

Effective solutions through collaboration

NEW APPROACHES IN PUBLIC HEALTH RESEARCH



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As I look forward to the start of my 15th year as dean of the Boston University School of Public Health, I am energized by the realization that I may hold one of the most gratifying leadership roles in higher education.

I am privileged to guide a vital, growing, and changing institution dedicated to a worthy mission: improving the health of populations in Boston and around the world, particularly the disadvantaged, underserved, and vulnerable. In the relatively short 30-year life of the School, BUSPH has assembled a truly outstanding group of scholars, educators, and researchers who are working on solutions to the pressing public health problems of our time: malaria, AIDS, depression, substance abuse and addiction, patients' rights, and environmental pollution, to name a few.

Why are high-caliber researchers and scholars drawn here? Each faculty member has her or his own reason for being at BUSPH, but our people tend to share two similarities. One is a personal commitment to serving the poor and disadvantaged, which has been the focus of

this medical campus in Boston's South End for more than a century. The second is an entrepreneurial spirit. A majority of our annual operating budget comes from competitively awarded research grants. And we are one of the few accredited schools of public health that does not operate on a tenure system. These factors have enabled us to attract a breed of independent-minded scholars and researchers who thrive in our collaborative and results-oriented culture.

Through the establishment of research centers, BUSPH has found a productive way to incubate this special combination of talent, purpose, and drive among our faculty. In the following pages, you will read about ongoing work in a number of our research centers and about how some of our most brilliant minds are gathering colleagues from a variety of disciplines to collaborate in new ways on complex public health problems. These research efforts not only create a stimulating intellectual environment for the researchers, but generate more relevant and useful public health solutions, we believe, than research conducted in relative isolation.

Recognizing the value of academic cross-pollination, Boston University President Robert Brown has made strengthening interdisciplinary activity across the University one of the goals of his presidency. His aim is to create collaborations across the humanities, the social sciences, and the sciences. I am pleased and excited that BUSPH will play a major role in helping the University achieve this goal.

I look forward to the continued evolution of this wonderful School knowing we have both a worthy mission and a talented and innovative faculty that will allow BUSPH to continue meeting the demands of a changing and ever-more complex world.

Robert F. Meenan, MD, MPH, MBA
Dean



In Boston neighborhoods and in countries from Russia to Uganda, researchers at Boston University School of Public Health pursue solutions to public health problems as diverse as AIDS, malaria, pharmaceutical effectiveness, and human rights. Here, Mark J. Prashker, MD, MPH, associate dean of research and institutional development, talks about how interdisciplinary collaborations at BUSPH lead to effective solutions for a wide range of pressing public health concerns.



Q&A with Mark Prashker

Q: How did BUSPH come to expand its focus from teaching to become a force in research?

A: The program was first founded in 1976, with a mission to provide advanced training to people who were already working in public health. When Bob Meenan became dean 15 years ago he realized that to be a comprehensive academic institution, the School should not only educate students, but should also generate new knowledge. Over time we recruited new department chairs with their own research agendas, and they brought with them talented faculty. The School's research program exploded along with the doubling of the budget of the National Institutes of Health, which funds much of the research we do. Today, out of an annual operating budget of \$52 million, more than \$30 million is generated by research. Our scope has grown, too. We teach, do research, and provide service to the community, both locally and globally, focusing particularly on the needs of disadvantaged and vulnerable populations.

Q: A number of institutions do public health research. Does BUSPH have a different approach?

A: The time-honored approach to health research has been investigator-initiated, which is still often the best way to look at discrete, well-defined problems. However, a number of years ago, BUSPH made the decision to organize many of its new initiatives through centers—interdisciplinary collaborations that bring together many professional perspectives in order to work on complicated problems. This creates a stimulating environment for researchers, allowing them to share the tools of their individual disciplines, which in turn generates broadly applicable public health interventions and policies. This is a cost-effective way to do business, because the research efforts share infrastructure and administrative costs. We have nearly two dozen interdisciplinary projects and centers under way. This approach appeals to top-notch researchers such as Jonathon Simon, who directs the globally focused Center for International Health and Development, and David Rosenbloom, who has built the innovative Youth Alcohol Prevention Center during his time here. These are brilliant, entrepreneurial people who thrive in this kind of environment.

Q: Can you give a specific example of how center-based collaboration improves research results?

A: A great example is the work of Lewis Kazis, who is director of our Center for the Assessment of Pharmaceutical Practices. In 1993 he began a longitudinal study at VA hospitals in the Boston area known as the Veterans Health Study. The research team began with 25 faculty and staff and grew to more than 40 professionals, including epidemiologists, statisticians, physicians, nurses, psychologists, sociologists, and economists who met every week for eight years.

This group's basic mission was to determine whether the health of those treated through the VA system improved, declined, or stayed the same. One of the team's achievements was to develop a set of measurements—now widely used by the VA, Medicare, and other health agencies—to evaluate health-related quality of life. Doctors wanted to measure improvements or declines in physiologic function like blood pressure or heart function, whereas psychologists and sociologists wanted to measure a patient's relative feeling of well-being. Economists wanted to quantify what a patient's movement up and down the scale meant relative to the health-care system in dollars. The different perspectives lent tremendous value to this exercise and enhanced the quality of the research and its outcomes.

Q: How does the public's point of view get considered?

A: BUSPH is in the vanguard of what is known as "community-based, participatory research." We have the only CDC-funded Prevention Research Center in the country that is focused on the health of public housing residents, a disadvantaged population with an array of public health needs. Through this center, Bob Horsburgh and his team collaborate with public housing residents and community groups who help choose the research we undertake. What we learn through this work with the community will be applicable to residents of public housing in cities throughout the county.

Similarly, Alisa Lincoln's Boston Community–Academic Mental Health Partnership (BCAMHP) looks at mental health issues from the consumer's point of view. To analyze how well the system works, the group engages mental health care providers, advocates, and administrators, along with patients and their families, as well as employ-

ers, insurers, and other community stakeholders in the health-care system. They have begun their work by analyzing mental health consumers' attitudes and experiences regarding emergency psychiatric care in Boston.

Q: How do you know the School is on the right track?

A: Well, for one thing, virtually all the School's funding comes from the most competitive government and private agencies that award funds through a peer-reviewed grant process. So, in that sense, the most discriminating judges in the field believe we are on the right track. But there are lots of other indicators, as well. The work of Ralph Hingson, for example, led to the legislative adoption of scientifically based standards of drunk driving—the .08 limit—which has saved thousands of lives. On the global front, Paul Bolton is busy creating the framework for understanding and treating mental illness in the developing world; this is much-needed and groundbreaking work. Many of the centers not covered in this report are making strides in other areas of public health, including environmental issues, health-care management and leadership, health disability and rehabilitation, and health-care quality assessment.

Q: Where will BUSPH go from here?

A: BUSPH has come into its stride just as we are entering a sort of golden age of public health awareness. Bill and Melinda Gates, U2's Bono, and now Warren Buffett have brought tremendous attention and resources to global public health problems. Today, Americans understand that a possible influenza pandemic is not just a problem for China or Vietnam. BUSPH has assembled considerable intellectual talent to address a number of public health problems—drug and alcohol addiction, mental health, medication effectiveness, to name but a few. Continued advances in solving these problems will help populations here and around the world. Our challenge, quite frankly, is funding. We spend so much time writing grants that it distracts us from working on the problems we hope to solve. In the years ahead, we will be looking for the kind of financial support that will allow researchers to concentrate on what they are best at: finding creative solutions to public health problems.

Improving residents' health

WHAT ARE THE
questions?



What are the major health concerns of residents of public housing?

How can we empower the community to solve some of its own health problems now?

What barriers to a healthier life-style do public housing residents face?

partn



"Public housing residents feel—and I tend to share their view—that they are the people with the least information about anything that is good," says Doris Bunte, former director of the Boston Housing Authority.

But health information, she maintains, is essential, and getting the facts out, empowering residents to take an active role in preventing disease, and giving them access to resources for care are critical. How do health care providers and public health workers make sure that public housing residents have the knowledge they need and programs they can use to promote good health for their families and their community?

ers in prevention

Coming up with strategies that will serve public housing residents is the goal of the Partners in Health and Housing Prevention Research Center (PHH-PRC). Launched in 2001, the coalition brings together four equal partners: Boston University School of Public Health (BUSPH); the Boston Housing Authority (BHA); the Boston Public Health Commission (BPHC); and the Community Committee for Health Promotion (CCHP), a group of public housing residents and advocates that Bunte chairs. The partnership is one of 33 research centers across the nation established by the federal Centers for Disease Control and Prevention (CDC) to promote disease prevention and management. It is the only CDC center focused specifically on public housing. The approach is groundbreaking, with an emphasis on community-based, participatory research.

"We're expected to do research and publish papers," says Robert Horsburgh, MD, MUS, professor of epidemiology and PHH-PRC's principal investigator, "but this is also a very practical group. We want to develop and field-test programs that will help the community solve some of its health problems now; and when we find something that works, we must take the next step and make sure that it continues. Collaborating with public housing residents speaks directly to the mission of BUSPH, which is to help improve the health of populations, especially underserved and vulnerable groups. Insights we develop as a team in Boston will have implications for public housing residents in cities across the country."

The PHH-PRC documented the need for this collaboration beginning in 2001, by working with BPHC to expand

its biennial telephone health survey of Boston residents, asking—for the first time—whether they lived in public housing. The survey showed public housing residents are substantially more likely than other residents of Boston to suffer from diabetes, asthma, obesity, poor dental health, depression, and other chronic and acute diseases.

"There are lots of reasons for this," says Horsburgh. "If you can't choose where you live, you may be more exposed to air pollution or other toxic chemicals. There might be more stress in your life. If you live in an area where you don't feel safe, you might not go out and get much exercise. You might not have ready access to good nutrition and so eat a lot of high-fat food. How do we help residents address these problems? What barriers do they face as they try to achieve healthier life-styles? What issues are important to them?"

One of the earliest lessons the group learned is the importance of community involvement. "When we started, we had a small community-advisory board that met only three times a year, so community involvement was minimal. As a result, our initial resident survey was limited and failed to give us a good picture of what the residents wanted and could use," says Horsburgh. "It became clear that we couldn't succeed if the residents weren't more involved."

So, with Bunte's guidance, the community committee expanded its size and mission. Bunte, who raised her children in public housing and who also has considerable political experience (she was the first African-American woman elected to the Massachusetts Legislature), enlisted the help of some of the developments' most committed

“Our goal was not only to develop of cadre of residents who can improve access to care, but also to empower these residents to improve their own lives.”

—Rachel Goodman, Director, BHA Community Services Department

activists. She assembled a board of 25 people—13 residents and 12 representatives of community health and social service organizations. The committee now meets regularly and frequently with members of the other three partner organizations. “It’s this participatory relationship that distinguishes our collaboration,” says Horsburgh. “We don’t do research *on* the community, we do it *with* the community.”

then survey 10 percent of the residents, asking them to identify their main concerns and discuss the kinds of programs they could use. “We’ll also use this survey to find out how much they know about the PHH-PRC, so we can learn what we have to do to communicate with them effectively,” says Bunte.

“Knowing which diseases are most common isn’t enough. We have to be able to understand the residents’



Toni Cromwell brings her years of experience as an activist and resident of public housing to the Community Committee for Health Promotion.

To promote further the community’s involvement, CCHP is organizing an extensive campaign to reach out to the 25,000 people who live in the city’s family developments. It is distributing fliers to all homes—in several languages—that introduce the partnership and explain how residents can participate. Committee members will

priorities,” says Horsburgh. “One resident could tell us, ‘Yes, I know I should weigh less, but I’m more interested right now in getting my kids to school with a good lunch.’ This tells us that kids’ nutrition is a bigger concern. What’s on the top of the residents’ list? Figuring that out is our goal right now. The CCHP survey will be 10 times the size of the survey we were able to do when the collaborative activities were first started, so it will be a major step in telling us what is most important to them.”

Making sure the programs are designed so they are useful is another challenge the coalition can’t solve without community input. “BPHC has a program called STEPS, whose goal is to help reduce the burden of diabetes and obesity among Boston residents. One of its strategies is to help urban women organize safe walking groups,” Horsburgh explains. “Could we put a program like that together in public housing? Maybe, but there are big logistical issues, and now we will be able to work with the residents to figure out solutions.”

The coalition’s other partners bring their own set of necessary resources to the effort. BPHC is the nation’s oldest health department and works with public officials and health care providers to bring direct services to Boston residents, in programs ranging from promoting childhood immunizations to launching a mammography van, and from campaigning for pedestrian safety to



adopting one of the nation's first citywide smoking bans. "Our expertise is in analyzing problems and designing programs," says Maia Brodyfield, liaison to the director of the BPHC and a member of the PHH-PRC board. "This collaboration enables us to target our resources to Boston's most vulnerable citizens."

The BHA is Boston's largest landlord, maintaining 26 developments for families and 38 for the disabled and elderly. Overall it provides homes for about 10 percent of Boston residents, including 5 percent who are Section 8 families subsidized by the BHA. "One of our missions is to create living environments that help residents gain economic self-sufficiency, and health is a major part of this charge," says Rachel Goodman, who directs BHA's com-



munity services department and is also a member of the PHH-PRC board. "We have a long history of collaborating with tenants, but only limited resources to devote to health. Partnering with BUSPH, BHA, and CCHP enables us to maximize the use of those resources."

BUSPH has worked with both of these agencies in such programs as Boston Healthy Start, which reduced Boston's infant mortality rates, and Healthy Public Housing, a program designed to reduce environmental health hazards in Boston-owned housing, particularly those that trigger asthma. BUSPH's contributions go far beyond its support in designing surveys, collecting and interpreting data, and evaluating results, Goodman explains. "Boston University also has access to funding sources that we, as government agencies, do not, so this collaboration enables us to leverage the resources available and expand the health services we can provide to people in public housing."

PHH-PRC has implemented several trial programs to date, and the partners are now exploring resources to expand them. One is Resident Health Advocates, which offers training for community health care ambassadors. "Our goal was not only to develop of cadre of residents who can improve access to care, but also to empower these residents to improve their own lives," says Goodman. Launched in 2002, the program has trained



more than 40 residents. Most are still active in their roles, and a number have used their experience as a steppingstone to enter careers in health. Another program helps Latino residents register their children for health insurance. "Some parents don't know their children are eligible for Medicaid, or don't know how to sign them up for it, or for cultural or language reasons are afraid of getting involved with a government agency. As a result, their children don't have the health insurance to which they are entitled," says Horsburgh. "The John W. Henry Family Foundation is helping us reach out to these residents so we can help them get their kids enrolled."

In addition to recruiting other members of BUSPH's faculty to work with the collaboration in designing and evaluating programs, Horsburgh plays several other roles as the coalition's director, keeping the four partner organizations in close contact and marshaling the coalition's resources to make sure it can take advantage of new opportunities that arise as its work goes forward. He also has the important role of keeping the CDC informed of what the partners learn. "More than 5 million Americans live in public housing, and every big city has such residents," says Horsburgh. "Our goal is to find programs and approaches that work for them and help them lead healthier lives."

Crystal Zollarcoffer is a Resident Health Advisor at the Gallivan Housing development in Dorchester, Mass. To understand better the public health needs of her community, Zollarcoffer created a survey that she hand-delivered to all 243 households.

WHAT ARE THE
questions?

What brings a person to a psychiatric emergency room?

What care is provided?

What are desirable outcomes of a visit to the psychiatric emergency room?

breaking d

Considering the



While completing doctoral work in sociomedical sciences and psychiatric epidemiology at Columbia University in 1995, Alisa Lincoln witnessed an incident at New York's Bellevue Hospital that spoke volumes to her about the problems with urban psychiatric care delivery. A frenzied man appeared in the emergency room hoping to find a bed, shelter, and food as well as treatment and medication for the schizophrenia that burdened him. One of the nation's foremost providers of public psychiatric care, Bellevue encounters a steady stream of severely ill people; yet the emergency room is unable to meet this demand, for lack of space and resources. "He was sick, but not sick enough to be admitted. They gave him some food and sent him on his way," Lincoln recalls.

own barriers

consumer in mental health treatment

Eight hours later, the man reappeared with two police escorts, after throwing a brick through the window of an exclusive clothing boutique. This time, he was admitted for treatment. "I was fascinated," says Lincoln, PhD, MPH'92. "This guy was clearly sick but also incredibly smart: Throw a brick through a store window on 137th Street and absolutely nobody cares. But do the same thing on Madison Avenue and it gets results. Without hurting anybody, he knew exactly how to get what he needed," she observes.

While admiring the patient's resourcefulness, Lincoln also could not help but think about countless others who have been unable to access needed services because they didn't know how—or where—to get the appropriate attention. More than ten years later, Lincoln is still thinking about the variables that affect the decision-making process in psychiatric emergency rooms. Factors such as race, gender, and insurance status combine with far more subtle considerations to determine who gets what level of treatment.

A sociologist, Lincoln focused her doctoral dissertation on social factors in involuntary commitment. After receiving a PhD in sociomedical services from Columbia,

in 1998, she spent two years in a postdoctoral program at UMass-Worcester, and then accepted teaching and research appointments at Boston University School of Public Health (BUSPH), Boston Medical Center (BMC), and Boston University School of Medicine (BUSM). Today she is an associate professor in BUSPH's Department of Social and Behavioral Sciences, where faculty and graduate students focus on analyzing the social determinants and behavioral risk factors associated with public health problems.

Lincoln's work in the field gained momentum in 2004–2005, when a Boston University Faculty Research Development grant allowed her to study the relationship between literacy limitations and mental health problems. These days she is extending her research—with more than \$700,000 from the National Institute of Mental Health (NIMH)—to examine the culture and climate of a busy, urban psychiatric emergency room from the perspective of staff members.

In fact, Lincoln has received an additional grant, of more than \$420,000, from the National Institutes of Health in order to launch the Boston Community-Academic Mental Health Partnership (BCAMHP).



Project director Melissa Hagan, MPH '05, at right above, with co-investigators Alisa Lincoln and Jonathan Delman, works with community stakeholders to understand better the culture and climate of a busy, urban psychiatric emergency room.

Focusing on the needs of adults who struggle with severe and persistent mental disorders, as well as children who suffer from serious emotional disturbances, the newly formed partnership of consumers, clinicians, and interdisciplinary scholars is expected to provide a mechanism by which community members can inform and participate in all aspects of the research process, from the generation of questions to the design and application of research studies to the interpretation of results.

This new initiative, Lincoln says, is one of the nation's first consumer-driven mental health community partnerships and will benefit from the involvement of other stakeholder groups, such as Consumer Quality Initiatives (CQI), a consumer-run research organization; M-Power, a consumer advocacy group; the National Alliance for the Mentally Ill (NAMI); the Parent Professional Advocacy League (PPAL); and the Massachusetts Department of Mental Health.

As principal investigator for the project, Lincoln believes Boston University School of Public Health is ideally situated to host such a collaborative effort. "At one end of the Boston University Medical Campus, next door to BUSPH," she explains, "is the Solomon Carter Fuller Mental Health Center, the Commonwealth's mental health facility for the greater Boston area. Directly opposite that building is the University's School of Medicine. And just beyond the medical school is Boston Medical Center, the largest safety-net hospital and provider of free health care in New England."

Among Lincoln's BCAMHP colleagues is Peggy Johnson, a public-sector psychiatrist who serves as vice-chair for clinical psychiatry at BMC. The co-investigator on the project is Jonathan Delman, MPH '90, a current DSc candidate in Health Services Research at the School.

In addition to his academic, interdisciplinary role, Delman offers the project his singular perspective as a mental health consumer. "It's kind of a professional badge of honor for me," he says. A former attorney with degrees from Tufts University and the University of Pennsylvania Law School, Delman says his law career was derailed by his lifelong struggle with a bipolar condition that landed him in a halfway house and gave him experience with a range of treatments—not all of which were beneficial. In his early 30s, he was hospitalized at McLean Hospital, in Belmont, Mass., where he had a front-row view of things he thought were wrong with the mental health system. After his release, he became

but through the lenses of consumers, family, and community members.

What brings a person to a psychiatric emergency room? What does the patient find once he or she gets there? What are desirable outcomes of a visit to the psychiatric emergency room? To answer those and other questions, BCAMHP will recruit and train four to six past or present mental health consumers, who will then interview other consumers and help analyze the data.

Beyond the emergency-room setting, though, the team plans to formulate an array of questions that are ripe for the asking—questions that cannot be predicted because they can come only from the community participants.

"This new initiative is one of the nation's first consumer-driven mental health community partnerships and will benefit from the involvement of other stakeholder groups."

—Alisa Lincoln, Associate Professor of Social and Behavioral Sciences



progressively more involved with mental health consumer advocacy and eventually decided to make it his career. Today he runs Consumer Quality Initiatives, in Roxbury, Mass., a consumer-run organization engaged in quality improvement, evaluation, research, and planning in the mental health field.

Delman, who has also worked with Lincoln on other projects, says he's excited to be collaborating with her and others on a venture that follows a consumer-based, participatory action research model—a model in which he believes quite passionately.

At its initial meeting, the BCAMHP team decided to focus its first study on the same topic that Lincoln had addressed with her NIMH grant—the culture and climate of a busy, urban psychiatric emergency room. This time, though, they'll look at that milieu not through staff eyes

Those questions will generate additional research projects that will shape and inform BCAMHP's future work.

The overall goal?

"My hope," Lincoln says, "is that the work done by BUSPH, BMC, and BUSM's division of psychiatry—under the auspices of BCAMHP—will lead to funding of a more permanent umbrella organization that will work with community participants over the long term. That way, we can help more people stay mentally healthy and at the same time reduce disparities in health care treatment and access."

Members of the BCAMHP team (left to right) include: Nicki Glasser, M-Power; Alisa Lincoln, principal investigator and associate professor of social and behavioral sciences, BUSPH; Jennifer Tsoi, BUSPH master's candidate and administrative staff, Department of Social and Behavioral Sciences; Deborah Delman, M-Power; and Jonathan Delman, co-investigator and BUSPH doctoral candidate, Consumer Quality Initiatives.

Those who believe that the singular goal of public health in developing countries is to cure contagious diseases, and thereby prevent early death, should take note: The most prominent symbol of Angola is not a mosquito or a tsetse fly.

"It's this guy here," says Associate Professor of International Health Paul Bolton, MBBS, MSc, MPH, reaching out to grab from his office shelf a sleek onyx statue of a man holding his head in his hands. Tall, thin, and sad-looking, this figure could be a subequatorial equivalent to Edvard Munch's iconic painting *The Scream*.

cure the mind, h

Mental health in the

"They call him 'The Man Who Thinks Too Much,'" Bolton says, "and you see him all over Angola, even on the national currency. 'Thinking too much' is, in fact, a metaphor for mental illness in many parts of the world, and figures like this turn up all over Africa—though, as far as I know, Angola is the only country that uses a depressed guy as its national symbol."

Much of the focus in international health in recent decades has been on reducing mortality rates, and very little attention has been given to the tremendous costs that are associated with mental illness as a barrier to functioning in daily life. While his BUSPH colleague, Alisa Lincoln, focuses on mental health treatment for urban populations in the United States (see story, page 8), Bolton is breaking ground in the rural developing world. "Mental illness is one of the world's greatest causes of disability," says Bolton, "and it is one of the last, great neglected areas of international health."

Whatever programs to treat mental illness do exist in the developing world are small, isolated, and lack adequate funding," he adds. "What's worse, when such programs reach completion, they are almost never evaluated. We don't even know what these programs do for people, or even if they do any good."

Trained in his native Australia as a physician, with a medical degree from the University of New South Wales, Bolton pursued an additional degree in tropical medicine from Mahidol University in Thailand. It was while he

was working in a refugee camp in Thailand that he decided he could do more good "preventing illness, rather than trying only to cure it," he says.

At Johns Hopkins, he pursued master's degrees in public health and vaccine science. His interest in mental health grew, but he was not able to attract institutional support for such work at Hopkins. Progress came, he says, when he joined BUSPH's Center for International Health and Development (CIHD) in 2003 and received the support necessary to form the center's Applied Mental Health Research group (AMHR) with other new members of the School's faculty.

Bolton and the AMHR group are engaged in the sort of collaborative and interdisciplinary work that the center's director, Jonathon Simon, envisioned when he established this community of accomplished scholars and practitioners at Boston University, in 2001. "Ordinary approaches to improving the health of populations in the developing world rest largely on 'first-world' assumptions," says Simon. "Today's practitioners of public health must be prepared to apply solutions that transcend traditional disciplinary interests."

CIHD is a collaboration of educators and practitioners whose areas of expertise range from the clinical sciences to medical anthropology, notes Simon. The center's far-ranging activities draw regularly on the work of clinical scientists, pharmacists, policy analysts, anthropologists, lawyers, and economists, as well as the classic

A photograph of a young boy in a developing village. The boy is in the foreground, looking towards the camera with his hands near his face. He has a serious expression. In the background, other people are visible, including a man in a yellow shirt and a woman in a red and yellow shirt. The setting appears to be a rural area with simple buildings and a clear blue sky.

Deal the village

developing world

public health sciences of demography and epidemiology. Each individual contributes the skills and knowledge necessary to tackle, as the valued member of a broader interdisciplinary team, the complex problems faced by developing countries. CIHD is committed to exploring those areas of scientific inquiry that are fundamental to health and social development, such as improving child survival and health, combating malaria, improving the use of medicines, and mitigating the social and economic impact of the HIV/AIDS epidemic.

Specifically, Bolton and his colleagues—Judith Bass, Theresa Betancourt, and Laura Murray—work directly with government agencies such as USAID and with non-governmental organizations such as World Vision, the International Rescue Committee, and Save the Children, in order to assess mental health needs as well as evaluate and improve mental health interventions, usually in the aftermath of wars and other traumatic events. To date they have undertaken programs at several African sites, as well as new and ongoing projects in Haiti,

Indonesia, Mexico, and the Republic of Georgia.

Although some researchers describe mental health—at times, pejoratively—as a “soft science,” the AMHR team tries, insofar as possible, to bring a “hard-science” approach to their efforts. They apply a systematic approach to understanding the local context of mental illness and use both qualitative and quantitative methods in collecting the necessary information to evaluate and improve programs. The hallmark of their program is the degree to which they listen to local populations very closely before drawing any conclusions, says Bolton.

“Often, international agencies come into an area assuming they know exactly what the problems are,” he notes. “They do what they think they should, and then they go do the same, exact thing somewhere else, without stopping first to find out if the approach was appropriate or if it worked. We have tried to put things on a much more scientific basis, by working with our partners, conducting a thorough needs assessment based on the input of local people, selecting an intervention that suits

Researchers learned that Ugandan children were more disturbed by being displaced into camps than by recurring abductions.





often seen in more developed countries, in which children band together and rebel against their elders.

Given the differences in cross-cultural communications and practices, then, how is it possible to assess how well people are doing, before and after intervention?

Bolton emphasizes that the real lesson comes from understanding how local people themselves experience mental problems—from their viewpoint, rather than from a strictly Western, clinical viewpoint. Beyond that, it's a matter of measuring function and gauging how it changes as the result of specific mental health interventions.

If you're a husband and father, for example, are you able to earn money? Take care of your family? Guide your family's affairs? Maintain a good relationship with your wife and kids? Socialize outside the home? If you are a mother, are you able to nurture your children and fulfill all the social roles expected of you?

"We have found that misery and depression affect overall ability to fulfill expected roles in society," says Bolton, and that ability to fulfill these roles is, in itself,

the particular population, and then carrying out careful evaluations to see whether our interventions have been successful.

"Of course," Bolton adds, "we always have ideas ahead of time about what people will say, and we generally tend to be wrong."

Take, for example, the situation in northern Uganda, where adolescents have been repeatedly kidnapped by an insurgent group known as the Lord's Resistance Army and required to fight against the Ugandan government, committing heinous atrocities. Frequently these children escape and return home, only to be abducted again. To protect the children, the government has evacuated whole villages to crowded camps that are guarded by the Ugandan army.

The AMHR group initially thought that the mental health problems of these youngsters would stem from the trauma of being placed on the battlefield and turned into killers. As it happened, however, the researchers learned that these children, who were accustomed to living in relative isolation with their parents and grandparents, in distinct family units, were far more disturbed by being displaced into the camps than they were by the experience of recurring abductions. What's more, the creation of age-based peer groups caused the kind of family splits

"We have found that misery and depression affect overall ability to fulfill expected roles in society".

— Paul Bolton, Associate Professor of International Health

the basis of contentment. Successful interventions will therefore improve ability to fulfill both one's role and one's level of contentment.

"In fact, I believe that the inability to function, to fulfill one's role in society, is a larger social and economic development issue than mortality," says Bolton. "If a person dies, it's a tragedy, and that person is no longer able to contribute to the family—but they also no longer use up family and community resources. Someone who is no longer able to function likewise cannot contribute to the family and now requires more of the family's and community's resources than they did when they were healthy. Why would we not want to ameliorate such an enormous drain on resources?"

WHAT ARE THE
questions?

How do we know
which medications
are safe?

As costs rise, are
treatments more
effective?

What is the added
risk of new drug
interactions?



measuring effective

A new

A \$150 billion-a-year industry, pharmaceuticals are an ever-growing portion of our national health-care budget. And for good reason. Medicines offer enormous benefit, easing pain and disability and protecting us from premature death.

Between 1994 and 2004, the number of prescription drugs purchased increased by 68 percent, from 2.1 billion to 3.5 billion, according to a study published by the Kaiser Family Foundation.

Yet our nation's tremendous reliance on pharmaceuticals, along with their growing costs, poses compelling public health questions: What is the overall public health value of our most popular drugs when the total costs related to their use—including unforeseen complications and patient monitoring—is weighed against their benefits to society?

Effectiveness yardstick for pharmaceuticals

Big-picture questions such as these motivated Lewis E. Kazis, ScD, associate professor of health services, to gather an interdisciplinary group of his colleagues in 2004 and form the Center for the Assessment of Pharmaceutical Practices (CAPP). Their goal: promote safe and effective use of medications to advance the nation's public health. Their line of attack: draw on the nation's largest health-care databases to track drug use and the clinical results; and design tools that will measure patients' perceptions of their health-care outcomes. In putting together these results, members of the CAPP team will document the safety and therapeutic value of individual drugs. "It's what we call effectiveness research—looking on a very large scale at the effect these drugs have in the world," says Kazis.

Extensive testing is, of course, a routine part of drug development—first on laboratory animals and then, through carefully designed and monitored clinical trials, on humans. "But ultimately," says Kazis, "once the FDA approves these drugs, the population that ends up taking them could be very different from the population used initially to test them. Patients also might be taking other drugs. Some might be much older or much younger. If the disease is chronic, patients could be using the drugs

for a long time. Do we know what happens when a patient takes a particular drug for 10 or 20 years? These are the questions that clinicians face in routine practice and that medical advisory boards face in deciding which drugs to include in their hospitals' or health-care systems' formularies, or lists of approved drugs. CAPP's goal is to provide research that helps practitioners determine the best, safest, and most cost-effective drugs to prescribe."

To advance this research, CAPP has established formal working relationships with both government and private organizations that provide access to some of the nation's largest health databases, which reflect how millions of patients use medications. Principal among the federal resources is the Veterans Administration (VA), the nation's largest health-care system, which treats some 6 million veterans and issues annually approximately 110 million prescriptions. Kazis and his CAPP co-directors are all senior investigators at the VA Center for Health Quality, Outcomes, and Economic Research in Bedford, Mass., and have a history of close collaboration with the VA's Pharmacy Benefit Management Strategic Health Care Group. In addition, Kazis has experience assisting the Center for Medicare and Medicaid Services

(CMS), which tracks the medication use of the populations these programs serve, in designing surveys and analyzing data. CAPP's commercial partners include firms that collect claims data for Fortune 500 companies and other employer groups. "Given the role employment plays in access to health insurance, these are an important source of information about patients' drug use and clinical results," explains Kazis.



Retail prescription drug cost increased at a far higher rate than all other health spending in the US over a ten-year period.

"There is a real strength in being able to compare data from so many sources," adds Kazis. "If you show a relationship between a drug and an outcome using VA data and then demonstrate a similar result in an employer database, that helps you determine the extent to which you can

generalize from your findings."

How patients perceive their health is also critical for evaluating drugs' effectiveness, and for more than a decade Kazis and his colleagues have collaborated with the VA and CMS to help them monitor their patients' perceptions of their care. The Medicare Advantage Program, in fact, uses a questionnaire that CAPP developed to survey approximately a quarter of a million patients annually. CMS uses this survey to determine their satisfaction with different Medicare plans.

"My colleagues and I have administered well over three million questionnaires since 1996, and the responses to those questions have been shown to be as reliable and valid as the clinical measures that doctors have used in our previous studies," says Kazis. "Patient satisfaction and perceived outcomes of medications are critical measures of a drug's effectiveness; CAPP is able to link this data at the individual level to the medication and treatment data provided by clinicians." Understanding the outcome of routine care, in relation to the safety and efficacy of drugs, helps physicians evaluate the overall course of treatment. Such information is crucial in making appropriate recommendations for medications that are prescribed, for instance, to the frail elderly, a population in which inappropriate drug use is not uncommon.

In developing CAPP, Kazis drew on an interdisciplinary team of colleagues who could offer many points of view from which to approach problems. Donald Miller, ScD, associate professor of health services and the center's director of research, is an epidemiologist who has worked extensively within the VA, helping it design studies that use patient-reported health measures, track the prevalence of diabetes among VA patients, and evaluate the drugs that diabetic patients use to treat the psychi-

atric conditions that can be associated with the disease. Xinhua S. Ren, PhD, assistant professor of health services, has conducted a number of studies that deal with the effectiveness of anti-psychotic medications, in the treatment of schizophrenia. Ren directs CAPP's international research program and currently is preparing to launch collaborative activities in China. Graeme Fincke, MD, associate professor of health services, is CAPP's director of education. His research interests include health outcomes, adverse drug reactions, inappropriate drug use, and medication adherence. In addition, faculty from BUSPH, Boston Medical Center, and Boston University School of Medicine share their expertise, as scientific co-investigators, in specific diseases related to treatment outcomes and in issues of drug efficacy, safety and monitoring, use of services and drug access, as well as health-care economics.

With these extensive resources, CAPP is able to investigate a diverse set of diseases and health circumstances. "Some conditions, such as schizophrenia, depression, and diabetes, for example, are more prevalent among veterans, the Medicaid population, and patients over age 65, and there are a lot of new medications that help treat these disorders," notes Kazis. "Now we can compare how physicians use these drugs and relate this use to the patient's quality of life." Other studies CAPP supports include the effect of combining certain drugs in the treatment of hepatitis C; the relationship of drug use and survival rates for end-stage renal disease; and the effect of chronic pain medication on patients' quality of life.

Another new study, supported by the federal Centers for Disease Control and Prevention (CDC), is examining the quality of care in the treatment of epilepsy. "While epilepsy is a significant neurological disease, there is little consensus about what constitutes the best care," says Kazis. "CAPP is bringing together experts in the field to identify what kind of care provides better quality-of-life outcomes. From this we will develop clinical guidelines and test their use and their effect on clinical results. We will then use this information to establish 'best-practices,' or standards for the treatment of patients with this disease.

"We like to conduct studies on diseases that affect population groups that are more vulnerable," says Kazis, "but we also have done studies on diabetes hypertension, myocardial infarction, chronic heart failure, respiratory diseases, osteoarthritis, and obesity, so our research has a broad reach," Kazis notes.

"There are more problems today that we can solve with drugs," observes Kazis. "We have to make sure that we are getting the best use from them that we can."

When he went looking, in the early 1990s, for a way to attack drug and alcohol problems in communities, David Rosenbloom surveyed the landscape and found this: hundreds of community organizations eager to address the issue, but run by volunteers who had few strategic planning skills, no access to current research, and often operating in isolation.

In addition, he found these highly motivated people were fighting an uphill battle, trying to focus on prevention and treatment in a national climate that wanted to solve the problem with long prison terms or the slogan "Just say no."

"People were banging their heads against the wall because they were operating in a policy environment that impeded their success," says Rosenbloom, PhD, professor of social and behavioral sciences at Boston University School of Public Health (BUSPH). "Policies were punitive, rather than treatment-oriented. Access to treatment was extremely limited and inadequately financed. Existing laws weren't enforced. Alcohol and tobacco advertising to young people was rampant."

join together

An online revolution fights addiction

So in 1991, with an initial grant of \$5 million from the Robert Wood Johnson Foundation, Rosenbloom launched Join Together, a national anti-drug and anti-alcohol program established at BUSPH to take on these challenges. Today the program, which Rosenbloom directs, is the nation's largest provider of research information, planning assistance, and advocacy support for people who are working to advance strategies that prevent and treat alcohol and drug abuse.

Rosenbloom's was the first group of its kind to make strategic use of Web technology, and currently more than a million people consult its main Web site (www.jointogether.org) annually. Its constituents include community leaders, public officials, doctors, nurses, and other treatment professionals, as well as parole officers, clergy, people from labor unions and employee assistance programs, parents and families—anyone trying to help someone tackle a problem with addiction.

BUSPH's preeminence in the field of addiction treatment and research was recognized in 2004 when the National Institute on Alcohol Abuse and Alcoholism awarded the School a \$10 million grant to establish a Youth Alcohol Prevention Center. This was the first research center grant the NIAAA had ever awarded to a school of public health in its 27-year history. Today, Join Together operates as a vital part of that research center, which seeks to understand the etiology and consequences of drinking by young people.

The first problem Join Together addressed was getting research results into the hands of the people who could actually use the knowledge. "Research reports are often dense and obscure, so we needed a way to translate the material into stories that non-specialists could grasp quickly," says Rosenbloom, "and we needed a mechanism for delivering them."

Although the Internet was only embryonic in the early 1990s, Rosenbloom and his team saw its potential for helping them achieve these goals. He designed Join Together as both an electronic service and a peer-based technical assistance and leadership program. "Back then, we had to rely on time-share computers attached by telephone lines to central servers, so we installed lines in people's offices, helped pay the costs of subscribing to an

"People thought we were crazy, but then the Web caught fire and our online services were in place."

—David Rosenbloom, Professor of Social and Behavioral Sciences

online distribution system, and sometimes even bought them computers," says Rosenbloom. "People thought we were crazy, but then the Web caught fire and our online services were in place." For people without electronic access, Join Together published print newsletters, disseminating in its early days two million print pieces annually.

To start its distribution database, Join Together staff surveyed hundreds of community groups. They also found contacts within state governments, kept track of people they met at conferences, and mailed out questionnaires. "Our first five-year goal was to have 800 people around the country use electronic communications," says Rosenbloom. At the end of that initial period, he estimates, Join Together had more than 10,000 users.

Now, every week Join Together posts online summaries of approximately 100 new research reports, press stories, and program updates from all over the country. Each state also has its own Join Together page, which lets users connect directly to their state agencies, get contact information for their elected officials, and follow local developments, such as the progress of the clean-needle debate in the Massachusetts Legislature or the effects of alcohol prevention programs designed for freshmen in Ohio colleges.

Training for the groups presented yet another challenge. "By and large, local agencies were limited to hiring an outside expert who would come to a city or town and provide a one-size-fits-all program," says Rosenbloom, "but this did not help communities learn how to build strong leadership from within. So we organized a Fellows program that brought together community leaders and we worked with them on developing the skills to identify problems, devise strategies, figure out who should be part of the planning (should the police chief be there? do you need a member of the hospital staff? an epidemiolo-

gist from the local university?), and then evaluate their results. We also wanted them to be able to foster this kind of leadership and vision in their own local areas."

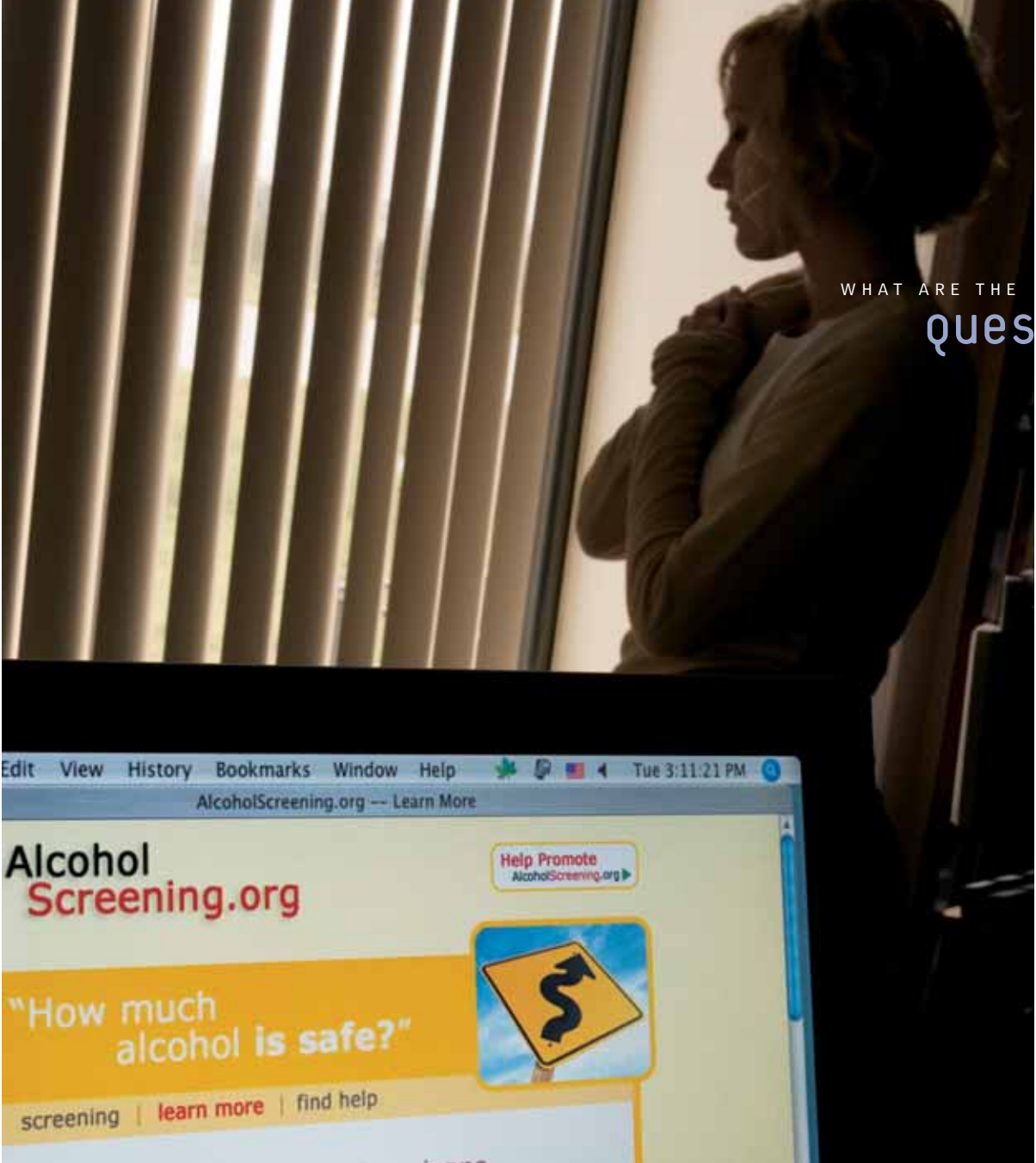
A number of Join Together Fellows have since become national leaders in the fight against drug and alcohol abuse, Rosenbloom reports. Many directors of state drug and alcohol programs were Join Together Fellows early in their careers. The mayor of San Francisco and a former head of the federal Department of Health and Human Services' Center for Substance Abuse Prevention, as well as several judges, have all been Fellows.

Join Together also made a significant switch in the approach used to design drug and alcohol programs. "Drug and alcohol policies tended to be based on ideology, not science," observes Rosenbloom. "Join Together has shown that communities that base their programs on local data—rather than relying on national statistics or listening to the loudest voices—are more successful in identifying their most pressing problems and implementing good strategies," says Rosenbloom.

This change of focus from ideology to evidence and comprehensive strategy has enabled many communities to develop more fully effective programs. For example, communities that participated in the Fighting Back program, administered by Join Together, significantly reduced automobile crashes related to alcohol use, after they increased access to treatment and stepped up enforcement.

Creating good policy is Join Together's third major goal, and to achieve this the organization gathers and engages a mix of experts from different backgrounds, which is key to recommending effective solutions to particular issues. "If we are studying policies that affect state organizations, for example, we recruit former governors, state legislators, and directors of state treatment programs, in addition to community leaders and academics," says Rosenbloom. "We also often try to include people who are currently in recovery, and sometimes these categories overlap. Overall, Join Together has given voice to some very powerful research and made it possible to translate knowledge into effective policies," says Rosenbloom.

In fact, a recent panel has addressed issues of discrimination faced by people with alcohol and drug problems, whether past or present. "For example, any youth with a drug conviction is ineligible for a federal student loan, even if there is no evidence of current use. So a kid who had a misdemeanor conviction for marijuana possession when he was fourteen, say, is denied one of the most important opportunities for getting his life together. If he were convicted of manslaughter, he could still get a fed-



WHAT ARE THE
questions?

What format provides communities with the best available research on drug use?

How can the Internet be used to reach people and influence behavior?

What are the root causes of underage drinking?

eral loan, but not if he were caught with a joint of marijuana," says Rosenbloom. "Thanks to the attention Join Together has brought to this law, it is well on its way to being repealed. Even the law's original sponsor—U.S. Congressman Mark Souder (R-Ind.)—has called for it to be changed."

Rosenbloom stresses that Join Together's purpose is not to generate research but to make it easy for people to access and use helpful information. And some of this includes groundbreaking, interdisciplinary research into drug and alcohol use conducted by BUSPH faculty and their colleagues at Boston University School of Medicine and the Boston Medical Center. Currently, researchers at the Youth Alcohol Prevention Center are experimenting with the use of what they call "brief interventions"—motivational interviews conducted in emergency rooms

with adolescents. This research is being led by Judith Bernstein, PhD, associate professor of maternal and child health at BUSPH and associate professor of emergency medicine at BUSM; Edward Bernstein, MD, professor of emergency medicine at BUSM; and Richard Saitz, MD, MPH, professor of medicine and epidemiology at BUSM.

"The fact that Join Together has become almost a universally recognized brand name in the alcohol and drug field fits perfectly with the mission of the School," Rosenbloom explains. "A core part of this is to be out there, delivering public health. Join Together does this by making its research and training, and also the experience and support of practitioners nationwide, available to everyone who can use it and advance it. That's an important part of our success."

The "AlcoholScreening.org" feature of Join Together's Web site helps viewers evaluate their own alcohol consumption patterns.

Three weeks after **Hurricane Katrina** devastated the Gulf Coast and shut down the city of New Orleans, 12 graduate students from Tulane University School of Public Health and Tropical Medicine registered for classes at Boston University School of Public Health and settled in to start their fall term. They were among more than 300 Tulane students who registered for classes, tuition-free, at Boston University after BU opened its doors to aid the students and the New Orleans university, which was forced to cancel all fall classes in the wake of the storm.

BUSPH has been named one of 12 "engaged institutions"—selected from among 27 applicant schools and graduate programs of public health—to participate in the Engaged Institutions Initiative Focused on Eliminating Health Disparities, which is funded by the W. K. Kellogg Foundation. The national initiative is intended to build the capacity of participating institutions and community partners in working to eliminate racially and ethnically based health disparities in communities. BUSPH established the **Program to Eliminate Racial/Ethnic Health Disparities** as a collaboration of BUSPH faculty and students, community health officials, and community activists. Through the Engaged Institutions Initiative, the program will work closely with Community–Campus Partnerships for Health (CCPH), a nonprofit membership organization that promotes health through partnerships with communities and higher education institutions. CCPH will provide training and technical assistance and will sponsor teleconferences, identify promising practices, and produce resource materials.

The 2005 **William J. Bicknell Lectureship in Public Health** featured presentations on "Influenza: Old and New Threats," by Peter Palese, PhD, chairman and professor, Department of Microbiology, Mount Sinai School of Medicine, and on "Nature Against Man: Lessons from the 1918 Influenza Pandemic," by noted author John M. Barry, Distinguished Visiting Scholar at the Center for Bioenvironmental Research, Tulane University. Barry and Palese joined in a panel discussion that included George Annas, JD, MPH, chairman and Edward R. Utley Professor, BUSPH Department of Health Law, Bioethics, and Human Rights; Alfred DeMaria Jr., MD, assistant commissioner, Department of Public Health, and director, Bureau of Communicable Diseases, Commonwealth of Massachusetts; and Lone Simonsen, PhD, senior epidemiologist, Office of Global Affairs, National Institute of Allergy and Infectious Diseases.

The **Sol Levine Lectureship on Society and Health** for 2005, "Fundamental Cause or Proxy? Understanding the Role of Socioeconomic Status in Health," was presented by Bruce G. Link, PhD, professor of epidemiology and sociomedical sciences, Mailman School of Public Health, Columbia University, and research scientist at the New York State Psychiatric Institute. Link spoke on how, and under what conditions, social and economic inequalities are translated into health disparities. He also addressed the need to test the "fundamental-cause" thesis—that related assets of knowledge, money, power, prestige, and beneficial social connections are flexible resources that allow people to gain a health advantage in diverse circumstances.

Internationally respected leaders and practitioners in the areas of public health, health science, health policy, the social sciences, and the arts gathered at the inaugural event of the BUSPH-based **Global Health Initiative** (GHI), a University-wide effort aimed at improving the health and well-being of populations throughout the world and educating a new generation of global citizens. Experts from developed and developing countries participated in the four-day summit, "Global Health: A Bridge to the Future," and considered from varying perspectives how key global health issues will evolve over the next 50 years.

Sima Samar, MD, chair of the Afghan Independent Human Rights Commission and GHI Distinguished Visiting Scholar, addressed members of the Medical Campus community on "The Hidden War: Obstacles to Health Care for Afghan Women." A leading authority on women's health and human rights issues in Afghanistan, Samar founded the Shuhada Organization in 1989, in order to implement programs in health, education, construction, and income-generation that will improve the lives of women and children in her country and those living as refugees in Pakistan. The recipient of numerous honors, including the 2004 Jonathan Mann Award for Health and Human Rights, Samar served as the country's first Minister of Women's Affairs during the interim government, leading the effort to restore economic, political, legal, and social rights to women. As the current chair of the Afghan Independent Human Rights Commission, she oversees the conduct of human-rights education programs across the country, the implementation of a nationwide women's rights education program, and efforts to monitor and investigate human-rights abuses.

Kenneth Watman, PhD, JD, deputy director of strategic planning for the U.S. Air Force, joined the School's Board of Visitors. Watman is the former dean of the Center for Naval Warfare Studies at the Naval War College in Newport, Rhode Island, for which he oversaw military research, analysis, and war gaming for the U.S. Navy and the Department of Defense. He brings to BUSPH unique strengths in the area of preparedness studies and the management of academic institutions.

BUSPH Board of Visitors member **Evelyn Murphy**, founder and president of WAGE (Women Are Getting Even) Project, Inc., a nonprofit organization dedicated to closing the gender-based wage gap in the United States, addressed the Medical Campus community on the topic of gender-based pay inequity. She is the author of *Getting Even: Why Women Don't Get Paid Like Men and What To Do About It*. Murphy was the first woman in Massachusetts history to hold statewide office, serving as lieutenant governor from 1987 to 1991.

Elaine J. Alpert, MD, MPH, associate professor of social and behavioral sciences, was appointed by the American Bar Association to serve as a member of its Commission on Domestic Violence. The commission works, through a series of initiatives, to mobilize the legal profession in pursuit of justice for survivors of domestic violence. Alpert is widely known for her collaborative approach to education, prevention, and community outreach in relation to family violence, sexual assault, and alcohol-related trauma.

William DeJong, PhD, professor of social and behavioral sciences, was named a member of the Mothers Against Drunk Driving (MADD) Massachusetts Operations Council. The council advises the MADD state executive director on awareness programs, events, and political strategy.

DeJong also was appointed to the National Academies' Committee on Contributions from the Behavioral and Social Sciences in Reducing and Preventing Teen Motor Vehicle Crashes. The National Academies serves as advisers to the nation on matters relating to science, engineering, and medicine. The committee is jointly sponsored by the Institute of Medicine at the National Academies and the Transportation Safety Research Board.

In addition, DeJong was named a contributing editor to *Prevention File: Alcohol, Tobacco, and Other Drugs*, a national magazine for practitioners focused on research

and policy issues in substance use prevention. DeJong will contribute commentary for each issue on current trends, public policies, and intervention programs related to the reduction of health and safety problems due to alcohol, tobacco, and other drug use. He recently wrote two articles for the spring 2006 issue—"RhodeMap to Safety: A University of Rhode Island campaign to reduce off-campus alcohol problems," and "Gambling: The new addiction crisis in higher education."

Marianne N. Prout, MD, MPH, professor of epidemiology at BUSPH and associate director of the Boston University School of Medicine Cancer Center, was awarded the American Cancer Society's 2005 St. George National Medal by the Society's New England Division Board of Directors.

Leslie I. Boden, PhD, associate chair and professor of environmental health, was elected a fellow of the Collegium Ramazzini, a prestigious international society of scholars and practitioners in environmental and occupational health. **David Ozonoff, MD, MPH**, chairman emeritus and professor of environmental health, is also a member of the society.

George Annas, JD, MPH, chair and Edward R. Uteley Professor of Health Law, Bioethics, and Human Rights, delivered the 2005 University Lecture at Boston University. His topic was "American Bioethics After Nuremberg: Pragmatism, Politics, and Human Rights." The University Lecture was established in 1950 to honor members of the Boston University faculty who are engaged in outstanding research. It provides an opportunity for all members of the University community—as well as the general public—to meet a distinguished scholar of recognized excellence.

Mary Barger, MPH, BSN, assistant professor of maternal and child health, received the Loretta P. Lacey award from the Association of Teachers of Maternal and Child Health (ATMCH) in recognition of outstanding academic leadership by a mid-career individual.

H. Kristian Heggenhougen, PhD, professor of international health, was named editor-in-chief of Elsevier Press' forthcoming *Encyclopedia of Public Health*, an authoritative and comprehensive seven-volume guide to the major issues, challenges, methods, and approaches to global public health. Joining Heggenhougen in the project are other BUSPH faculty as well as faculty from Boston University's Charles River Campus and Medical Campus:

Gerald T. Keusch, MD, BUSPH associate dean for global health, is serving on the editorial advisory board, and Associate Professor of International Health **Davidson Hamer, MD**, is co-editor of a section on infectious diseases. Two BUSPH faculty members are contributing articles: Professor of Environmental Health **Richard Clapp, DSc, MPH**, is writing on nuclear energy use, and Assistant Professor of International Health **Taryn Vian, MSc**, will write about corruption and the consequences for public health.

Michael LaValley, PhD, associate professor of biostatistics, and coauthors were awarded first place by the American Rehabilitation Counseling Association (ARCA) for their article, "Employment and Satisfaction Outcomes from a Job-retention Intervention Delivered to Persons with Chronic Diseases," which appeared in the *Rehabilitation Counseling Bulletin* in 2005. Coauthored with Saralynn Allaire and Jingbo Niu of the Clinical Epidemiology Research and Training Unit at BU's School of Medicine, the article is based on a study of subjects with arthritis who were concerned about losing their jobs as the result of disability.

The American Public Health Association (APHA) awarded an Honorable Mention to the Lead-Safe Yard Intervention Project, which is co-led by **H. Patricia Hynes, MA, MS**, professor of environmental health. One of only 10 community-based projects honored nationwide, the intervention project was highlighted during National Public Health Week, in April. Programs recognized in 2005 focused on the relationship between built environments and the health and safety of children. The Lead-Safe Yard Intervention Project is associated with an APHA national campaign that will culminate in a variety of media- and community-based activities to promote the development of healthier built communities for children. The Lead-Safe Yard Intervention Project will also be part of a special session at the 2006 annual meeting of the APHA, which will be held in Boston.

L. Adrienne Cupples, PhD, professor of biostatistics, was awarded a \$1.32 million, five-year training grant, "Interdisciplinary Training for Biostatisticians," from the National Institute of General Medical Sciences (NIGMS). The grant supports predoctoral training in biostatistical theory and methodologies that are related to basic biomedical research, including bioinformatics, genetics, and epidemiological clinical and behavioral studies. In addition to completing the required coursework for the doctoral degree, students are expected to participate in a seminar and rotations that expose them to the practice

of biostatistics in the biomedical and biotechnical sciences. Teaching faculty and research mentors are grouped into three core areas: observational studies, clinical research/trials, and genetics/bioinformatics.

Mary K. Barger, MPH, BSN, assistant professor of maternal and child health, received a Stanford Nurses' Legacy Research Grant of \$10,000. The grant supported "A case-control study of labor management risk factors for uterine rupture." Barger also is the recipient of a March of Dimes Nursing Scholarship, which provides funding for maternity nurses who are doctoral candidates.

David Gagnon, MD, PhD, MPH, assistant professor of biostatistics and director of biostatistics for the Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC), participated in a year-long program sponsored by the National Science Foundation and the American Statistical Association. Gagnon served as a mentor for INSPIRE: Insight into Statistical Practice, Instruction, and Reasoning, which pairs statisticians with high school educators who teach AP statistics. Through regular meetings and a research project, the program helps high school teachers enhance their overall understanding of statistics.

George J. Annas, JD, MPH, and **Michael A. Grodin, MD**, coedited (with Sofia Gruskin and Stephen P. Marks) *Perspectives on Health and Human Rights* (Routledge, 2005). Annas is Edward R. Utley Professor and chair, Department of Health Law, Bioethics, and Human Rights; Grodin is professor of health law, bioethics, and human rights. The volume explores the linkages between health and human rights in advancing the overall well-being of populations.

Members of BUSPH's Department of Health Law, Bioethics, and Human Rights joined distinguished commentators, scholars, and national leaders in examining "The Terri Schiavo Case: One Year Later" at the Second Annual Health Law Program Conference. The event was cosponsored by BUSPH and Boston University School of Law and featured US Congressman Barney Frank as the keynote speaker.

Taryn Vian, MSc, assistant professor of international health, contributed a chapter—"The Sectoral Dimensions of Corruption: Health Care"—to *Fighting Corruption in Developing Countries* (Kumerian Press, 2005). The book considers the problem of corruption in developing countries through the lens of key development sectors and to identify concrete initiatives that will have an impact.

Wendy Heiger-Bernays, PhD, associate professor of environmental health, was appointed to the Bureau of Waste Site Cleanup's Advisory Committee by the assistant commissioner of the Massachusetts Department of Environmental Protection (MADEP). She is serving as the academic representative to the committee on the basis of her experience in the areas of human health risk assessment and regulatory toxicology.

Richard W. Clapp, DSc, MPH, professor of environmental health, was the inaugural recipient of the Science for the Benefit of Environmental Health award, established by the Toxics Action Center, the New England Grassroots Environment Fund, and the Boston University Superfund Basic Research Program. The honor acknowledged Clapp's contributions above and beyond the call of duty, in his research, testimony, and broader assistance to communities and workers across New England and throughout the nation.

Alisa K. Lincoln, PhD, MPH, assistant professor of social and behavioral science, received a three-year award of more than \$650,000 from the National Institute of Mental Health to fund research on "Psychiatric Emergency Room Care: Staff Perspectives." The study aims to understand better what occurs in busy, urban psychiatric emergency rooms. Research will focus on staff and other stakeholders in such care, their interactions with patients, and their perspectives, attitudes, and beliefs.

Roberta White, PhD, chair and professor of environmental health, addressed officials at the Massachusetts State House about her research on the neurological effects of industrial chemicals. Her talk as part of a day-long event organized to advocate for the overall reduction of environmental exposures to toxic compounds. Her presentation included discussion of the medical and behavioral disorders associated with exposures to heavy metals and solvents in early childhood, as well as the neurological consequences of these exposures in aging. The event was organized by Clean Water Action's Alliance for a Healthy Tomorrow and co-sponsored by 30 health advocacy organizations that are working toward a reduction in the release of toxic chemicals.

Helene Gayle, MD, MPH, president and CEO of CARE USA, presented the School's twenty-eighth Commencement address. Gayle told graduates that when she was growing up she had considered herself an anti-establishment activist and never thought much about a career in medicine or public health. But by her junior year in

college, she said, "I began to see how a career in health could be an amazing path for contributing to social change . . . and that social change was better achieved by being *for something* rather than being *against everything*."

Awards

The Norman A. Scotch Award for Excellence in Teaching was presented at Commencement to Elaine J. Alpert, MD, MPH, associate professor of social and behavioral sciences.

The newly established *Katherine M. Skinner Memorial Prize* was presented to Leah M. Gasset, in recognition of her dedication to the study of women's health issues.

Other awards and honors presented at Commencement 2006, in recognition of outstanding achievements by students:

Dean's Award for Student Research—Jessica Nelson, Emma Rodrigues, Megan Romano, and William Zawatski; for poster titled "Something Is Fishy: Assessing Fish Consumption Data and Biomarkers of Mercury Exposure"

Herbert L. Kayne Prize for Excellence in Biostatistics—Elizabeth Erica Wood

Theodore Colton Prize for Excellence in Epidemiology—Manuela Vaz de Costa

Allan R. Meyers Memorial Prize for Excellence in Health Services—Victoria Anne Nethercot and Mark Stephen Ribble

Rex Fendall Award for Excellence in Public Health Writing in the Department of International Health—Amgaa Oyungerel and Donatille Siniremera

John Snow Award in International Health—Joel Leo Boutin and Lynley Ann Rappaport

Boston University School of Public Health depends on the generosity of alumni and friends to support its mission of teaching, research, and service. The following lists acknowledge gifts to various funds, including the School's Annual Fund, made July 1, 2005, through June 30, 2006.

Gifts to BUSPH's Annual Fund provide unrestricted support to the School's highest priorities. Donors whose names are marked with an asterisk have made donations to the Annual Fund at levels that qualify them for membership in the following Annual Leadership Giving Societies: President's Associates (\$10,000+); The Talbot Society (\$5,000+); Leaders Society (\$1,000+).

It is important to us that we acknowledge your gift properly; please let us know of any omissions or errors in listing your name or gift, by calling 617-638-5291.

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William Bicknell and Jane Hale
 Jeannine Rivet '81*
 David Rockefeller Jr.*

\$1,000–\$9,999

Anonymous
 Anonymous*
 Sharon Britton and John Patrick*
 Stephen Caulfield*
 Martin and Andrew Farach-Colton
 L. Adrienne Cupples*
 Richard and Gail '88 Douglas*
 Andrew Dreyfus*
 Frances Drolette*
 Christopher Gabrieli*
 Hilary Gabrieli*
 Paul Gertman*
 Leonard Glantz
 Janice Griffin
 C. Robert Horsburgh Jr. and E. Britan Lundberg*
 John Howe III*
 Jonathan Howland '84*
 Joel Lamstein
 Robert Meenan*
 Carolyn Mugar
 Kevin Phelan*
 Mark Prashker '93*
 James Sherblom*
 Daniel Skinner
 Julie Wisniewski '00*

\$500–\$999

Marcia Angell
 Amy Aulwes '94
 Leslie Boden
 Carolyn Colton
 Theodore Colton
 Arthur Culbert Jr.
 Hania Dawani '86 and Samuel Ihemdi '85
 Sally Deane '88
 Michael Grodin
 Bruce Lowe '85
 David Rosenbloom
 Jonathon Simon
 Diana Walsh
 Stephen and Sandy Waters
 Roberta White

Up to \$500

Lisa Adler
 Majed Al-Zedjali '03
 Barbara Alpert '79
 Kellie Anderson '02
 George David Annas '01
 Lynn Armstrong '93
 Moriah Armstrong
 Janice Arruda '04
 Ann Aschengrau and George Seage III '91
 Hermik Babakhanlou-Chase '01
 Sarah Bachrach '84
 Laura Badger '06
 Bobbie Bagley '02
 Diane Baker '90
 Alan Balsam '82
 James Barbato '90
 Cynthia Barber '89
 Mary Barger and John Kelleher
 Thomas Barker '85
 Nancy Barsamian '91
 Aliu Bello '87
 Steven Robert Bergquist '93
 Dan Berlowitz '87
 Toby Bernstein '86
 Judith Bessoff '82
 Lynn Bethel '95
 Kathleen Betts '83
 Gerald Billow
 Alice Bisbee '86
 Tristram Blake '79
 Nancy Bloom '87
 Carol de Groot Bois '83
 Kodjo Bossou Hunkali '05
 Melissa Marie Bottrell '95
 Suzi Bouveron '91

Joshua Boxer '01
 Thomas Bradley '85
 Keith Briggs '90
 David Britto '85
 Daniel Brooks '88
 James Burgess
 Cheryl Burns '80
 James Byrd '85
 Howard Cabral '86
 Elizabeth Caddick '83
 Charlene Cain
 Marlana Calli
 Robert Canning '87
 Kristen Carlson-Lewis '87
 Margaret Casey '89
 Susan Cavanaugh '00
 Jill Center '98
 Katherine Chao '95
 Martin Charns
 Sandra Chelton '86
 Amy Chesal '04
 Cindy Christiansen
 Ellen Church '03
 Mary Clancy '03
 Richard Clapp '89
 John Cloherty '89
 Gerald Coffman
 Elizabeth Cohen '02
 Aaron Cohen '91
 Julie Cosio '04
 Jill Costello '05
 Melissa Cote '05
 O'Dea Culhane Coughlin '79
 Irene Crabtree-Felsman '85
 Constance Cramer
 Theodore Cronin '80
 Larry Cross '93
 Charlotte Crowder '83
 Karen Daley '88
 Brent Davison '82
 Betsy De Leiris '96
 Carolina Grace Dedosantos-Valivia '94
 Carolyn DelGuercio '91
 Patricia Demers '88
 Mary Desilva
 J. M. Devlin '87
 Linda Doctor '85
 Susan Dodge '99
 Thomas Dolan '92
 Kathleen Donnelly Cuddy '94
 Terence Dougherty '83
 John Douglas
 Mari-Lynn Drainoni
 Mary Dumas '98
 Yves Dumas '05
 Rebecca Dunk '98
 Joline Durant
 Sarah Dwyer
 Susan Eisen
 Merrill Elias '96
 Priscilla Elliott '90
 Jonathan Ellis '84
 Arthur Ensroth '04
 Barbara Epstein '96
 A'Nova Ettien '06
 Midori Evans '96
 Ellen Faden '82
 Audrey Fannon '80
 Jessica Fefferman '01
 James Feldman '06
 Rosemarie Ferr
 Terry Field '88
 Susan Flanagan '83
 M. C. Fleming
 Lori Fontaine '97
 Susan Frayne '92
 H. S. Freireich '91
 Georgina Friedenber g '82
 Stephan Gaehde '98
 David Gagnon '89 and Carla Van
 Bennecom '86
 Manana Gagua '02
 Kathleen Gallagher '84
 Paula Gallagher '86
 Rita Gardner '98
 Alan Geller '90
 Karyn Gello '83
 Deborah Glotzer '90
 Joyce Goggins '99
 Karen Goldaber '88
 Paula Goldman '84
 Miguel Gonzalez '95
 Brian Gorman '03
 Joyce Goulart '83
 Barbara Graves '84
 Nina Greenbaum '95
 Merrill Griff '81
 Martha Groton '89
 Martha Grover '94
 Julia Gunn '91
 Jinna Halperin '02
 Cristina Hammond '99
 Carolyn Hardin '89
 Elizabeth Hatch
 Anne Hatcher
 Judith Hearst '80
 Jerilyn Heinold '80
 Heidi Henderson '98
 John and Rosalie '91 Hermos
 M. Lise Hildebrandt '04
 Heidi Hoffman '94
 Erika Holmberg '04
 Meghan Howe '05
 Annong Huang '06
 H. Patricia Hynes
 Nancy Ellis Ice '87
 Michele Jara '91
 Alan Jette
 Claude Joseph '05
 Marie-Charles Joseph '98
 Marla Kahn '80
 Ruth Karacek '90
 Robert Katz '83
 Michelle Kavooosi '96
 Christine Kearns '93
 Dorothy Kelly-Flynn '86
 James Kemp '94
 Denise Kenneally '99
 Mark Keroack '00
 Gerald Keusch
 Mary Keville '79
 Douglas Kiel '86
 Maria Kirsch '94
 Laura Knight '03
 Wang-Cheng Ko '01
 Howard Koh '95
 Milton Kotelchuck
 Elizabeth Kraft '84
 Stacylee Kruuse
 Grace Kumar '00
 Heidi Kummer '04
 Michael LaValley
 Wayne LaMorte '94
 Lee Lanza '80
 Jean-Robert Larrieux '92
 Colette Lavoie '81
 Clare LaMorte '99
 Adam Lebowitz '92
 Seymour Lederberg
 Samuel Lesko
 Suzette Levenson '84
 Elizabeth Levine '96
 Mary Lisbon
 Christine Lloyd-Travaglini '97
 Julia Long '05
 Russell Lopez '03
 Susanne Machacz '99
 Robbin MacDonald
 Barbara Mahon
 David Mailhot '84
 Deborah Maine
 Dorcas Mansell '91

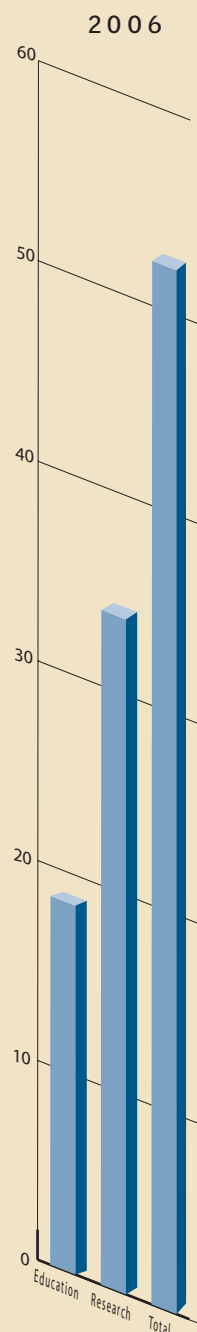
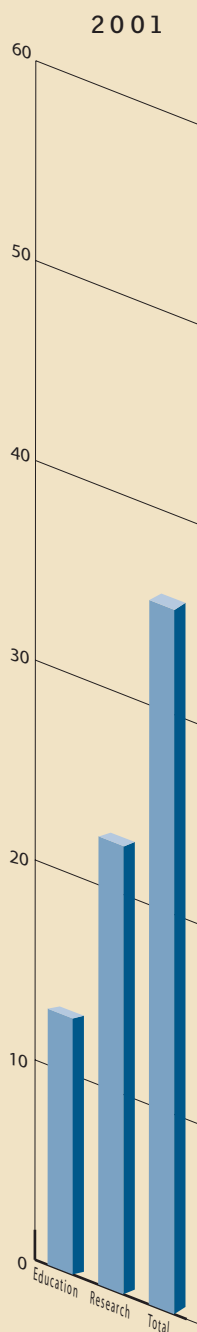
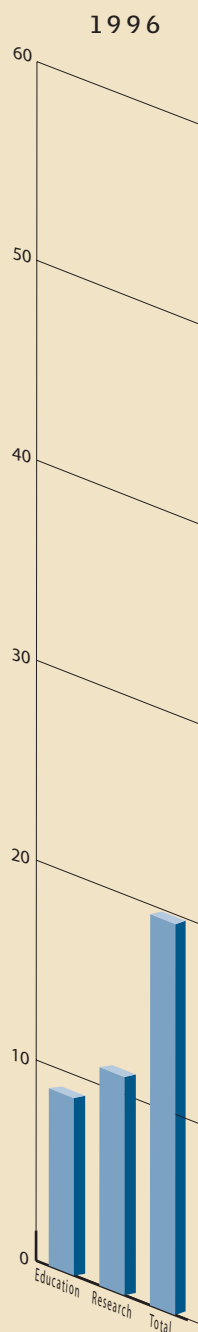
Sharon Marable '92
Wendy Mariner
Sarah Marter '83
David Matteodo '85
Laura Matthews
Nancy '96 and Keith Maxwell
Sandra McCormack '81
F. Patricia Mceachrane-Gross '04
Maura Mcqueeney '97
Kelly McCoy '05
Susan McLaren
Donald McLean Jr. '94
Evaneth McPhee '91
Sharon Meekin '95
Douglas Mesler '97
Jana Meyer '04
Sara Minsky '96
Allen Mitchell
Rudolph Mitchell
Ruth Montgomery '80
Gary du Moulin '80
Peter Moyer '03
Patricia Muck
Marc-David Munk '99
Evelyn Murphy
Susan Murray '83
Dipesh Navsaria '95
Karen Nemeth '81
Doreen Nicastro '89
Monica Nulkar '91
Gerald O'Connor '87
Maryellen O'Donnell '78
Onyeka Obasi '05
George Odongi '99
Norman Olembo '96
Susan Oliveria '89
Elizabeth Ollen
Daniel Ollendorf '94
Al Ozonoff
David and Torie Ozonoff
Susan Paadre '87
Michael Pagedas '02
Marilynn Paine '88
Samatha Reddy Panati '05
Nilam Patel '95
William Patterson '90
Elizabeth Pearce '04
Barbara Perry '83
Patricia Peterson '93
Linda Ann Piwowarczyk '97
Richard Plotz '92
Margaret Polito '93

Lewis Pollack
Nalini Potineni '92
Munro Proctor '92
Marianne Prout
Pamela Rapp '80
Marianne Reardon '04
Ludmila Reategui Sharpe '05
Peter Reich '79
Marjorie Reiter '84
Marilyn and Edward Ricciardelli
Laura Rice '90
Sheryl Rimer '82
Elena Rivero '91
Whitney Robbins '88
Patricia Roche
Cathleen Rowland '99
Kathleen Rowlings '96
Rebecca Ruggles
Jeffrey Samet '92
Maria Sanchez '87
Betsy Sandberg '96
Christina Santangelo '03
Tatiane Santos '04
Marguerite Saporito
Frederick Schaefer '84
Ira Schlosser '03
Paul Schroy III '98
Norman and Freda '80 Scotch
Paul Scott
Elizabeth Serlemitsos '93
Kathleen Shattuck '04
Tara Shea '98
Matthew Shedd
Elizabeth Sheils '03
David Sherr
Sheila Shulman '87
Mary Shupe '90
Michael Siegel
Elaine Silverman Magari '97
Melanie Simons '90
Toby Sklarew
Alice Skolnik '87
Ellen Skrynness '84
Jeorcinda Slic
Robinson Smith
Deborah Socolar '89
Guna Spalvins
Leslie Spaneas '89
Jean Spencer
Beryl Spencer '80
Karen Spiller
Roseanna Spizzirri '80

Michelle Stakutis '89
Theodore Stefos
Rose Strain '78
Kathleen Stuchiner '88
Jose Suaya '99
I. A. Sutherland '95
Nargiz Shamilova '02
Lorraine Talbot '85
Donald Thea
Ralph Timperi '83
Carol Tobias
Evette Toney '01
Dina Traniello '84
Barbara Tuthill '82
Stephen Vanech '01
Lawrence Vernaglia '94
Taryn Vian
Angela Vieira '92
Christopher Vincze '85
Elizabeth Walker-Corkery '88
Ann Walsh
Susan Walton-Cizik '93
Steven Ward '95
Carolyn Wehler '01
Miriam Weil '90
Elissa Weinberg '00
Bruce Weinstock '97
Joshua Weissman
Roy White
Heidi White '97
D. J. White '96
Julie Wicklund '95
Spencer Wilking '87
Ilga '99 and Hartmut Wohlrab
Marvin Wool '82
Hui Xie
Marianne Yood '90
Gary Young
Irin Youssef '01
Amy Zastawney '93
Theodore Ziegler
Elizabeth Ziembra '01
Suzanne Zipes

BY THE NUMBERS: A TEN-YEAR PERSPECTIVE

INCOME (in millions)



INCOME

1996

2001

2006

Education

Tuition and Fees
Other

\$8,426,153
\$456,645

\$12,562,735
\$250,670

\$18,272,912
\$175,000

Research

Direct Costs
Indirect Costs

\$9,175,876
\$1,748,551

\$20,671,820
\$1,757,470

\$27,619,194
\$6,144,023

Total Income

\$19,807,225

\$35,242,695

\$52,211,129

FULL-TIME FACULTY

65

119

140

MATRICULATED STUDENTS

495

540

640

STUDENT SCHOLARSHIP PROGRAM

\$611,025

\$1,125,030

\$1,906,441



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