

changing behaviors,
**changing
lives**

Boston University School of Public Health
Dean's Report 2004-2005

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I am pleased to present the fifth annual Dean's Report of the Boston University School of Public Health. Since its founding in 1976, the School has been committed to supporting research on substance abuse. Drugs, alcohol, and tobacco, in aggregate, constitute perhaps the greatest threat to public health in the United States. For this reason, the School's research and outreach activities continue to focus on the identification and dissemination of effective modes of addiction prevention and treatment.

Norman Scotch, our founding dean, conducted BUSPH's inaugural studies in this field of research, linking life stress to the development of problems with alcohol. In the following years, investigators at the School conducted the first studies on fetal alcohol syndrome, in conjunction with colleagues at Boston City Hospital.

Research done at BUSPH was instrumental in lowering the legal limits of blood-alcohol levels and raising the drinking age to 21—both of which have resulted in significant declines in traffic accident mortality nationwide. In 1991, with a grant from the Robert Wood Johnson Foundation, the School established Join Together, a program that helps advance drug and alcohol policy and treatment and works with communities to increase opportunities for prevention.

QuitNet, the Internet's first site to provide ongoing education and social support to those who want to give up cigarettes and other tobacco products, was launched by the School in 1995, with the assistance of the American Legacy Foundation. Just last year, BUSPH was awarded an unprecedented \$10 million grant from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to establish the Youth Alcohol Prevention Center.

These efforts, and more, are part of BUSPH's historic mission to serve communities both local and global, and to forge connections among scholars, advocates, and organizations that are critical to the promotion and maintenance of effective public health efforts. The dedicated individuals engaged in this work have sought to understand the causes and behavioral issues surrounding substance use and abuse, and to offer hope in the form of cutting-edge treatments and strategies. They have "trained the trainers," spreading the message of peer counseling, early intervention, and nonjudgmental approaches to health professionals across the nation.

Perhaps most importantly, BUSPH has focused on substance use among young people—where prevention and treatment efforts can produce life-long benefits. Drug, alcohol, and tobacco use can begin well before the teen years, cutting across racial and class lines and causing problems across a broad range of life activities. Our focus on addictions in general and alcoholism in particular among youth represents a strategic commitment by the School, and it is resulting in simple yet enormously effective prevention strategies that, it is hoped, will continue to produce positive results for decades to come. ■



What are the
Costs
of drug, alcohol,
and tobacco
addictions?

40%

of those who start to drink
before the age of 14 become
dependent on alcohol

4,554 people under the
age of 21 die each year due to
excessive use of alcohol

\$50 billion is spent, annually, in medical
expenses alone, to treat the health consequences of smoking

\$108.8 billion
annual estimated economic cost of drug abuse

unmeasurable
grief and heartache

Treating the child to cure the adult

"Many people don't realize it," says David Rosenbloom, PhD, "but tobacco, alcohol, and illicit drugs are the underlying causes of between a quarter and a third of all deaths in the United States every year. The death certificates may state the cause of death as heart disease or cancer, but the reality is that heart disease and cancer are often caused by smoking, alcohol, and, in some cases, illicit drugs."

Despite that gloomy statistic, Rosenbloom, director of BUSPH's Youth Alcohol Prevention Center, believes there is reason for optimism. "Addiction is a disease that can be prevented and treated like other diseases, and we need to think of it that way," he says. "There is tremendous potential to expand significantly both our research and our practice in the prevention and treatment of alcohol, drug, and tobacco problems."

BUSPH's Youth Alcohol Prevention Center was founded in 2004 with a \$10 million grant from the National Institute on Alcohol Abuse and Alcoholism, which is a division of the National Institutes of Health. The award marked the first time the School had ever received a center grant from the NIH, as well as the first time that NIAAA had awarded a center grant to a school of public health (the majority of its grants are made to medical schools).

Such high-level support reflects a new understanding about the significance of drinking among young people. "There is increasing scientific evidence that alcoholism develops in adolescence and that the vast majority of people who will ever have the disease can be diagnosed by the time they are 24," says Rosenbloom. "The challenge for our center is to learn the key triggers to early alcohol dependence and to develop and test prevention and intervention programs that are powerful enough to be effective. At BUSPH, we are particularly interested in improving screenings, conducting brief interventions, and using referral programs in health care settings in the community and on the Internet, because they have been shown to be so effective in reducing risky drinking and drug taking." He notes that there are a number of center-sponsored studies currently under way that include looking at the reasons young people start drinking, in order to see what kinds of early interventions might prove most effective. "Among them are things like testing the efficacy of brief interventions to reduce and prevent drinking and drug taking in adolescents who come to an emergency room. We are also testing the effect of drinking to intoxication on next-day academic performance. We are using the Web as a screening tool to identify and reduce risky drinking by college freshmen. And we are examining cultural differences in early-onset drinking and implementing environmental strategies to reduce risky drinking on five college campuses in Massachusetts."

The center brings together researchers from BUSPH as well as from Boston University's College of Arts and Sciences, School of Social Work, and School of Medicine.



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—DAVID ROSENBLIOM

“This interdisciplinary approach is very important,” Rosenbloom observes, “because a complex interaction of physical and mental factors, genetics, brain structure, and social factors lead to addiction. No single set of scientific tools is enough to figure out how to prevent and treat the conditions. If a young person has a ‘genetic loading’ for alcohol, has been a victim of violence in the home and community, lives with an untreated alcoholic parent, and is depressed, then a few minutes of ‘Just Say No’ prevention messages in school or on television are not likely to do much to prevent him from starting to drink when he is 11.”

Policy and service activities at the center are also important, notes Rosenbloom, because overall financial support for drug and alcohol treatment has been declining in the past decade—just as new, more effective treatments are becoming available. Private insurers and governments have reduced payments as well as coverage for prevention and treatment services. Government rules and employment practices often make it impossible for people who have recovered from drug or alcohol addiction to get a loan for education, a job, or even a place to live. “It all adds up,” Rosenbloom says, “to prejudice and discrimination against people who have alcohol or drug problems.”

Boston University School of Public Health has long been a leader in the field of alcohol and drug research. The School’s first dean, Norman Scotch, was a nationally known alcohol researcher who linked life stress to the development of problems with alcohol. “BUSPH has a historic mission that includes service to the community,” Rosenbloom says. “Research on the health of populations and on drugs, alcohol, and tobacco has been the focal point since day one. The Youth Alcohol Prevention Center will continue in the tradition of the work we’ve already established at BUSPH, which shows that changing the environment and changing policy can save lives.” ■

Predicting pathways of high-risk behavior

“STARTING TO DRINK at a young age is a predictor of many high-risk behaviors throughout life, from alcohol abuse and dependence to violence,” says John Hermos, MD, an associate professor of medicine and public health at Boston University. “People who start drinking as teenagers are up to eight times more likely than later-onset drinkers to report having misused psychoactive prescription drugs—tranquilizers, sedatives, painkillers, and stimulants—at some point in their lives.”

A strong advocate of evidence-based medicine, Hermos worked with BUSPH colleagues Michael R. Winter, MPH (’93), Tim Heeren, PhD, and Ralph Hingson, ScD, MPH, from the School’s Youth Alcohol Prevention Center to analyze a nationwide survey of 49,000 people. The survey was conducted by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), in 2002.

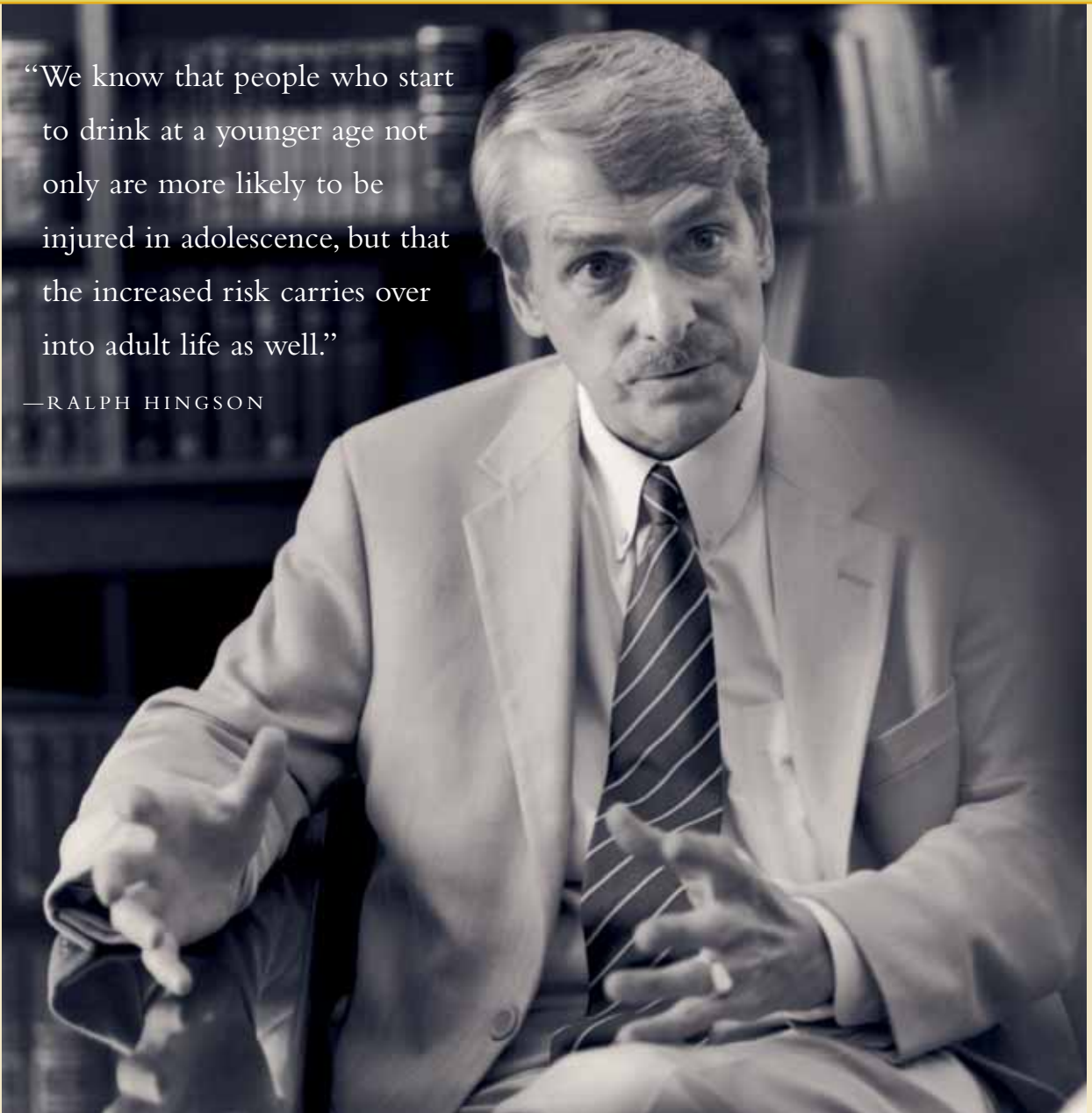
“We found a striking linear progression,” says Hermos. “The earlier people start to drink, the higher the odds of prescription-drug misuse, even when controlling for other personal and clinical factors that might affect the association. The numbers go from 1.5 times more likely, to twice as likely to four times more likely and right up. We found that those who started drinking by age 14 had an eight-times-higher incidence of abusing prescription drugs.”

The study also showed that about three-quarters of those with a problem either started drinking before they began abusing prescription drugs, or undertook both behaviors at roughly the same age. “There are a few theories for this,” Hermos says. “One is the gateway theory, which holds that teenagers start to drink or smoke cigarettes and then move on to other kinds of addictive substance abuse. Another, probably more valid theory is the common-risk model: a substance-using environment increases the opportunity for multiple substances to be used. There may also be a familial or genetic predisposition to these types of problems. But at this point a clear cause-and-effect relationship has not been established.”

There is an important twofold message, says Hermos. First, since early-onset drinking appears to be a key predictor of other risk-taking behaviors, policies and practices must focus on identifying and reducing early drinking and its consequences. Second, doctors might consider drinking behaviors in their young patients a potential warning sign when prescribing psychoactive drugs that can be abused.

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—RALPH HINGSON



Linking research and policy to save lives

Ralph Hingson, ScD, MPH, always dedicates his scholarly papers to a victim of a drunk-driving crash or underage drinking as a reminder that high-quality research needs to be aligned with policies that will save lives. Hingson, a professor in the Department of Social and Behavioral Sciences, along with Timothy Heeren, PhD, and Michael R. Winter, MPH ('93), is credited with providing scientific evidence for the benefits of raising the legal drinking age to 21, for lowering the drunk-driving limit to an .08 percent blood-alcohol level, and for establishing zero-tolerance laws that make it illegal for persons under 21 to drive after consuming any measurable amount of alcohol. Now Hingson is applying his passion and skill as the director of the new Division of Epidemiology and Prevention at the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Here, he reflects on lessons learned in regard to underage drinking and the effectiveness of intervention.

Q: Why is it important to focus on the problems young people have with alcohol?

A: When Ting-Kai Li became director of the NIAAA, in 2002, he looked at the most recent national survey that examined the proportion of the population that was alcohol dependent and the proportion that sought treatment. He realized that while the majority of people in treatment were middle aged, the majority of people who would become alcoholics could be diagnosed by age 25. Dr. Li concluded that the conventional wisdom—that alcoholism is a disorder of middle age—didn't hold. It's really a problem of adolescence or early adulthood, so prevention and early intervention are crucial.

Q: What are the key research findings that led to the conclusion that alcoholism is a disease that starts in adolescence?

A: About 40 percent of those who start to drink at age 14 or younger become dependent, compared to only about 10 percent of those who wait until at least age 21. Among people ages 18 through 25, nearly one person in five meets the clinical criteria for alcohol dependence or abuse. This is approximately 5.8 million people.

Q: How many kids really start to drink at such a young age?

A: This is surprising to most people, especially parents. About a third of high school students say that they started drinking by age 14; and approximately one million young people drink to the level of intoxication several times each month.

Q: Do teenagers who drink get into more trouble than older people who drink?

A: Younger drinkers are not only more likely to become dependent; they're 12 times more likely to be unintentionally injured. They're seven times more likely to be in a car crash and 11 times more likely to be in a physical fight after drinking. And they also tend to engage in a whole variety of other behaviors that put themselves, and others, at risk—carrying weapons, not wearing seatbelts, attempting suicide, and engaging in unprotected sex, for example. Further, we know that people who start to drink at a younger age not only are more likely to be injured in adolescence, but that the increased risk carries over into adult life as well. And that's important, because injury is the leading cause of death in this country for persons aged one to 34; every year there are more than 40,000 injury deaths attributable to alcohol in the United States. And of course the behavior of the alcohol-dependent affects not only

them but other people as well. Forty percent of the people who die in drunk-driving incidents are people other than the drinking driver.

Q: So how do we address this problem?

A: There are three kinds of interventions that can address it: *individual, environmental, and comprehensive community-based*. The first kind tries to educate individuals and change their attitudes, beliefs, and behaviors. Studies have shown most adolescent and college students who have a drinking problem don't in fact believe they have a problem; but if those students are approached in the right way and at the right time, they can see that their drinking is having a negative impact on their lives. These kinds of individual interventions are often done in clinical settings such as emergency rooms and trauma centers. When a patient is in the emergency room with an alcohol-related injury, it's a teachable moment that research demonstrates can be used to reduce risky drinking.

Environmental prevention uses laws and other actions to change the context in which alcohol is used—for example, raising the legal drinking age to 21. The evidence is quite clear that the age-21 laws alone prevent 700 to 1,000 alcohol-related traffic deaths a year.

Q: And the community-based approach?

A: This combines the environmental approach, traditional prevention and treatment, and enforcement in a strategy that is developed collaboratively with all the key actors in a community. For example, we have to change the culture of drinking on many college campuses and surrounding communities. The best-kept secret in America is that there are a lot of college students who recognize that other people's excessive behaviors put them personally at risk. Research indicates that the majority of college students under 21 actually want more enforcement of the alcohol laws. We have to give these students a platform.

Colleges and their surrounding communities can work together to address these issues. If colleges try to act alone, without community support, it's just going to drive the drinkers into the community. If the community acts alone, without college support, it's going to drive students back on campus. Effective college-community collaboration involves administrators, faculty, students, and alumni with surrounding community leaders, educators, police, health providers, alcohol enforcement agencies, and activist groups like Mothers Against Drunk Driving. Colleges have an obligation, a duty, to do something about binge drinking. But they can't do it alone. ■



Training the caregivers

Chief resident **Jessica M. Clement** admits that she has felt very frustrated when working with addicted patients, in a primary care setting, at Boston's Beth Israel Deaconess Medical Center. "You can try again and again to help, but they may still refuse treatment for their drug dependence. And you can't address their other health issues until they agree to get help for their addiction."

"It can be extremely difficult for doctors to deal with patients who are addicted," says Daniel P. Alford, MD, MPH, assistant professor of medicine at Boston University School of Medicine. "Few physicians are trained to recognize and treat substance abuse. Medical school teaches you how to treat diabetes and diagnose heart attacks, but it is unusual to learn about addiction treatment. It's a very complex subject. Addiction causes changes in the brain that persist, even after the addiction has been treated."

Alford, former Peace Corps Volunteer and a graduate of BUSPH ('86) and BUSM ('92), has served as medical director for the Methadone Maintenance Program at the Boston Public Health Commission since 1996. He leads a training program that gives young doctors four intensive days of instruction in diagnosis and management of substance-use disorders. "We asked ourselves, What's the best way to train doctors about addiction? The answer is to teach the teachers. Each residency program invites the best of its residents to become a chief resident and to remain for an additional year in order to work with and train incoming residents and medical students. The chief resident's primary job is to teach on an individual basis, at the bedside, or in small group settings. We give chief residents intensive training to screen, assess, and manage substance-use disorders and to develop a positive attitude toward patients with addictions."

This training program—known as Chief Resident Immersion Training (CRIT) in Addiction Medicine—is a part of the National Institute on Drug Abuse-sponsored Clinical Addiction and Research Education (CARE) project, in which Clement participated. CRIT takes two dozen incoming chief residents, recruited nationwide, on retreat for four days of instruction in diagnosis and management of substance-use disorders. Faculty from BUSPH, Boston University's School of Social Work and School of Medicine, and other organizations share the benefit of their knowledge and experience through lectures, case studies, skill-based and role-playing workshops, and site visits. Members of the faculty also mentor each chief resident in the development of an individual action plan that can be implemented during the first four months of their chief residency.

CRIT offered many practical lessons, says Clement, "We learned to screen patients appropriately for different types of addictions. We traced the pathophysiology of

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—DAN ALFORD



addiction—from the changes in brain chemistry to the signs of withdrawal—and then explored various treatment options.”

One exciting new treatment option discussed was buprenorphine, a medicine used to treat dependence on opioids like heroin and OxyContin. “Methadone—the traditional treatment for opioid dependence—can be given only in highly controlled office settings, which means that the patient is in an entirely different, and stigmatized, setting,” says Alford. “But buprenorphine can be prescribed in office-based practices by qualified primary care physicians and dispensed by pharmacies, just like any other prescription.” This should help alleviate the treatment shortage that exists in many communities. “There are approximately a million people with opioid addiction in the United States,” Alford says, “and 80 percent of them do not have access to effective, medication-assisted treatment with methadone maintenance. There just aren’t enough clinics.”

Clement learned through her involvement in CRIT that treatment can include counseling, 12-step programs, methadone, and buprenorphine, and that each treatment plan must be tailored to the individual patient. “The week after I returned from a CRIT conference,” she says, “I saw a patient whom we had encountered in the emergency department many times.” A known drug-seeker, the man would dupe a doctor into prescribing fentanyl, a transdermal pain-reliever, and then chew the patches. “Twenty minutes later he’d be found unresponsive in the lobby,” she recalls.

“My first response was that he was just manipulating the system,” Clement continues, remembering her frustration. “But after the program, I took a step back and thought, this person clearly has a problem and I just need to address it. So when he woke up, instead of being adversarial and saying, ‘Why do you manipulate us? Why do you steal medication from us?’ I said, ‘I’m concerned about you. You have a problem. What can I do to help you?’ I felt a lot better about the interaction than I would have if I had expressed anger.”

She saw a change in the patient, too, she says. Previously the patient had been defensive and denied any wrong-doing. But in response to Clement’s new approach he admitted, for the first time, she says, that he had a problem and was interested in changing his behavior. For Clement, it was a triumph—but also a perfect illustration of the lessons she had learned through her involvement in CRIT.

“The best thing you can do for patients is to continue letting them know that you care and are concerned and are there to help,” she says. “It may take 25 interventions to get them into detox, but they *are* listening. Even in my first week following CRIT, I used a lot of what I’d learned. I can’t wait to start teaching it to other residents.” ■

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—RONDA ZAKOCS



Addressing binge drinking through

campus–community partnerships

Every school year, the tragic headlines report a trend we wish weren't true. Binge drinking—consuming too many drinks, too fast with the intent of getting drunk—is a reality for many high school and college students. For students across the country, bouts of binge drinking lead to unnecessary injuries and even to death among people who are often too young to consume alcohol legally. In fact, individuals under the age of 21 consume up to 20 percent of all the beer sold in the United States, often in binge-drinking sessions.

Most attempts to address binge drinking, which range from alcohol-education pamphlets and seminars to “dry” dorms and counseling, have focused on influencing individuals, with little impact. Research has begun to show, however, that altering the environment in which binge drinking occurs in fact presents opportunities for changing the behavior.

In general, says Ronda Zakocs, PhD, MPH ('92), college students drink more than their non-college-aged peers. “People argue that the environment on college campuses—fraternities and sororities, and the easy availability of alcohol—promotes high-risk drinking,” she says. “And this can lead not only to dependency but to all kinds of associated problems, such as drinking and driving, violence, and date rape.”

Zakocs, an assistant professor of social and behavioral sciences, is the principal investigator for the Campus/Community Partnership Initiative at BUSPH's Youth Alcohol Prevention Center. She is taking an approach that has been shown to work in formal demonstration projects and trying to figure out how to deploy it successfully in practical settings. Funded by the Robert Wood Johnson Foundation, the initiative is showing that colleges that have developed a strong campus–community partnership strategy to reduce alcohol-related problems are in fact achieving significant reductions in heavy drinking and associated problems. “We're just starting to publish the results,” says Zakocs. “We'd like to help campuses put their demonstration interventions to realistic use. Specifically, we

want to understand which barriers or facilitating factors make it hard or easy to have a partnership when a significant amount of demonstration money is not available.”

The Campus/Community Partnership Initiative is working with five Massachusetts colleges and their surrounding communities: Boston College, Clark University, Fitchburg State College, Massachusetts Institute of Technology, and the University of Massachusetts at Amherst. With technical assistance from BUSPH staff, each college–community group has learned more about its particular problems and developed a strategy that will change the environment in which excessive drinking occurs. Zakocs notes as well that BUSPH's Data Coordinating Center administered a Web-based survey of students at each college that will be repeated every year, in order to develop background information on binge drinking and to gain knowledge about students' perceptions of their drinking patterns. Some strategies involve negotiating limits on alcohol marketing to students by the bars near the schools. Other strategies focus on getting owners to change hours of business and practices that encourage risky binge drinking, says Zakocs. Each group decides on the elements of its strategy based on its own planning and results of the survey. Each will try to work with local enforcement officials in reducing access to alcohol by underage drinkers. In addition, the groups will target establishments that they believe sell to underage students and work to prevent underage students from using fake IDs and other means of obtaining alcohol.

“The campus–community initiative really represents a paradigm shift,” says Zakocs. “Traditionally, colleges have worked only with students, on campus; we're giving them planning and negotiating skills that will allow them to reach out to tavern and liquor-store owners and landlords as well. We hope to develop a guidebook, workshops, and Web-based interactive training for college alcohol-program officers, so that we can share the lessons we've learned about how colleges and communities can implement successful partnerships.” ■





Using the teachable moment

"Hey, do you remember me?" A smiling man in a long dark ponytail greets Esosa Ogboghodo outside her office at Boston Medical Center.

She does a double-take, returns his warm hello, and she chats with him for a few minutes before she is called away by the endless stream of new arrivals.

"I really didn't recognize him at first," says Ogboghodo, an alcohol and drug peer-educator in BMC's emergency department. "When I saw him two weeks ago, he was skinny and using drugs. Today, at his follow-up visit, it took me a second, because he looked so much better. He's been in detox, feeling better, and waiting for space in a halfway house. Today he just beamed."

Ogboghodo screens for substance abuse in her work for Project SAFE, a National Institute of Drug Abuse-funded research project to reduce the rate of sexually transmitted infections among emergency-department patients who use heroin or cocaine. She also refers patients to detox resources, grief counseling, domestic-abuse services, and food pantries. "Basically," says Ogboghodo, "whatever they need, we help them find it, with a focus on alcohol and drug prevention and treatment."

A similar program, Project RAP (Reaching Adolescents for Prevention)—funded by the NIAAA's Youth Alcohol Prevention Center—provides an opportunity for patients in the pediatric emergency department to engage in a motivational conversation with a peer-educator, share experiences, explore safer alternatives, and obtain referrals to youth-action programs and adolescent health and substance-use resources. "We are learning that alcohol dependence in the adult population starts in the pediatric age group," says Ed Bernstein, MD, who holds appointments as professor of emergency medicine at BUSM and professor of social and behavioral sciences at BUSPH, "and we are using the teachable moment of a visit to the emergency room to change the trajectory."

Both programs grew out of the model Project ASSERT (Alcohol and Substance Abuse Services, Education, Referral, and Treatment), which was established in 1994 at Boston Medical Center by Bernstein and his wife, Judith Bernstein, PhD, associate professor of maternal and child health at BUSPH. In the past decade the couple has traveled across



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—ESOSA OGBOGHODO



USING WHAT WORKS:

online interventions reach students where they live

MORE THAN 100 MILLION AMERICANS have looked for health-related information on the Web. College students in particular do almost everything on the Web, from researching papers to deciding what movie to see. But would they use it to learn more about their own drinking, and then act on what they learned?

“We know that, with hazardous drinking behaviors,” says Richard Saitz, MD, MPH, “brief interventions are effective. But they’re not widely disseminated; they’re not reaching students. So we turned to the Web.” A professor of medicine and epidemiology at Boston University and the lead investigator for the iHealth study, sponsored by BUSPH’s Youth Alcohol Prevention Center, Saitz asked for help from the University in testing the feasibility of online alcohol screening and intervention.

Dean of Students Kenneth Elmore agreed to send all incoming freshmen at Boston University an e-mail message with a link to an anonymous, voluntary screening survey that embedded alcohol-related questions in a general assessment. The survey also touched on such health behaviors as sleep, physical activity, and smoking. Students whose responses indicated that they engage regularly in hazardous drinking—more than 14 drinks a week or four drinks per occasion for men, and more than seven drinks a week or three per occasion for women—were then randomized to receive two levels of intervention.

A three-page intervention compared the student’s drinking behaviors to that of other students and offered information about symptoms of alcohol-dependence, drinking during pregnancy, and the legal drinking age. A more extensive, six-page intervention included the same information, with additional details that showed the highest blood-alcohol level the student might have achieved, based on reported weight and drinking activities; the calories consumed drinking in a typical week, expressed in sticks of butter; the amount of money that was likely to have been spent on alcohol; a graph comparing behavior with similar students; and information regarding the consequences of excessive drinking.

Fifty-five percent of all freshmen enrolled at Boston University completed the initial general assessment. Thirty-seven percent of the male students and 26 percent of the female students indicated drinking levels that were hazardous to their health and were provided with immediate feedback. At the follow-up, a month later, there were no significant differences in alcohol consumption or the consequences of that consumption between those who received the three-page intervention and those who received the six-page intervention; overall, Saitz found that 33 percent of the women and 15 percent of the men who were originally classified as hazardous drinkers, on follow-up, were no longer considered so.

“It was a really exciting project,” he says. “We think that online interventions can become a really effective way to reach large numbers of college students.” ■



the country to train people in peer counseling; last year alone, they trained people in five public hospitals in New York and at 14 demonstration sites for the NIH. They also bring doctors on fellowship to be trained at Boston Medical Center.

"Emergency medical training is very focused on doing procedures, saving lives—immediate solutions," says Judith Bernstein. "The physician is trained to say, What brings you in today? Does it hurt? Where? When did it start? But doctors, nurses, social workers, and EMTs can be more effective, in terms of dealing with an alcohol or drug problem, if they let go of that expert role and see that even though they have expertise to offer, the patient is also an expert in his or her own life, needs, experiences, opportunities, and resources. Health care providers need to listen and respect that expertise."

Studies conducted as far back as the 1950s show that, though the traditional paradigm may be useful for acute situations, it does not work well for patients who use drugs or alcohol, say the Bernsteins. Project ASSERT and its spinoffs use a more respectful approach, known as the brief negotiated interview, in interacting with patients. "The first thing you have to do is establish rapport," says Ed Bernstein. "You ask open-ended questions about how things are going with the patient. Then you say, 'Do you mind if we spend a few minutes talking about your use of drugs or alcohol?' If they're in the emergency department because of a car crash, for example, they might respond with something along the lines of, 'I saved for a year to buy that car and now it's in a ditch and I'm all cut up.' You show that you understand what they're going through, and then you say, 'Does that mean you'd like to see some changes? What are some of the concrete actions you can take?' You try to give people a voice and a choice."

Decades of research have indicated that this type of counseling has a positive effect on alcohol-dependent patients, in helping them seek treatment and follow through with it. The Bernsteins have demonstrated that such benefits translate to other kinds of substance abuse, as well. The couple recently published a study, also funded by NIDA, of

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—ED BERNSTEIN



Research conducted by the Bernsteins is showing that brief interventions—by physicians, health promotion advocates, and peer-educators—can help change the lives of emergency-room patients who abuse drugs and alcohol.



1,175 men and women who had tested positive for cocaine or opiate use. They found that more than 40 percent of those who had received brief intervention had abstained from using heroin use six months later, as opposed to only 30 percent of those who had not received the counseling. For cocaine users, 22 percent stayed off the drug after the brief intervention, whereas less than 17 percent of the control group did.

But the programs' approach, of course, takes time that doctors and other health providers often simply don't have. Initial funding from SAMHSA, the Substance Abuse and Mental Health Services Administration, allowed the Bernsteins to hire people from the surrounding community to act as health promotion advocates (HPAs); the current NIAAA and NIDA grants are also helping them to increase their staff.

The HPAs and peer-educators—like Esosa Ogboghodo, an MPH candidate at Boston University School of Public Health—may be working toward advanced degrees in public health; they may have a bachelor's degree in counseling, psychology, or a related field; or they may simply be concerned neighborhood advocates who have completed the required training. "It's a very hard job, being an HPA," says Judith Bernstein, "because you sit and listen to people's pain all day."

Nevertheless, Ogboghodo points out that, like the young man she saw turn his life around, patients often express their gratitude, making this "hard job" ultimately fulfilling. "People like the fact that somebody is showing concern," Ogboghodo says, "so they open up. A lot are estranged from friends and family, and they want someone to listen." ■



“In a low-demand, transitional setting, the residents begin to feel safe and settled, and slowly, over time, they are able to develop awareness of what their other issues are and which ones they want to deal with.”

—ALISA LINCOLN

First a haven, then help



“A huge gap exists in services for people who are chronically homeless, substance-users, and severely mentally ill, says Alisa Lincoln, PhD, MPH ('92). “These people are survivors, and yet they are terribly vulnerable.”

Lincoln, an assistant professor of social and behavioral sciences, is the principal investigator for the BMC ACCESS Project, which funds the Dudley Inn, a safe-haven shelter. But this is not just another homeless shelter. It is for people who have severe mental illness, are substance abusers, and have been on the streets an average of eight years or longer. Its services reflect a collaborative effort among BUSPH, Boston Medical Center’s divisions of psychiatry and general medicine, the Boston Public Health Commission, the Department of Mental Health, Vinfen, and Consumer Quality Initiatives.

In most shelter systems, Lincoln notes, “you have to be high-functioning to use their services. You have to stand in line to get in, you need full medical clearance, you get locked out in the morning and have a curfew at night. Those things don’t work for our residents. We take it very slowly. Most have had very traumatic experiences on the streets and in shelters; they have very little social network or contact with family.”

Because the safe-haven program aims to help those who may have refused services dozens of times, the entry process at Dudley Inn is gradual, beginning with a few meals at the shelter, until the person is comfortable spending one night a week and eventually more time indoors. There are very few rules. They can’t smoke or use drugs in the house, for example, but if they come home drunk—a deal-breaker in most shelters—they are not chided or turned away. Perhaps more important, each of the shelter’s eight residents is given a private, locked room.

“The residents will tell you they’ve been alert to every last detail of life on the streets, on a daily basis, having to watch their backs and figure out what they’re going to eat,” Lincoln says. “But in a low-demand, transitional setting, they begin to feel safe and settled, and slowly, over time, they are able to develop awareness of what their other issues are and which ones they want to deal with.” In addition to the regular staff of the Dudley Inn, a psychiatrist, primary care physician, and substance-abuse counselor spend time each week at the program; residents aren’t required to use these services, but they are always available.



The program—funded by a \$1.7 million grant from SAMHSA, the Substance Abuse and Mental Health Services Administration—is based on the idea that people have a right to be housed, even if they use street drugs and refuse to take psychiatric medications. The project has also been informed by the life experiences of people who have been homeless themselves and struggled with mental health issues; these individuals take part in the Consumer Quality Initiative, conducting research and serving on several committees. “The overall program is an important example of the kind of collaboration that needs to exist with BMC and our other partners, in fulfilling BUSPH’s mission to improve the health and well-being of the vulnerable and underserved,” says Dean Robert F. Meenan.

One of the primary goals is simply for residents to develop a certain level of social engagement. “We’d like to help people build positive networks, talk to psychiatrists, reconnect with family, and remain in some kind of housing,” says Lincoln. “This is the most amazing group of people I have ever met, both the passionate and committed staff and the residents. Talk about resilient. There’s one resident who lived in her car for the past two or three years while undergoing chemotherapy. Another lived under I-93 for twelve years. She hears voices and has experienced a lot of trauma in her life. Now she’s in an apartment in the community she grew up in. That’s the kind of outcome we’d like to see for all of these folks: a reconnection.” ■

“A safe haven for cats and other animals” reads the text on the top of a makeshift shelter in the backyard of the Dudley Inn. The shelter, bird-houses, and feeding stations were built by a resident of the inn to care for strays in the neighborhood. After nine years of living on the street, sleeping in doorways and alleys, the resident knows how difficult it is to fend for oneself. Dudley Inn offered her a place where she had the space and support to rebuild her life. A year later she is moving to her own apartment. Moving with her into her new home is the cat she adopted and nursed back to health, Miss Bobbysocks.

Putting a face on the fight against big tobacco

MICHAEL SIEGEL, MD, MPH, had served as an expert witness before—testifying about the harmful effects of smoking—but he had never before seen a plaintiff as dedicated to attending court sessions as Frank Amodeo. A former clock-maker, Amodeo was diagnosed with throat cancer in 1987 after decades of smoking. But that was just the beginning of his troubles: The radiation therapy that sent his cancer into remission caused such extensive permanent damage that he was no longer able to swallow. He's now nourished through a feeding tube and lives with pain and constant thirst.

"I went to Miami five times to testify in a case that included Frank," says Siegel, a professor of social and behavioral sciences. "Each time, he was there. It's unusual for a plaintiff to attend every day of a trial for several years—even more unusual when it's a class-action suit."

In the lawsuit—*Engle v. Philip Morris et al.*—Siegel presented evidence that the smoking history of the plaintiffs probably had caused their health problems. He discussed the role of tobacco-company marketing in getting people hooked on cigarettes, basing much of his testimony on research he has done while at BUSPH. His presentations included studies on the health effects of second-hand smoke and the influence of marketing and advertising on the behavior of adults and young people.

"Meeting Frank had a big impact on me," Siegel says. "He gave me a reason to put up with the pressure of having to testify in the courtroom, having to hear depositions and take questions from the attorneys, who challenged everything I said. He made me see that this is more than just a scientific exercise about whether smoking causes cancer. This is somebody's life and somebody's pursuit of justice."

Of the approximately 48 million adults who smoke cigarettes in the United States, half will die from smoking-related diseases, including heart disease, lung cancer, and emphysema. The health consequences of smoking cost the country more than \$50 billion, annually, in medical expenses alone. "Since 1964," says Siegel, "the surgeon general and public health authorities have been trying to educate the public about the dangers of tobacco. But cigarette companies undermined those messages in statements to the media. They challenged the idea that there was a causal connection between smoking and various diseases, particularly lung cancer." Lawyers for the tobacco companies argued, for example, that it was the cypress wood that Frank Amodeo had worked with for so many years that had caused his throat cancer.

Today, even tobacco companies have to concede that causation has been established: Smoking is the leading preventable cause of death and disability in the nation. Siegel has played no small part in extracting that admission, with his

role as an expert witness in two of the largest and most influential tobacco class-action lawsuits in history. The *Engle* case resulted in a punitive damages award of \$145 billion, on behalf of smokers in the state of Florida. If the verdict in that case holds on appeal, says Siegel, "the tobacco industry could actually go bankrupt."

The second case, *Broin v. Philip Morris Inc.*, was on behalf of flight attendants who had been forced for years to breathe second-hand smoke in poorly ventilated airplane cabins. That lawsuit resulted in a \$350 million settlement, which went toward establishing the Flight Attendant Medical Research Institute. In 2002, FAMRI awarded Siegel a distinguished professor award, which provides him with three years of funding to study how smoke-free laws in Massachusetts affect smoking behaviors, particularly in young people.

Still, despite the victories, the fight against the effects of tobacco is hardly over. "Where do we stand today?" Siegel asks. "I think we're losing. The public seems to believe that the cigarette companies have changed their ways. But we don't have fewer smokers today than we've had in the past." Though the percentage of smokers has decreased, he explains, population increases have caused the actual number of smokers to remain steady.

Moreover, while the Master Settlement Agreement (MSA) of 1998 (between the attorneys general of 46 states and four major tobacco companies) prohibited advertising that targets young people, restricted industry lobbying, and provided states with more than \$206 billion paid out over the following 25 years, overall funding for tobacco-control and education programs has been cut drastically. The Massachusetts Legislature, for example, has failed to appropriate funds from the settlement for uses that are specific to prevention and control. In fact, the Commonwealth has reduced the funding to educational programs substantially, from \$35 million to just \$2 million a year.

"One of the downsides of the MSA is that it created the erroneous perception that the problem has been solved," Siegel points out. "The tobacco companies have used the agreement to enhance their public image. The problem is, the settlement didn't really require very much of them. We need to renew our sense of urgency about a product that kills 400,000 people a year. There's no question that it's this nation's number-one health problem, and we need to begin treating it that way again."

Though statistics can certainly sound lifeless, it is the Frank Amodeos of the world who present the human dimension that truly inspires Siegel. "As a public health professional, you write papers, you publish papers, and you testify," he says. "You might never have a face to put with the work you do. Frank put a face on this for me that will be with me forever. I know when I come to work every day that I'm doing what I'm doing for people like Frank Amodeo. That's why I'm here." ■



“We found that 37 percent of people in public housing smoke, as opposed to 23 percent in the general population. Many are concerned about what second-hand smoke could be doing to their children’s health, especially with the high incidence of asthma in public housing.”

—DAN BROOKS

It takes a neighborhood to quit smoking

Isabel Alicea, an outgoing woman with an easy smile, quit smoking once for two years on a bet. After she had started again, she tried tapering off, from her usual two packs a day to a pack every three days. But having smoked for three decades, she says, “I wasn’t able to do it on my own. Now I’ve finally quit, because of this program.”

Alicea and six other women—all residents of the West Broadway public housing development in South Boston—span six generations, several ethnicities, a variety of health concerns, and widely divergent life stories—but they have one thing in common: the desire to quit smoking once and for all. They meet every week in the cinder-block building that is home to the West Broadway Tenants Task Force.

The task force is an important group in this tightly knit community: it’s all about people taking care of themselves. Members advocate for tenants’ rights, operate an integrated pest-management program, hold health fairs, run a summer day camp and an active senior program, and host a Unity Day to bring all of the tenants together. The smoking-cessation program has reinforced social connections as well; the women have invited a knitting instructor to come in weekly, in order to keep their hands busy while they talk about the struggle to quit and about other life issues.

The Empowering Neighbors for Health smoking-cessation program, a collaborative effort of the task force and BUSPH, is funded by the School and the American Legacy Foundation. “Data from the Boston Public Health Commission indicate that smoking is one of the major concerns of people living in public housing,” says Daniel R. Brooks, DSc (’02), MPH (’88), an assistant professor of epidemiology. “We found that 37 percent of people in public housing smoke, as opposed to 23 percent in the general population. Many are concerned about what second-hand smoke could be doing to their children’s health, especially with the high incidence of asthma in public housing.”

In the program’s first six months, 18 residents signed up. Six are currently active in the group, while others have successfully quit. Others drop in for information or a bit of support, or to check on each other’s progress. According to Laurie Duro, a tobacco treatment specialist who leads the weekly meeting at the task force center, Alicea’s experience with nicotine addiction is typical. “It takes most people three or four serious tries in their lifetime before they finally quit,” she says. “The most important thing is to keep trying.”

“You have to have the right motivation,” Alicea says. “If you don’t quit for yourself, you won’t be successful. If you’re being pressured to do it, you can have all the patches

West Broadway Task Force Director Laura J. Bradeen (front right) with the staff of Empowering Neighbors for Health (l-r): Isabel Alicia, Tobacco Treatment Specialist Laurie Duro, and Zenaida Feliciano. Alicia and Feliciano are former smokers who joined the program as staff members after successfully quitting smoking. The program is funded by grants from BUSPH and the American Legacy Foundation.



Despite legislation limiting tobacco advertising, there is still great social pressure on the young to smoke. The girls shown at the right took on the role of "Smoking Sleuths" and investigated signs of smoking in their South Boston neighborhood as part of a program developed by Catherine Powers Ozyurt, EdD, MA, and CGS '02.

"When I was smoking, I didn't notice other people smoking. But now I notice friends smoking and tell them they ought to join the program. I became a TTA partly to get myself out of the house, so I'm not as tempted to smoke. And it makes me feel like, if the program helped me, maybe I can help somebody else."

—ISABEL ALICIA

and gum in the world and it won't help you." Her motivation was part of a general, self-designed program for better health. After being diagnosed with heart problems and diabetes, she lost nearly 40 pounds through improved nutrition and daily walks. "I was doing my exercise but smoking prevented me from doing more. I finally did it for me, that's the main reason."

Brooks says many residents, like Alicea, face multiple health problems. He cites a survey conducted by the Boston Public Health Commission that found more than a third of public housing residents—as opposed to only 9 percent of the general population—described their health as "fair or poor." Brooks notes that this statistic is sobering but not surprising, as studies consistently show that poorer people have more health problems and poorer people are more likely to smoke. When the members of the task force made the decision to quit, they turned to each other for support and reinforcement, thus increasing the likelihood of success. Other research has shown that, despite increasingly restrictive laws, we are missing opportunities in the fight against tobacco because, Brooks explains, "people are undertreated. Most smokers want to quit, and public housing residents are no exception. Society needs to be more aggressive in treating nicotine addiction, rather than just saying 'You know, you might want to quit' or 'Here's a patch.'"

The program tries to remove obstacles to getting help. "First, we reduced the financial barrier by providing free nicotine-replacement therapy," he says. "We also addressed issues of transportation and logistics by bringing the program to the housing development. One of the most important things we did was provide free counseling, which many studies show substantially increases success rates simply by educating people about the hazards, showing them efficient tools for stress-management, and just giving them someone to talk to."

Alicea learned about Empowering Neighbors for Health from Zenaida Feliciano, a fellow West Broadway resident who works for the program as a Tobacco Treatment Advocate (TTA). Feliciano was trained as an outreach worker, educator, and support person for other residents who are trying to quit. And, now, in the wake of her success, Alicea is also working as a TTA. "When I was smoking," she says, "I didn't notice other people smoking. But now I notice friends smoking and tell them they ought to join the program." TTAs are paid on a part-time, hourly basis and enjoy the intangible bonuses of an increased sense of community and a new feeling of accomplishment. "I became a TTA partly to get myself out of the house, so I'm not as tempted to smoke," Alicea says. "It lets me meet new people. And it makes me feel like, if the program helped me, maybe I can help somebody else." ■

CAMEL Casino

PLEASURE



highlights

2004–2005

THE PAST DECADE has been a time of extraordinary growth and achievement for Boston University School of Public Health. The School has evolved from a locally known educational institution into a nationally and internationally relevant academic institution, with strong programs in education, research, and service. In 2005, BUSPH adopted a new strategic plan, *Making a Difference in Challenging Times*, that defines the precise themes, goals, and objectives the School will pursue, over the next five years, in order to fulfill its commitment to improving the health of local, national, and international populations, particularly the disadvantaged, the underserved, and the vulnerable.

John Howe III, MD, CEO and president of Project HOPE, and Andrew Dreyfus, executive vice president, Health Care Services Division, Blue Cross Blue Shield of Massachusetts, have joined the School's Board of Visitors.

BUSPH's Center for International Health and Development (CIHD) has been awarded a five-year, \$2.6 million grant from the Fogarty International Center (National Institutes of Health). The grant supports second-phase research that examines the effects of HIV/AIDS and of AIDS care and treatment on the productivity of thousands of tea pluckers who are employed by large agribusiness firms in western Kenya. Results of the first phase of this research documented a significant decline in attendance at work and on-the-job productivity over the three-year period preceding an individual's death from AIDS. The second phase of the research project will assess the effectiveness of improved treatment for HIV/AIDS, including antiretroviral therapy, in restoring and sustaining labor productivity in an employed rural population. CIHD Director Jonathon L. Simon, DSc, MPH, chairman of the Department of International Health, serves as principal investigator of the project.

Gerald T. Keusch, MD, associate dean for global health and director of the Global Health Initiative at Boston University, convened an inaugural meeting of the University Consortium for Global Health in April 2005. Twenty-five scholars of global health and senior university administrators, from across the United States and Canada, participated in this new forum, which was designed to share information and stimulate fresh ideas for global health research, curriculum development, and outreach; to foster collaboration between and among the higher education and professional communities committed to global health; and to

strengthen the academic voice in current national and international debates on global health. The meeting was made possible through a grant from the Burroughs Wellcome Fund.

The Sixth Annual William J. Bicknell Lectureship in Public Health was delivered in October 2004 by Rita R. Colwell, PhD, professor of microbiology and biotechnology at the University of Maryland and the former director of the National Science Foundation. Professor Colwell spoke on the timely topics of "Ecology and Epidemiology: A Paradigm for Waterborne Diseases" and "Science, Academic Freedom, and Policy in an Era of Bioterrorism." The latter address was followed by a panel discussion with Dr. Colwell; Gerald T. Keusch, MD, associate dean for global health and assistant provost for the Boston University Medical Campus; Eve E. Slater, MD, FACC, former assistant secretary of health, U.S. Department of Health and Human Services; and Dan W. Brock, PhD, director, Division of Medical Ethics, and McGrath Professor of Medical Ethics, Harvard Medical School.

Eugene Declercq, PhD, MS, MBA, professor of maternal and child health and assistant dean for doctoral education, is the recipient of a three-year, \$275,000 grant from the Robert Wood Johnson Foundation, through its Investigator Awards in Health Policy Research program. Declercq's study, *Public Interest and Private Policy: The Cesarean Imperative in U.S. Maternity Care*, considers cesarean sections as a case study in order to address broader policy issues that are common to health care in the United States. The project examines trends in cesarean births, outcomes of elective cesareans, women's attitudes toward maternity care, the views of obstetricians, the debate over malpractice reform, and the role of government initiatives.

BUSPH's Department of Health Law, Bioethics, and Human Rights, in conjunction with the Boston University School of Law and the American Society of Law, Medicine, and Ethics, sponsored a conference, in April 2005, on *Genetic Disability: DNA Profiling of Embryos and Fetuses*. Topics included the possible goals of the screening and testing of embryos and fetuses; the meaning of the term *disability* as used by those who seek and provide testing and screening; the effect of screening and testing on society; and the legal and public policy options that are available to influence or channel screening for disability.

Carol Tobias, MMHS, assistant professor of health services and director of the Health and Disability Working Group, and

The mission of Boston University School of Public Health is to improve the health of local, national, and international populations, particularly the disadvantaged, underserved, and vulnerable, through excellence and innovation in education, research, and service.

Deborah Allen, ScD, MS, assistant professor of maternal and child health, have been awarded a Cooperative Agreement by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services to establish a National Center on Health Insurance and Financing for Children with Special Health Care Needs. Tobias and Allen will serve as co-investigators for the collaborative effort, which will involve the School's Health and Disability Working Group and Department of Maternal and Child Health, Boston University School of Social Work, and New England SERVE (an independent health research and planning organization that focuses on children with special health care needs). The initiative will include research, training, and technical assistance in working with states across the country to improve access to health insurance, reduce underinsurance, and promote innovative financing strategies that will cover needed services.

The Ugandan Ministry of Gender, Labor, and Social Development acknowledged with gratitude the efforts of BUSPH's Center for International Health and Development on issues related to the welfare of orphans and vulnerable children. The work, which has been conducted over the past four years through collaborative research with Ugandan colleagues, contributed to the development of the National Policy and National Strategic Programme Plan of Interventions on Orphans and Vulnerable Children, which has been adopted by the Ugandan Cabinet. Current and former CIHD staff who participated in the work include Angela Wakhweya, MD (Save the Children); Megan Williams, MPH (former program manager, CIHD); Joe Tham, EdD, adjunct professor; Jonathon Simon DSc, MPH, director of CIHD and chairman of the Department of International Health; Lora Sabin, PhD, assistant professor; Kate Laurence, MA, MPH, program manager, CIHD; Lucy Honig, MA (recently retired associate professor and writing specialist); Rich Feeley, JD, clinical associate professor; Scott Buquor; and Kris Heggenhougen, MA, PhD, professor.

L. Adrienne Cupples, PhD, MA, chair of the Department of Biostatistics, was awarded a five-year training grant from the National Institute of General Medical Sciences (NIGMS). The grant, Interdisciplinary Training for Biostatisticians, provides support to predoctoral training in biostatistical theory and

methodologies that are related to basic biomedical research, including bioinformatics, genetics, and epidemiological clinical and behavioral studies.

William Bicknell, MD, MPH, professor and chairman emeritus, Department of International Health, and **Arden O'Donnell, MPH**, program manager, International Health, have received a \$100,000 grant from the Association Liaison Office for University Cooperation in Development. The USAID-funded grant supports the project, Lesotho: Urgent Need, Unique Opportunity, Teacher Training and Healthy Teachers, which focuses on establishing a site for voluntary HIV counseling, testing, and treatment, at a teachers' college in Lesotho

John A. Hermos, MD, associate professor of social and behavioral sciences, was the recipient of a Fulbright Lecturing Award for the spring 2005 semester. He spent his time at the Manipal Academy for Higher Education, at Karnataka, in southwest India.

Marilyn Ricciardelli, administrator and financial manager for the Department of Social and Behavioral Sciences, is a recipient of Boston University's prestigious John S. Perkins Distinguished Service Award for the year 2005. Three people are recognized each year by the Faculty Council of Boston University for having made sustained and outstanding contributions to the work of the faculty and to the successful operation of the University. Ricciardelli is a past recipient of the School of Public Health's Knecht Distinguished Service Award.

The **Dzidra J. Knecht Award for Distinguished Service to the Boston University School of Public Health** for the year 2004 was given to **Joseph Anzalone, MPH**, director of the program management unit for the Department of International Health. The award is presented annually to a member of the staff who has made truly outstanding and sustained contributions to the operations of the School.

Elaine S. Ullian, president and CEO of Boston Medical Center, spoke at Commencement and commended graduates on their dedication to improving the health and well-being of the disadvantaged, the underserved, and the vulnerable. Ms. Ullian reflected on how the improbable but nonetheless highly successful efforts to combine the strengths of the public Boston City Hospital with those of the private Boston University Medical Center led to unprecedented opportunities

in which to better serve individuals and communities in need. Professionals entering the field of public health today need both flexibility and focus in finding their way, noted Ullian, but ultimately a commitment to service offers a truly rewarding path.

The **Norman A. Scotch Award for Excellence in Teaching** was presented at Commencement to **Wayne LaMorte, MD, MPH** professor of epidemiology (School of Public Health), professor of surgery and chief of the surgical research section (School of Medicine).

A newly established award, the **Theodore Colton Prize for Excellence in Epidemiology**, was presented to Kimberly Anne Hemond at Commencement, in honor of the many accomplishments and dedicated leadership of Professor Colton, founding chairman of the Department of Epidemiology and Biostatistics.

Other awards presented at Commencement 2005, in recognition of outstanding achievement by students:

Herbert L. Kayne Prize for Excellence in Biostatistics—
Catherine Jean Williams

John Snow Award in International Health—Jill Marie Costello

Rex Fendall Award for Excellence in Public Health Writing in the Department of International Health—Bre Sarah Holt

Allan R. Meyers Prize for Excellence in Health Services—
Daniel Jude Oates and Kara Cristin Sweeney

Dean's Award for Student Research—Jessica Emberley, "The Roles of Mitochondria and Caspase-6 in 7,12-Dimethylbenz[α] Anthracene-induced Bone Marrow B Cell Apoptosis"

Summer 2004 marked the inaugural session of the School's rigorous **Summer Institute for Training in Biostatistics**. Twenty-four undergraduates from across the country came to BUSPH to participate in an innovative six-week program, which was funded by the National Heart, Lung, and Blood Institute. Participants attended classroom sessions that introduced them to the principles of biostatistics, epidemiology, and statistical genetics, as well as applications in clinical trials, and worked with data collected through internationally known studies. They also visited the offices of the Framingham Heart Study, the Massachusetts Department of Public Health, the Harvard Clinical Research Institute, and DM-Stat, Inc., a local data management and statistical consulting group.

The **Ruth Siegel Memorial Teaching Fellowship** has been established at BUSPH by **Michael Siegel, MD, MPH**, associate professor of social and behavioral sciences, as a tribute to his late mother. The two-year teaching program will support and train an incoming master's-level student who intends to teach in his or her discipline upon completion of the degree program. The fellowship's fourfold emphasis on the art of teaching will involve:

- 1) a personal mentorship experience with Professor Siegel;
- 2) participation in a teaching seminar for faculty;
- 3) a period of apprenticeship, in consultation with members of the School's faculty; and
- 4) the direct application of acquired skills through the design and implementation of a course in public health.

The first recipient of the fellowship, **Eric S. Jonas**, of Watertown, Mass., started his studies in social and behavioral sciences at BUSPH in fall 2005.

Beryl H. Bunker, a retired senior executive of John Hancock Financial Services, has established the **Beryl H. Bunker Library Fund** to support the School's project to catalogue, shelve, and contribute to materials associated with the groundbreaking book *Our Bodies, Ourselves*. The publication's parent organization, OBOS (founded in 1970 as the Boston Women's Health Book Collective), has amassed a significant collection—including resources on the medical, psychological, sexual, political, legal, and sociological aspects of women's health and well-being—that has educated and inspired millions of women. Through Ms. Bunker's generosity, and a substantial gift from John Hancock Financial Services, BUSPH will be able to make this valuable collection available to young women, students, community activists, and scholars.

The National Institute for Environmental Health Sciences renewed funding, in 2005, of the Boston University Superfund Basic Research Program for an additional five years. The program is directed by **David Ozonoff, MD, MPH**, professor of environmental health. Funding for the entire five-year period (direct costs) is \$11,970,000. The initiative focuses on understanding the effects of exposure to environmentally hazardous substances on reproduction and development, in humans and wildlife. Special emphasis is placed on the effects of substances commonly encountered as a result of improperly managed waste disposal. ■

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 list acknowledges gifts made from July 1, 2004, through June 30, 2005.

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.

Annual Leadership Giving Societies

The following designations have been established to recognize individuals and corporations who have made a significant unrestricted contribution to BUSPH. The School's Annual Fund provides much-needed, ongoing support from a variety of individuals and corporations. Through their generous gifts, these valued donors contribute to the advancement, effectiveness, and relevance of public health in today's world.

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Jane Craycroft '95
Theodore Cronin '80
Larry Cross '93
William Crump '90
Lawrence Curran
Mike Curran '98
John Czarnowski
Iris Davis '84
Hania Dawani '86 and Samuel Ihemdi '85
John Deeves '98
Jeannette DesRosiers
Lena Deter '96
Michael Devlin '87
Joanne DeVries
Frayda Diamond '90
Prachi Divatia '02
Linda Doctor '85
Susan Dodge '99
Ellen Donoghue '03
Terence Dougherty '83
Richard Dropski '84
Rebecca Dunk '98
Joline Durant

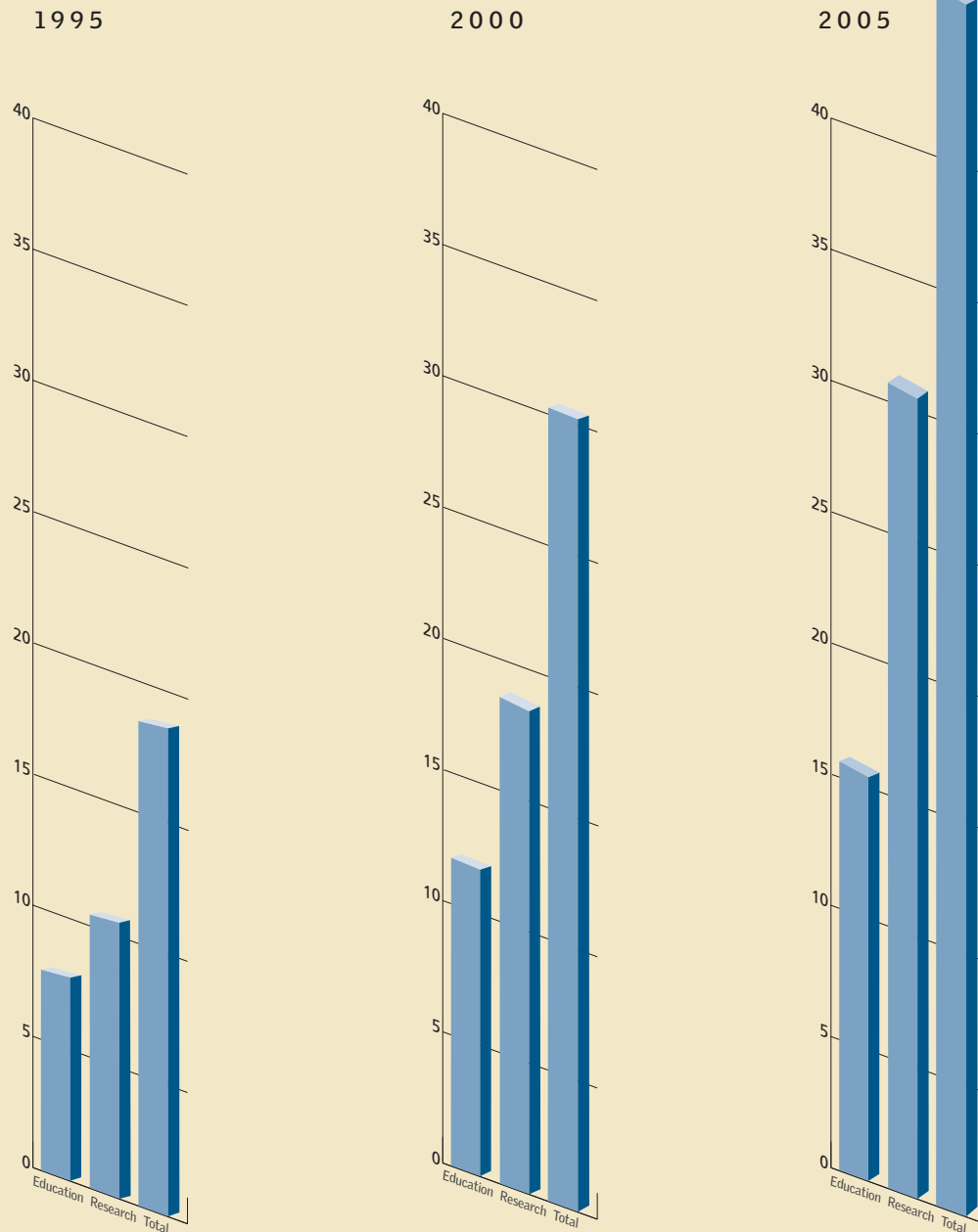
Sarah Dwyer
 Jeena Easow '04
 Susan Eisen
 Merrill Elias '96
 Priscilla Elliott '90
 Arthur Ensroth '04
 Barbara Epstein '96
 Annemarie Etienne '89
 Midori Evans '96
 Adam Falk '01
 Frank Feeley III
 B. Graeme Fincke
 Marie Flaherty
 Susan Flanagan '83
 Lise Fried '03
 Georgina Friedenber g '82
 Robert Friedman
 David Gagnon '89 and Carla Van Bennekorn '86
 Manana Gagaa '02
 Kathleen Gallagher '84
 John Gardner
 Alan Geller '90
 Hannah Gilk '00
 Brenda Gleason '99
 Deborah Glotzer '90
 Joyce Goggins '99
 Miguel Gonzalez '95
 Sandra Goodenough '81
 Joyce Goulart '83
 Sarah Grallert '03
 Barbara Graves '84
 Nina Greenbaum '95
 Merrill Griff '81
 Martha Groton '89
 Gloria Gutwirth '82
 Davidson Hamer
 Elizabeth Hatch
 Cressida Hedgecock '02
 John and Rosalie '91 Hermos
 Cheryl Hewitt '03
 Suzanne Hitchcock-Bryan '92
 Heidi Hoffman '94
 Lucille Honig
 Lindsay Huppe '92
 Cynthia Hurd-Terpstra '00
 H. Patricia Hynes
 Nancy Ellis Ice '87
 Samuel Ihemdi '85
 Michael Immel '02
 Rovshan Ismailov '01
 Amber Jamanka '98
 Michele Jara '91
 David Javitch
 Chantal Jaycox '99
 Christine Jones '00
 Neda Joury-Penders '00
 Rosemary Judge '94
 Judith Kanter
 Ruth Karacek '90
 Robert Katz '83
 Michelle Kavooosi '96
 Christine Kearns '93
 Dorothy Kelly-Flynn '86
 Mary Keville '79
 Wasim Khan '96
 Anita King
 Howard Koh '95
 Lukas Kolm '92
 Martha Krache '82
 Elizabeth Kraft '84
 Dana Kulvin '95
 Joan Lane '80
 Lee Lanza '80
 Colette Lavoie '81
 Adam Lebowitz '92
 Roberta Lenay '90
 Samuel Lesko
 Paul Lewis
 Rebecca Lobb '97
 Kelly Elizabeth Lochridge '94
 Karen Lopez '92
 Susan Loveland
 Colleen Lowe '82
 Caroline Lyon '98
 Magnus Macauley '79
 Mitsou MacNeil '84
 Barbara Mahon
 Mario Malivert '99
 Dorcas Mansell '91
 Fran Manzella
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 Sarah Marter '83
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 Maura Mcqueeney '97
 Kathryn McBride '02
 Denise McCauley '95
 Lois McCloskey
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 Douglas Mesler '97
 Allen Mitchell
 Prasanna Mohanty '97
 Ruth Montgomery '80
 Kathleen Mortimer '92
 Gary du Moulin '80
 Suzanne Muchene '01
 Susan Murray '83
 Jessica Musiak '03
 Dipesh Navsaria '95
 Kim Netter
 Warren and Vicki Nichols
 Sheila Noone '86
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 Mary O'Brien '84
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 Janice O'Keefe '93
 Susan Oliveria '89
 Elizabeth Ollen
 Daniel Ollendorf '94
 Alison Osattin '98
 Steven Oskirko
 Michael Pagedas '02
 Sanjukta Pal '96
 Nilam Patel '95
 Pinal Patel
 Lewis Pepper
 Niko Phillips-Dias '96
 Linda Ann Piwowarczyk '97
 Gay Plungas '93
 Margaret Polito '93
 Lewis Pollack
 Josephine Porter '02
 Gail Post '95
 Nalini Potineni '92
 Bonnie Powell Kuta '93
 Munro Proctor '92
 Glendora Putnam
 Le Phan Quan
 Rebecca Ray '01
 Peter Reich '79
 Marilyn and Edward Ricciardelli
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 Sarah Richards
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 Whitney Robbins '88
 Anthony Robbins
 Julie Ross '00
 Kathleen Rowlings '96
 Phyllis Rozman
 Alan Sager
 Jeffrey Samet '92
 Theresa Marie Sampo '96
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 Megan Sandel '02
 Tatiane Santos '04
 Linda Saunders '84
 Frederick Schaefer '84
 Norma Schatz
 Ira Schlosser '03
 Gail Schneider '85
 Norman and Freda '80 Scotch
 Joanne Scott '87
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 Nargiz Shamilova '02
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 Tara Shea '98
 Elizabeth Shearer '80
 Elizabeth Sheils '03
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 Michael Shor '81
 Sheila Shulman '87
 Mary Shupe '90
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 Elaine Silverman Magari '97
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 Mark Smith '91
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 Beryl Spencer '80
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 Carol Tobias
 Brooke Elizabeth Tomblin '94
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 Robert Walsh
 Ann Walsh
 Diana Chapman Walsh
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 Barbara Waszczak
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 Elissa Weinberg '00
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 Marianne Yood '90
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Donations to the Annual Fund are tax deductible from federal (and, often, state) income tax. For more information, please contact Elizabeth M. Ollen at 617-638-4290.

By the Numbers: A Ten-Year Perspective

INCOME
(in millions)



INCOME	1995	2000	2005
Education			
Tuition and Fees	\$7,430,653	\$11,446,540	\$16,024,672
Other	\$475,675	\$494,655	\$175,000
Research			
Direct Costs	\$8,779,063	\$15,339,190	\$25,267,366
Indirect Costs	\$1,575,998	\$3,007,200	\$5,037,907
Total Income	\$18,261,389	\$30,287,585	\$46,504,945
FULL-TIME FACULTY	61	96	150
MATRICULATED STUDENTS	494	539	606
STUDENT SCHOLARSHIP PROGRAM	\$556,925	\$1,025,305	\$2,050,246



715 Albany Street
Talbot Building
Boston, Massachusetts 02118

Phone: 617-638-4640

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