Now I know: That's really the definition of public health — finding better ways."

“As a clinician, I'd find myself saying, 'There's got to be a better way.' Now I know: That's really the definition of public health — finding better ways.”

Leilani Johnson: Women's Health

Small Footprint, Global

Scope

International Health Agency a Perfect Fit for One Grad

BY MICHAEL SAUNDERS



Leilani Johnson counting bottles of prenatal vitamins that COHI brought to give to the maternity clinic in Haiti.

Throughout time, women have served as the caregivers of society.

They nurture the young, nurse the ill and comfort the dying. But who takes care of the caregivers?

Women can be at their most vulnerable when pregnant or caring for a newborn during the aftermath of a crisis — and that's exactly when the need becomes clear for organizations such as Circle of Health International (COHI).

This small, Boston-based non-governmental organization (NGO) exists to carry out a unique, targeted mission, explained its executive director, Leilani Johnson, a graduate of Boston University School of Public Health who earned her master's degree in 2004.

"COHI focuses on maternal and newborn health in crisis settings. We can focus on the women and their newborn children in those types of situations, so other organizations can focus on food, water, shelter and security," Johnson said.

During a major crisis, such as the earthquake that leveled parts of Haiti in January 2010, there are many large global NGOs that step in to help secure basic necessities, Johnson said. COHI devotes its resources to mothers and babies because, she said, "They have special needs unto themselves. In some cases, pregnant women or new mothers can be 10 or 20 percent of the female population, so it's often a huge group of women who are very quietly suffering. So we try to focus on them."

COHI has administered projects in Tibet, Sri Lanka, Tanzania, Sudan, Israel and Palestine, as well as New Orleans after Hurricane Katrina. Now, the agency is working exclusively in Haiti.

"We don't want to stay in a place for an extensive amount of time, especially if the community can take over control of a project and keep going with it," Johnson said. "Our goal is to work ourselves out of a job."


Post-earthquake relief in Haiti proved challenging for myriad reasons, not the least of which were the rampant poverty and limited health resources. Infant mortality is the worst in the Western Hemisphere, Johnson said, with 64 deaths per 1,000 live births.

"They had a dire situation prior to the earthquake, and then the earthquake on top of it," she said. "We went in knowing that there were crush wounds and things like that, but our focus was really on those pregnant women. People with half an arm definitely get pushed to the head of the line for medical care, but the woman in the corner silently hemorrhaging doesn't really make an effort to get that same attention, and nobody was helping her get it."

COHI partnered with several groups, including Christ Pour Tous, a local Christian clinic, and set up shop in an empty obstetrics ward that was built years before.

"We found that there were no skilled clinicians in the area focusing full-time on birth, or pre- and postnatal care. It was an area of about 50,000 people, so a lot of the women were giving birth at home," Johnson said.

Since January 2010, COHI staffers have provided 1,550 prenatal appointments and 260 safe deliveries, with an additional 144 postnatal follow-up appointments. With the situation in Haiti stabilizing, the



“COHI devotes its resources to mothers and babies because they have special needs unto themselves. In some cases, pregnant women or new mothers can be 10 or 20 percent of the female population, so it’s often a huge group of women who are very quietly suffering.”

biggest task for COHI is setting up a support system for existing clients and personnel that will ensure a smooth transition when COHI eventually leaves.

“We’re trying to figure out how to phase out, in the most appropriate manner possible,” Johnson said.

The ties between BUSPH and COHI began with the organization’s founding in 2004 by BUSPH alumna Sera Bonds. The group’s combination of small-footprint and global-scope work makes it an appealing test case for classes on international program design. BUSPH students helped to create two proposals for ongoing work in Haiti — one related to reproductive health, and the other targeted to gender-based violence, Johnson said.

Johnson started working full-time with COHI as a program manager in 2007 and became executive director in 2008. After graduating from BUSPH, she had joined the Peace Corps to work on HIV/AIDS education programs among intravenous drug users in Mombasa, Kenya. When she returned home, she started volunteering with Circle of Health International and then returned to school with the intention of becoming a nurse practitioner. She realized very soon that she and nursing weren’t meant for each other.

“Once I actually started doing the program, I realized how much I liked public health. I really like looking at the population as a group, rather than individuals,” Johnson said.

“COHI was a good fit,” she added. “It was the small non-profit that I was looking for, that had the ideals that I believed in.”

BUSPH students helped to create two proposals for ongoing work in Haiti — one on general reproductive health programs, and the other targeted to gender-based violence.

Evelyn Sakeah: Women's Health

Saving Lives at Home

Giving Back to Her Native Ghana

BY ELANA ZAK

“So many women in Ghana are dying as a result of delivery care. I have to do something about it. We don't have to allow anybody to die.”

In Evelyn Sakeah's rural village in Ghana, it is a sad, but all too common, tale: A woman is in labor when something goes wrong. The nearest doctor is at least 20 miles away, leaving her in the hands of a birth attendant who doesn't have the requisite skills to handle such a complicated health problem. She doesn't survive the delivery.

“So many women in Ghana are dying as a result of delivery care,” said Sakeah, a doctoral student at Boston University School of Public Health. “I have to do something about it. We don't have to allow anybody to die.”

For her doctorate, Sakeah has embarked on an extensive research project to evaluate the benefits of having trained community health officers (CHOs) provide skilled delivery services to women in rural areas through a community-based health planning program.

Ultimately, she would like to see her research at BUSPH being used to encourage the presence of CHOs throughout her native country, in hopes of lowering the maternal mortality rate.

In Ghana, thousands of women die from pregnancy-related complications every year. A large part of the problem, Sakeah said, is the lack of trained health professionals who can provide skilled delivery services to rural women. In an effort to reduce the numbers of women dying during childbirth, country officials have instituted a program to train CHOs in midwife delivery care.

Sakeah's own path to BUSPH started in a community where educating girls was “almost a taboo,” she said; the school dropout rate for girls reached 70 percent at times, while for boys it was far lower.

Her faculty advisors at BU credit her fierce perseverance for propelling her forward — to the point where she will oversee a complex survey of hundreds of Ghanaian women who recently have given birth, as well as review government documents and interview key health officials and community residents. She will train a cadre of supervisors and fieldworkers to conduct the surveys and in-depth interviews.

“I think the things that stand out about Evelyn are her forcefulness and commitment,” said Lois McCloskey, DrPH, Sakeah's academic advisor and chair of her dissertation committee. “She will go through any hoop she has to go through and persevere until the end.”

This is not Sakeah's first foray into public health. Her work in women's health began in 1998, when she was involved in a program to end the practice of female genital mutilation in her country. It was her first experience in trying to introduce social change in a culture she knew well. She views those earlier challenges as invaluable, as she now tries to stem maternal mortality in the same region.

Kojo Yeboah-Antwi, an assistant professor of international health at BUSPH, heard about Sakeah while working at a health research center in Ghana.

“She was considered one of the up-and-coming bright stars,” said Yeboah-Antwi, MPH, who is now a member of Sakeah's dissertation committee.



“I am part and parcel of the community. I’ve lived with them. I feel that, as an educated woman, I’m in a good position to help champion the cause of women.”

With her tall stature and direct gaze, Sakeah has a calm, commanding presence. When she is not speaking passionately about the problems facing the women of her country, she is quick to smile and laugh.

“Every time she comes to my office, she has a smile and a level of energy that I can feel in the room,” said McCloskey, associate professor of community health sciences at BUSPH.

Sakeah has gone back to her community to mentor young women in science and mathematics. But as her new project progresses, she knows she may have to put some of her activities on hold, as she travels back and forth between Ghana and Boston. The newlywed has also taken a sabbatical from her full-time job to pursue her dissertation project.

She said the sacrifices are worth the potential gain.

“I am part and parcel of the community. I’ve lived with them. I know their challenges,” she said. “I feel that, as an educated woman, I’m in a good position to help champion the cause of women.”

Jeremy Kidd: Community Health Sciences

Driven to Open Doors

Answering the Call for Better LGBT Research and Health Care

BY SHARON BRITTON

Earlier this year, the Institute of Medicine issued a report calling for more and better research about sexual minorities. The report cited a lack of reliable data about the health of lesbian, gay, bisexual, and transgendered (LGBT) people.

LGBT research has been uneven, the report said, with more focus on gay men and lesbians than on bisexual and transgender people. Further, it found that despite the longstanding convention of lumping these sexual and gender minorities into one group, each one should be viewed as a distinct population with specific health needs.

Jeremy Kidd, MPH '11, could have anticipated the report's findings long ago. Growing up as a gay teenager in small-town Narrows, Va., Kidd was aware that the health and mental-health needs of many of his high school peers were going unmet. He became determined to do something about it.

Ten years later, Kidd, now 27, is on a career path that he hopes will allow him to address the very knowledge gap cited by the Institute of Medicine (IOM) report. A standout student who seized opportunities to build his skills as a public health researcher, Kidd plans to combine medical and public health degrees in a career in academic medicine that will improve the understanding and treatment of the health needs of LGBT people.

"I really want to do a mix of research and clinical work. I think the research will give me a broader context as a doctor, looking at more than just a patient's chief complaint," said Kidd. "Public health research has the potential to lead to improvements for populations."

Kidd's interest in scientific research blossomed early, while he was an undergraduate at Virginia Commonwealth University (VCU), where he earned summa cum laude bachelor's degrees in both biology and religious studies. At VCU, he combined his cross-disciplinary interests by participating in a project that looked at hate violence experienced by female-to-male transgendered individuals.

Working simultaneously as an advocate, Kidd started a support group, Queer Action, and led an effort to open an LGBT resource center at VCU. For his leadership, he received the esteemed Burnside-Watstein Award for LGBT Service.

Kidd headed to medical school at VCU with an interest in psychiatry and mental health. But his undergraduate introduction to research stuck with him, and he began to think about pursuing a master's degree in public health.

"In medical school, you focus on individuals. But public health offered a way to look at broader populations," he said.

At the end of his first year of medical school, he applied for a summer internship doing research at the Center for Population Research in LGBT Health, at the Fenway Health Institute in Boston. There, he met Boston University School of Public Health Professor Deborah Bowen, PhD, chair of the community health sciences department, who was working on research with the center.

A standout student who seized opportunities to build his skills as a public health researcher, Kidd plans to combine medical and public health degrees in a career in academic medicine that will improve the understanding and treatment of the health needs of LGBT people.



“I really want to do a mix of research and clinical work. I think the research will give me a broader context as a doctor, looking at more than just a patient’s chief complaint. Public health research has the potential to lead to improvements for populations.”

“I was immediately impressed with Jeremy’s quick understanding of the role of research in addressing social issues and the need for research into LGBT health matters,” said Bowen. “He was willing to put his medical school interests on hold to learn more about public health and the role of public health and policy in shaping health outcomes.”

To nurture his interest in research, Bowen invited Kidd to sit

in on grant review meetings with members of her department. For a student, it was an unusual front-row seat from which to learn about the scientific and practical considerations that go into pursuing research.

“It was something I didn’t get a chance to do at any of the other public health programs I was looking at,” Kidd said.

With encouragement from Bowen, Kidd entered the MPH program at BUSPH in 2009. During his two-year program of study, he built an impressive research resume showing involvement on a number of faculty-led projects, one of which took him to rural Kenya to evaluate a program to prevent trachoma, an infectious eye disease that is a leading cause of blindness in poor countries.

Back in Boston, he worked for principal investigator Renee Johnson, PhD, assistant professor of community health sciences, on a study looking at lesbian, gay, and bisexual youth in the Boston Public Schools who are bullied. The study examined the role of caregiver support in predicting depression among LGB youth. As part of his work with Johnson, he co-authored peer-reviewed manuscripts and conference presentations.

“I think he is going to be a superstar in the field,” said former BUSPH faculty member Anita Raj, who also employed Kidd to work on a follow-up to a national study on issues of race and gender bias in the advancement of medical school faculty. “He is invested and passionate around issues in LGBT.

“You can train someone in the skills of research, but you can’t train them to have the mindset that recognizes that inequities exist and that they affect people’s health and opportunities,” she added.

Kidd said his education at BU has taken place as much outside the classroom as inside.

“Faculty members have allowed me to get involved in so many research projects and to take on substantial roles,” he said. “I’ve met some amazing clinician-researchers who have shown me the possibilities for combining these interests in a career.”

Michelle Chung: Maternal & Child Health

A Juggling Act Brings Challenges, Rewards

BY MICHAEL SAUNDERS

Michelle Chung would certainly be forgiven if she didn't remember much of 2010, a year that swirled past in a blur of new opportunities and challenges.

Like hundreds of her fellow students, she began the spring semester searching for a job to fulfill the practicum requirement at Boston University School of Public Health. In the summer, she juggled practicum work and study, then moved on to a different job and an even heavier class load in the fall.

She closed out the year in December 2010 by graduating with both a wealth of experience and invaluable connections, which helped her land her current job as a clinical research coordinator at Children's Hospital Boston.

Only now, with the whirlwind a fading memory, can she sum up her year:

"I really feel like a lot of the opportunities that came up wouldn't have happened if I wasn't at BUSPH," Chung said.

Even during the best years, the search for a practicum can be trying. Searching for a practicum experience in the post-recession job market was daunting. Yet, after a few tense months, she was selected for a graduate internship at the Alaska Division of Public Health.

"It fit perfectly with what I was doing at BUSPH because I was a dual concentrator in epidemiology and maternal and child health," said Chung, who developed an early interest in research.

In Alaska, she completed a qualitative analysis on five years of data collected through the agency's pregnancy risk-assessment monitoring system. She created an "infant safe-sleep presentation," based on the assessment, and presented the results to the Alaska Infant Safe Sleep Task Force.

Chung said the diverse array of classes at BUSPH prepared her well for her Alaska experience. Her steepest challenge was yet to come: a fall semester job as a Youth Risk Behavior Surveillance Survey (YRBS) coordinator for Boston Public Schools.

The school district needed current data from the YRBS study to develop obesity-prevention and anti-smoking programs that would be eligible for funding from the federal Communities Putting Prevention to Work initiative. This \$373 million program, an offshoot of the American Recovery and Reinvestment Act of 2009, was designed to carry out community-based prevention and wellness strategies.

The work ended up a good fit for Chung, who had just taken a "Community-based Needs Assessment" class as part of her maternal and child health concentration.

"We needed a current snapshot of the health choices youth were making in schools, in relation to tobacco use, dietary behaviors, level of physical activity and several other factors," she said.

Now a research study coordinator at Children's Hospital Boston, Chung oversees ongoing clinical projects for the Department of Anesthesiology, Perioperative and Pain Medicine.



“I really feel like a lot of the opportunities that came up wouldn’t have happened if I wasn’t at BUSPH.”

When she started as a YRBS coordinator, “There was a lot of thinking on your feet and learning to make decisions on your own to find solutions,” Chung said, adding that her first few weeks were a trial by fire. “BU really prepared me.”

Chung needed to hire, train and manage eight researchers to go into schools and conduct the surveys, then to accurately prepare the findings for analysis at the Centers for Disease Control. She said she enjoyed coordinating the survey because, “When you think about it, that’s the first step of the process in public health. You can’t really fix anything in the community unless you get an overall snapshot of what’s going on in the community.”

As that job wound down, she concentrated on the twin milestones of graduation and securing her first job as a public health professional. Now a research study coordinator at Children’s Hospital Boston, she oversees ongoing clinical projects for the Department of Anesthesiology, Perioperative and Pain Medicine.

She has stayed true to the path she hoped to take when she first arrived at BUSPH.

“Well,” she said with a laugh, “I do like research.”

Kevin Lane: Environmental Health

On the Road for Answers

Tracking Invisible Pollutants

BY MICHAEL SAUNDERS

Interstate 93 — and the brown haze that often shrouds it — is just a few towns away from Kevin Lane’s hometown of Lynn, Mass. His New Hampshire prep school was a short drive north on I-93. He received a master’s degree from Tufts University, just blocks from the highway in Medford, Mass.

Now, the road snakes past his office at the Boston University School of Public Health on its way through the neighborhoods of Chinatown, South Boston, and Dorchester.

Much of Lane’s life has been linked to this major regional traffic pipeline that twice each weekday, with the regularity of the tide, is flooded with thousands of cars and trucks.

That connection lends a special significance to Lane’s work as a BUSPH doctoral student on a long-term study investigating the effects of air pollution on residents near the highway. The Community Assessment of Freeway Exposure and Health (CAFEH) is a Tufts University project, with Doug Brugge as the principal investigator. Brugge was Lane’s mentor at Tufts and suggested that Lane continue his work while at BU.

It was an unusual arrangement, but one given a green light by the Environmental Health Department at BUSPH. “The department was super open to me having outside-of-the-institution collaborations, which some schools are not really happy with,” Lane said. “They want you to come in as a student and do their work.”

But his advisors at BU, including his thesis advisor Madeleine Scammell, viewed the collaboration differently.

“We’re living in some difficult financial times, and people are going to have to be creative with where they find these opportunities,” said Scammell, DSc, an assistant professor of environmental health. Potential rough spots were smoothed over as Lane took pains to create ties between his work at CAFEH and that of BU scientists whose own research interests involve air quality and pervasive environmental pollution.

“He has invited me to meetings of the group over there, and we’re on their listserv, so we’re plugged into the work happening at CAFEH,” Scammell said.

“Kevin is definitely a force and is destined to do some great things, so we’re hoping that he’ll build relationships for us that will continue after he’s no longer a student.”

The CAFEH study tracks levels of ultra-fine particulates — nano-particles ranging from 1 to 100 nanometers in diameter. The biggest is about the size of an average virus; the smallest would barely shade a hemoglobin molecule. Federal clean air laws cover only particulate emissions down to 2.5 micrometers, or 2,500 nanometers.

“Kevin is definitely a force and is destined to do some great things, so we’re hoping that he’ll build relationships for (BUSPH) that will continue after he’s no longer a student.”

—Madeleine Scammell, assistant professor of environmental health



The larger particulates get trapped in the lungs and can trigger respiratory ailments such as asthma and emphysema. The ultra-fine particulates, or UFPs, can lodge deep in the lungs, where gas exchange occurs, and diffuse through cell linings to get carried through the bloodstream.

In animal studies, UFPs have “actually been shown to show up in the brain and other locations in the body,” Lane said. “We think that these smaller particles are really the drivers of cardiovascular health issues related to air pollution. But the problem is that until recently, technology and monitoring wasn’t available to study them.”

CAFEH outfitted a van as a mobile sampling lab with monitoring equipment to measure UFPs at different locations and times. Small groups of residents have been blood tested for high levels of C-Reactive Protein, which is linked with an increased risk of heart attack, stroke, hypertension and diabetes. The empirical data collected in air and blood samples is just one component of the study, which also is examining the use of special residential air filters that might decrease exposure to the particulates for people living close to the highway.

Lane said he is proud of residents’ involvement in the study, which is a textbook case of community-based participatory research. Local leaders canvass the study area with questionnaires and help to notify residents of testing and project feedback sessions.

“I’ve never seen a study with this level of community-based participatory research. We have community members that sit on every committee,” Lane said.

“To have them actually doing the research, going out to recruit and administer the actual questionnaires, is really amazing.”

Lane said the community involvement is an added motivation for him to continue on the project.

“I’m the one sitting at the computer doing all the analysis, but the guy who got me the questionnaire that I’m analyzing, he’s going home — where he and his family are likely getting exposed to the pollutants we’re studying,” he said.

“I’ve never seen a study with this level of community-based participatory research. We have community members that sit on every committee.”

Rebecca Laws: Environmental Health

Motivated by a

Mystery

Searching for Answers in Nicaragua

BY ELANA ZAK

Rebecca Laws has traveled to Chichigalpa, Nicaragua, three times in the last year. Each trip might be the last time she sees some of the local residents.

By the next visit, they could be dead.

For more than a decade, thousands of young sugar cane workers in a small, agricultural region of northwestern Nicaragua have been dying of chronic kidney failure — and no one knows why. A team of Boston University School of Public Health researchers, including Laws, is investigating the mysterious public health epidemic.





“Seeing these young men who have no control over their situation and who are dying of kidney disease makes my work that much more relevant. What I’m doing on a day-to-day basis will hopefully help these people.”

For more than a decade, thousands of young sugar cane workers in a small, agricultural region of northwestern Nicaragua have been dying of chronic kidney failure.

So far, they have no clear answers as to what is causing the untimely deaths. But the team has developed a strategy to probe possible reasons and is conducting a wide-ranging study to try to pinpoint causes.

“Seeing these young men who have no control over their situation and who are dying of kidney disease makes my work that much more relevant,” said Laws, who graduated from BUSPH with a master’s degree in public health in December 2010, and who is continuing on for a doctorate in environmental health. “What I’m doing on a day-to-day basis will hopefully help these people.”

Laws’s low-key demeanor masks a deep passion for public health. When talking about the Nicaragua study, the 27-year-old doesn’t mention that she was simultaneously working full-time on a head-and-neck cancer study, for which she recruited patients from Boston hospitals soon after they were diagnosed with the disease. At the same time, she was keeping up with BUSPH class work in order to earn a degree in environmental health.

“She’s incredibly understated, and she doesn’t look for attention,” said Madeleine Scammell, DSc, assistant professor of environmental health at BUSPH, who worked with Laws on the Nicaragua project.

Laws first heard about the Nicaragua work in 2009. Although she already was working on another study and going to school, she was determined to be a part of the Chichigalpa research team. Led by epidemiology Professor Daniel Brooks, DSc, the project has attracted a circle of BUSPH faculty.

“When it came down to doing the frontline work, Rebecca has been right there, charging through sugar cane fields, interviewing workers, and collecting biological samples,” said Michael McClean, ScD, associate professor of environmental health at BUSPH and one of the primary investigators on the Nicaragua study. “She felt such a connection and compassion for the people. I think that’s been a major motivator for her.”

While life was hectic for her at BUSPH, Laws said she never considered quitting any of her commitments. “You just do things sometimes because you need to do them,” she said matter-of-factly.

Laws’s decision to stay at BU to complete a doctorate was not a simple one. She applied and was accepted to some of the other top public health schools in the country, several of which flew her out to visit them.

But BUSPH also wanted her. If she stayed, she knew, she could continue to work on the Nicaragua study.

That sealed the deal.

“I just couldn’t see myself giving that project up,” she said. “I feel like we’ve really just started.”

Highlights 2010–2011

School News

- ▶ Boston University School of Public Health advanced two places, to number 11, in the latest U.S. News & World Report ranking of schools of public health, released in March of 2011. Since 2003, BUSPH has moved ahead of three other schools in the rankings, and no other school has passed BUSPH. The rankings are based on opinion surveys of deans and two associate deans at each accredited school of public health. Forty schools of public health were rated this year. BUSPH Dean Robert Meenan said the School's upward trend in the rankings is "a welcome sign that our commitment to ongoing improvement is being noticed by our peers."
- ▶ Boston University received a gift of \$900,000 from Sovereign Bank, a part of Banco Santander. Half the funds were earmarked for Boston University School of Public Health to support international field practicum experiences for students. The gift of \$450,000 to BUSPH over three years will be awarded to international health students with demonstrated financial need to help defray the costs associated with undertaking a three- to six-month international field practicum that students complete as part of their graduate degree programs.
- ▶ The Department of Health Policy and Management at Boston University School of Public Health was named a partner in the Agency for Healthcare Research and Quality's (AHRQ) ACTION II network, a five-year program that connects researchers with health care delivery organizations to improve the quality of health services in the United States. Carol VanDeusen Lukas, a clinical associate professor of health policy and management and principal investigator on the ACTION II contract, said that taking part in this kind of work helps facilitate the implementation of new programs in health care delivery.
- ▶ The Maternal and Child Health (MCH) concentration at Boston University School of Public Health was awarded a five-year, \$1.6-million MCH Public Health Training Grant from the federal Maternal and Child Health Bureau. The grant, spearheaded by Lois McCloskey, DrPH, professor of community health sciences, will provide scholarship and fellowship opportunities for students and will support faculty in innovative educational, research, and service initiatives. This is the third consecutive MCHB training grant the concentration has received.
- ▶ A \$4 million grant was awarded to the Health & Disability Research Institute (HDRI) to establish the Boston Rehabilitation Outcomes Center (Boston ROC), a collaborative of local institutions that will provide researchers with up-to-date rehabilitation outcome measurement tools. The grant was awarded by the National Institutes of Health National Center for Medical Rehabilitation Research. Joining the HDR Institute in the work are Spaulding Rehabilitation Hospital, Harvard Medical School, and Tufts University. The award comes at a time when consumers, policy makers, and insurers are pushing for more reliable ways of evaluating how well rehabilitation health care services serve patients.

Events

- ▶ Lori Andrews, a path-breaking bioethicist, legal activist, scholar, and author, delivered the first annual Cathy Shine Lecture at BUSPH on March 3. Andrews' lecture, "Studying Medical Malpractice at the Bedside," drew on her own research, which heavily influenced the 1999 Institute of Medicine malpractice/patient safety study "To Err Is Human." The event, organized by the BUSPH Department of Health Law, Bioethics, & Human Rights, inaugurated the lectureship, which was established in 2010 with a gift from the family of the late Cathy Shine to advance the human rights of patients.

- ▶ “Controlling Health Care Costs: Your Money or Your Life?” was the topic of the annual William J. Bicknell Lectureship in Public Health at BUSPH, held on Oct. 1, 2010. Harvard economist David Cutler, PhD, delivered the main lecture and was joined in discussion by panelists Alice A. Tolbert Coombs, MD, FCCP, president of the Massachusetts Medical Society; Andrew Dreyfus, president and chief executive officer of Blue Cross Blue Shield of Massachusetts; and Kate Walsh, president and chief executive officer of Boston Medical Center.
- ▶ CNN medical reporter Elizabeth Cohen (SPH '92) addressed BUSPH graduates and their families at the school's 2011 commencement exercises on May 22. Since 1991, Cohen has worked for CNN, reporting on a wide variety of public health, medical, and disaster stories. The school graduated more than 210 new public health professionals — one of the largest classes in recent memory.

Faculty News

- ▶ Roberta White, PhD, chair of the Department of Environmental Health and associate dean for research at BUSPH, and adjunct assistant professor Sumi Mehta were named “reviewers of the year” by *Environmental Health Perspectives*. The journal recognized 12 individuals who reviewed at least five papers during the year and received excellent ratings for the timeliness and quality of their reviews.
- ▶ Jonathan Howland, PhD, a professor of community health sciences at BUSPH and director of public health and injury prevention research in the Department of Emergency Medicine at Boston Medical Center, was appointed to the Centers for Disease Control's expert panel on falls prevention. The panel's mission is to work with the CDC and other federal agencies on the development of strategies to promote and disseminate evidence-based programs for preventing falls among older adults.
- ▶ Associate Dean for Public Health Practice Harold Cox was reappointed by Governor Deval Patrick to serve on the Massachusetts Public Health Council. The Public Health Council makes and issues health care-related rules and regulations, holds public hearings, and approves certain appointments and applications.
- ▶ Malcolm Bryant, MBBS, MPH, associate professor of international health, took on leadership of the International Health Section of the American Public Health Association, an active community of more than 1,700 professionals engaged in global health policy development and advocacy and the exchange of scientific knowledge and experience.
- ▶ Alan Jette, PhD, MPH, director of the Health & Disability Research Institute (HDRI) at Boston University School of Public Health, was honored for his pioneering contributions to the field of disability rehabilitation research by the American Academy of Physical Medicine and Rehabilitation. Jette was named a 2010 recipient of the Academy's Recognition Award for Distinguished Public Service, an annual award honoring individuals who have been significantly involved in activities that directly impact the field of physical medicine and rehabilitation.
- ▶ David Sherr, PhD, professor of environmental health, was named a recipient of Boston University's highly sought-after Ignition Award, which he will use toward the development of a drug to prevent and treat breast cancer. Ignition Awards are presented to four BU researchers twice a year by the University's Office of Technology Development, providing them with funding to move their research discoveries into practical implementation.

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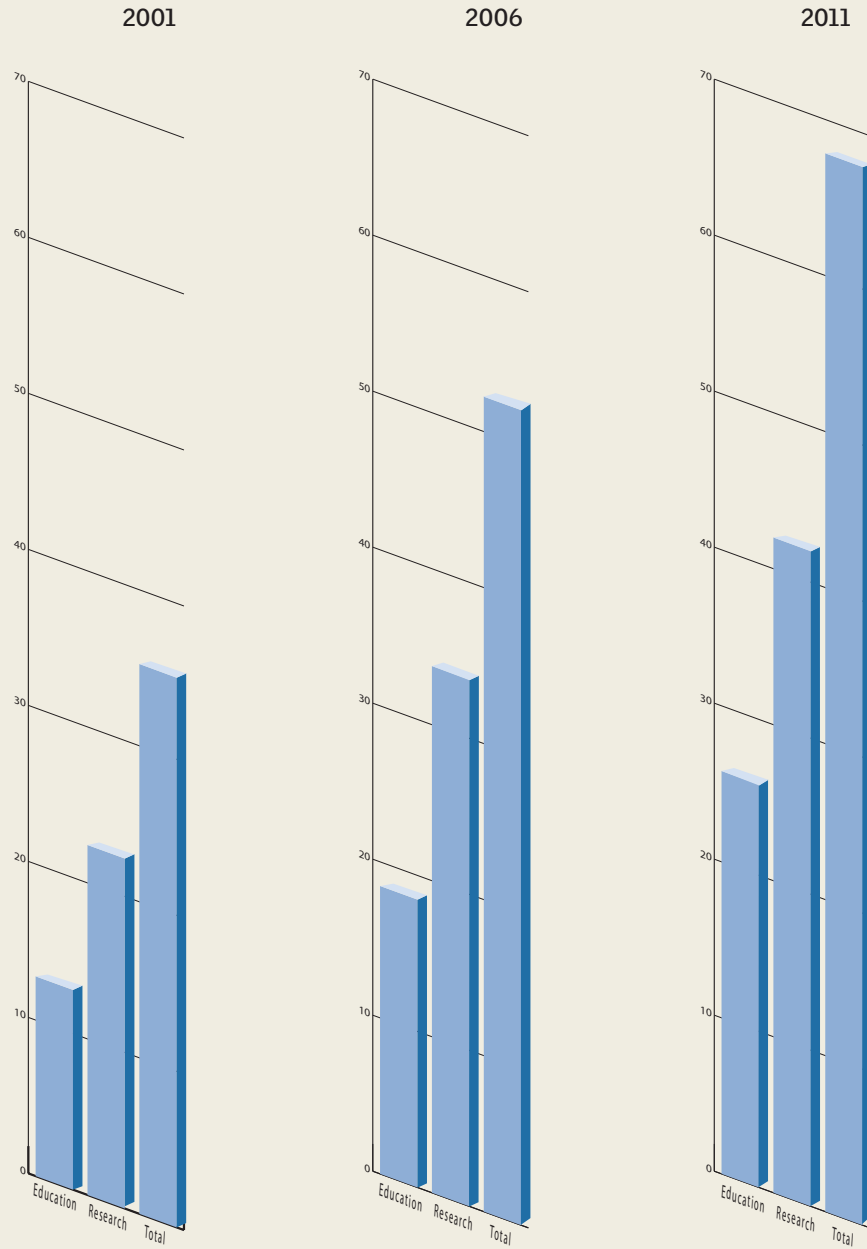
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Income
(IN MILLIONS)



Income	2001	2006	2011
Education			
Tuition & Fees	\$12,562,735	\$18,272,912	\$25,657,717
Other	\$250,670	\$175,000	\$171,905
Research			
Direct Cost	\$20,671,820	\$27,619,194	\$33,902,745
Indirect Cost	\$1,757,470	\$6,144,023	\$8,102,095
Total Income	\$35,242,695	\$52,211,129	\$67,834,462
Full-Time Faculty	119	140	151
Matriculated Students	635	674	786
Student Scholarship Program	\$1,125,030	\$1,906,441	\$4,044,863



Boston University School of Public Health
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