

Yale Public Health



SPRING 2010

Can “sin taxes” cut bad health?

Communicating health | Testing HIV | Russia's epidemics
Palm reading | Health without reservation

Yale SCHOOL OF PUBLIC HEALTH



Yale Public Health

SPRING 2010

2 Dean's Message

3 Editor's Note

4 Advances

7 Perspective

8 Lifestyle levies

Do "sin taxes" result in better health choices – and should government be in the business of policing diet and lifestyles?

13 Communicating health

An advisory about antidepressants and pediatric suicidality demonstrates the challenges of accurately informing the public.

17 A tumult over testing

When it comes to HIV screening, questions of who, how and when are deceptively complex and the topic of fierce debate.

20 A conversation with Ursula Bauer

22 Russia's "unchecked" epidemic

23 Desperately seeking soda

24 A return to China

25 Founding family visits YSPH

26 Students

30 Alumni

34 YSPH Notes

43 In Memoriam

44 Yesterday

45 Today

Tobacco is the target of increasing "sin taxes" as lawmakers in many states seek to raise revenue and persuade people to give up the habit.

Yale SCHOOL OF PUBLIC HEALTH



Dean's Message

Building better health care

As we enter the new decade, it is appropriate to reflect upon our many accomplishments and remaining challenges. The mission of the Yale School of Public Health is to provide "... leadership to protect and improve the health of the public. Through innovative research, policy analysis, and education that draws upon multidisciplinary scholarship from across the graduate and professional programs at Yale, the school serves local, national, and international communities with its knowledge and expertise."

In previous issues of this magazine, we have highlighted YSPH research programs both in the United States and abroad that will help us fulfill this mission. In this issue we again describe a wide spectrum of activities, with a focus on one of our strengths: policy research and analysis.

Disease prevention and the reform of health care policy are certainly among the pressing challenges that our nation needs to address. In recent months, it has been hard to find a newspaper or magazine that does not discuss the problems with our current strategies for financing and delivering health care and the need for reform of our health care "system." Although many of these discussions have focused on the political considerations affecting different legislative proposals under consideration in Washington, the underlying motivation for health care reform was the long-standing realization that current strategies for providing health care in the United States are not equitable, effective or efficient. In simple terms, people across the country are not getting the care they need (or do not need all the care

they get), and further, the care people are getting is not of the highest quality and it costs more than it should.

The health care reform bill recently passed and signed into law by President Obama, provides protections for patients with pre-existing conditions and extends coverage to tens of millions of currently uninsured people. This new legislation is an incredibly important step in improving health care and disease prevention services, but there is much more that needs to be done. Better insurance rules and coverage are necessary, but not sufficient, for comprehensive health care reform. Although many may be deeply disappointed that more was not achieved in the current legislation, there may be advantages to making further, incremental changes away from the heat of the initial political debate.

Although most scientists are, and should be, opinionated about a range of policy issues, they rely on objective data and the latest research methods to answer some of the most difficult questions facing us. In these pages, you will read about several examples of the impressive research that members of our faculty are conducting on important policies related to how we protect and improve health in the United States and around the world. I think you will be reassured, as I am, that some of the best researchers in the country are focusing on ways to improve the effectiveness and efficiency of disease prevention strategies and delivery of health care services to all.

Paul D. Cleary, Ph.D.
Dean, Yale School of Public Health

"In simple terms, people across the country are not getting the care they need (or do not need all the care they get), and further, the care people are getting is not of the highest quality and it costs more than it should."

Editor's Note

The nuances of public health policy

Yale Public Health

The Journal of the Yale School of Public Health
Spring 2010, Vol. 2, No. 1

Dean

Paul D. Cleary, Ph.D.
The Anna M.R. Lauder Professor of Public Health

Editor

Rosalie J. Blunden

Managing Editor

Michael A. Greenwood

Copy Editor

Anne Sommer

Design

AH Design
Angie Hurlbut and Nilou Moochhala

Address correspondence to

Managing Editor, *Yale Public Health*
60 College Street
P.O. Box 208034
New Haven, CT 06520-8034
Phone: 203-737-5151
Fax: 203-785-7296
E-mail: michael.greenwood@yale.edu
Web: publichealth.yale.edu

Yale Public Health is published twice a year and is distributed to alumni, faculty, students and friends of the Yale School of Public Health.

Acronyms used in *Yale Public Health* include YSPH for Yale School of Public Health and LEPH for Laboratory of Epidemiology and Public Health (the school's main building).

Cover art by Paul Zwolak

Printer

Pyne-Davidson Co.
237 Weston Street
Hartford, CT 06120



Printed on recycled paper with soy-based inks

In this issue of *Yale Public Health* we explore several public health policy questions and, in particular, how even the most well-intentioned and seemingly straightforward initiatives can be deceptively complex.

Ongoing research by Yale School of Public Health faculty shows how relatively small policy changes can often have unintended, and potentially negative, consequences. And even the soundest policy is likely to run into problems as it encounters political opposition, economic shortfalls or public apathy – and possibly all three.

Jody Sindelar and Jason M. Fletcher, for instance, continue to analyze the efficacy of so-called “sin taxes” on products such as tobacco, alcohol and, increasingly, soft drinks and fast food. Such taxation certainly raises much-needed revenue for government coffers. But the policy also raises difficult questions: Do the taxes really promote better health? Is it the purview of government to interfere with personal dietary choices? Are privacy and personal freedoms being sacrificed in the process?

To try and answer these tricky questions, researchers study things such as “externalities,” or the hidden costs and effects that an individual’s choices have on the larger community. In some areas the consequences are pretty clear-cut; in other cases the answers are vague, if not outright elusive.

And then there are questions of consistency and fairness. If one product is targeted for increased taxation (such as soda), then shouldn’t other less-than-healthy items (cookies and candies) be subject to similar levies? “Where do you draw the line?” Sindelar asks.

Also in this issue we look at faculty work on the repercussions of the government’s decision to issue a black-box warning on antidepressants; approaches to HIV testing; and the challenges involved in changing Russian policies (and attitudes) toward HIV and drug addiction. These are all compelling, important and nuanced public health issues that are being actively debated today. They are also issues that defy quick answers or obvious solutions.

On an unrelated note, *Yale Public Health* invites its readership to write letters to the editor on the topics covered in this and future issues. We want to hear from you and print your opinions as we continue to fine-tune our focus and strive to make this the best magazine possible.

Michael Greenwood
Managing Editor

Childhood ADHD, adult crime linked

Schoolchildren with attention deficit hyperactivity disorder are “substantially” more likely to engage in many types of criminal activity, such as burglary, theft and drug dealing, as they grow older than schoolchildren without this disorder.

These research results are believed to be the first evidence from a national study of a link between the common childhood condition known as ADHD and illegal activity. The YSPH study found that children with ADHD, for example, were nearly twice as likely to commit theft later in life and were 50 percent more likely to sell drugs than children without ADHD.

The findings suggest that children exhibiting ADHD symptoms should be viewed as an at-risk group and that intervention programs might be an appropriate response. The study estimated that the crimes where ADHD is a factor cost society \$2 billion to \$4 billion annually.

“While much research has shown links between ADHD and short-term educational outcomes, this research suggests significant longer-term consequences in other domains, such as criminal activities,” said Jason M. Fletcher, Ph.D., the lead author and an assistant professor in the division of Health Policy and Administration.

Fletcher and his colleagues found that individuals with the inattentive subtype of ADHD were 6.5 percent more likely to commit any crime than were their healthy peers and that individuals with the hyperactive form of the condition were 11 percent more likely. It is estimated that between

2 percent and 10 percent of schoolchildren in the United States are affected by ADHD.

Michael Greenwood



Roux Christian

Patients arriving too late for stroke drug

Most stroke patients arrive at the hospital too late to take advantage of a clot-busting drug that significantly reduces stroke symptoms and lessens the chance of permanent disability if delivered within three hours of the onset of symptoms.

Research by the Yale School of Public Health found that while hospitals are more frequently delivering tissue-type plasminogen activator (t-PA) to ischemic stroke patients, the percentage of patients arriving in time to benefit from the drug changed little over a three-year period.

Lead author Judith H. Lichtman, M.P.H. '88, Ph.D. '96, associate professor in the division of Chronic Disease Epidemiology, said the findings suggest that more needs to be done to educate people about stroke symptoms and the importance of receiving prompt medical care. Patients generally need to be at the hospital within two hours of the onset of symptoms in order to provide enough

time for testing and for t-PA to be administered.

“One of the greatest challenges for acute stroke care is getting patients to the hospital as soon as possible once they experience stroke symptoms, so that therapy is given within the treatment window,” Lichtman said. The study found that only about 37 percent of all stroke patients arrived at the hospital in time, and African-American patients were 44 percent less likely than their Caucasian peers to arrive within two hours of the onset of symptoms.

“We need to get better at educating the public about how to recognize the signs and symptoms of stroke,” Lichtman said.

M.G.

Many mothers-to-be open to HIV counseling

An HIV prevention program targeted at women receiving prenatal care appears to be an effective way of reducing risks for HIV, sexually transmitted infections (STIs) and unplanned future pregnancies.

Researchers including Trace Kershaw, Ph.D., associate professor, and Jeannette R. Ickovics, Ph.D., professor, both in the division of Chronic Disease Epidemiology, examined the effects of group prenatal care that included an HIV prevention component (known as CenteringPregnancy Plus) to determine if reductions in STIs, repeat pregnancies and sexual-risk behavior could be documented among young women, 14 to 25 years old, at highest risk.

The study found that the women

in the CenteringPregnancy Plus prenatal care group were 51 percent less likely to become pregnant again six months after delivery than their peers in the control group. Such repeat pregnancies can adversely impact young mothers and their ability to care for their children. Furthermore, women in the HIV prevention group also reported increased condom use, decreased unprotected sexual intercourse and, for adolescents, a reduction in the incidence of STIs — 9 percent vs. 17 percent — compared with adolescents in the control group.

“This intervention is different from other HIV interventions because it integrates sexual-risk prevention into the existing structure of prenatal care,” said Kershaw. “By doing this we capitalize on women’s motivations for a healthy pregnancy and their frequent contact with care providers.”

M.G.

Surgery residents satisfied, stressed about future

The majority of general surgery residents in the United States are satisfied with their training and confident of their ability to perform, but a significant minority also feels that the hours and stress are straining family life, and many express worries about future income and career prospects.

A total of 4,402 surgery residents from virtually every residency program in the country were surveyed by researchers at YSPH and the Yale School of Medicine to identify prevailing attitudes, training experiences, professional expectations and reasons for attrition.

The study’s key findings include the following:

- Close to 80 percent of the residents indicated that they received a tremendous amount of satisfaction from working with patients.
- Nearly 64 percent believed that they would need additional specialty training (after five years of residency) to be competitive.
- Close to 37 percent said that they were concerned about making enough money as a surgeon.
- More than 15 percent of the residents said that at some time they had considered leaving the program.



“The surgical profession as a whole is at a crossroads. The profession has to find ways to develop and retain a diverse workforce and to address the shortage of general surgeons on the horizon. Understanding the experiences of residents is key to these efforts,” said Leslie Curry, M.P.H., Ph.D., a research scientist at YSPH in the division of Health Policy and Administration and the study’s senior author.

M.G.

Spinal agent is linked to complications, expense

A genetically engineered biological agent being used to promote bone formation is associated with a higher rate of complications in cervical spine (neck) fusions and with greater hospital charges for all categories of spinal fusions.

Clinical use of bone morphogenetic protein (BMP) was approved by the U.S. Food and Drug Administration in 2002 to promote bone fusion in surgery of the anterior lumbar spine, and BMP has gained popularity for use in fusions at other spinal locations.

“Back pain is one of the most common reasons that patients seek care by a physician, and BMP is now estimated to be used in up to 25 percent of all spinal fusion surgeries in the United States,” said senior author Elizabeth B. Claus, Ph.D. ’88, M.D. ’94, a professor in the division of Biostatistics.

The researchers compared immediate postoperative, in-hospital rates of complications among patients undergoing spinal fusion surgeries with BMP in 2006 and found no differences for lumbar, thoracic or posterior cervical procedures. But the use of BMP in anterior cervical (neck) fusion procedures was associated with a higher rate of complications — roughly 7 percent with BMP versus 4.5 percent without BMP.

BMP use was also associated with greater inpatient hospital charges across all categories of fusion, ranging from 11 percent to 41 percent.

M.G.

Waiting, waiting for hospital emergency room care

There is a troubling inconsistency among U.S. hospitals in how quickly they treat patients in emergency rooms, and some hospitals fail to provide timely care to even the most critical patients, a new study conducted by YSPH and the Yale School of Medicine has found.

The Yale researchers tracked nearly 36,000 patient visits to 364 emergency departments (EDs) in the United States and analyzed the time it took to be treated and the length of stay before being either admitted or discharged. They found that in a typical ED, a third of acutely ill patients waited longer than recommended at triage to be treated by a doctor, and a quarter who needed to be admitted waited more than six hours.



Roux Christian

Crowding has become so severe in emergency rooms that the Institute of Medicine has called it a “national epidemic.”

Elizabeth H. Bradley, Ph.D. '96, a professor in the division of Health Policy and Administration and the paper's senior author, said that long

waiting times often reflect poor coordination of ED activities.

“We have to think not just about who is financing care, but also about how the delivery system is organized and managed. Without clear attention to better coordination, we will continue to spend more and get less,” said Bradley. Other researchers included lead author Leora I. Horwitz, M.D., of the Yale School of Medicine, and co-author Jeremy C. Green, a YSPH graduate student.

Michael Greenwood

Wide racial gap identified in hospitalization

African-Americans are admitted to the hospital at a significantly younger age than their Caucasian peers for a host of preventable medical conditions, an indication that they have received inadequate care for the underlying conditions in the years leading up to their hospitalization.

New research by the Yale School of Public Health examined discharge records for 6,815 adult patients of both races at nearly 500 hospitals. They found wide age disparities for a range of acute and chronic health conditions, including diabetes, pneumonia and high blood pressure.

African-Americans were hospitalized an average of nine years earlier than Caucasians for all health conditions combined. After factoring in insurance and other variables, the researchers, led by Jeannette R. Ickovics, Ph.D., found that African-Americans were hospitalized, on average, five and a half years earlier than their Caucasian peers suffering from

the same condition. James Rawlings, M.P.H. '80, was part of the research team.

The biggest differences were found in uncontrolled diabetes (a 12-year age disparity) and bacterial pneumonia (7.5 years). Of a dozen diseases measured, significant disparities were also found for hospitalization with chronic obstructive pulmonary disease, congestive heart failure and dehydration.



Paul Zwolack

“While the younger age at hospitalization was not necessarily surprising, the magnitude of the difference was indeed surprising,” said Ickovics, a professor in the division of Chronic Disease Epidemiology. “Consider the direct and indirect health and economic consequences of hospitalization for uncontrolled diabetes at age 46 for a black man compared to age 58 for a white man.”

M.G.

Perspective

The cola wars

The debate over soft drinks intensifies as policymakers consider increased levies.

“It’s your food. It’s your drink. It’s your freedom.”

– Ad for the Center for Consumer Freedom

“Profit-making companies have free rein to distort the marketplace and manipulate consumer behavior through advertising and promotions, pricing strategies and product placement. We can only hope that government will be as effective in protecting consumer health.”

– Ursula Bauer, Ph.D. '95, Centers for Disease Control and Prevention

“Our industry has become an easy target in this debate. Sugar-sweetened beverages have been singled out in spite of the fact that soft drinks, energy drinks, sports drinks and sweetened bottled water combined contribute 5.5 percent of the calories [to] the average American diet. ...”

– Muhtar Kent, CEO of Coca-Cola Co., in an op-ed in The Wall Street Journal

“A tax on sugared beverages has four features that make it unique: it would have immediate impact; it would have a beneficial effect on the nation’s diet; unlike education programs, it costs nothing; and it would generate considerable revenue that could support key health programs.”

– Kelly Brownell, director of the Rudd Center for Food Policy and Obesity at Yale



“Soft drinks are nutritionally worthless. ... [and] are directly related to weight gain. ...”

– Michael Jacobson, executive director of the Center for Science in the Public Interest

“The proposed sales tax on beverages to fight obesity is simply a facade for raising taxes. It’s a pure money grab from hardworking families who have no more money left to give.”

– Susan Neely, president and CEO of the American Beverage Association

“There’s no doubt that our kids drink way too much soda. And every study that’s been done about obesity shows that there is as high a correlation between increased soda consumption and obesity as just about anything else.”

– President Barack Obama in an interview with Men’s Health magazine

“We all support health care reform, but taxes on juice drinks and soda won’t make us healthier—diet and exercise do that. So, Washington, if you’re listening, we need new jobs, not new taxes. We’re struggling enough as it is.”

– Ad for Americans Against Food Taxes

Unhealthy



An abstract background featuring warm, textured colors like orange, red, and purple. A cigarette is visible in the upper right corner, and a pack of Marlboro cigarettes is partially visible on the left side.

taxes

Do “sin taxes” result in better choices—and should government be in the business of policing diet and lifestyles?

By Steve Kemper

A smoker in New York City now pays more than \$9 for a pack of cigarettes, a price that includes \$5.26 in special taxes tacked on by the city, state and federal governments. Sometimes called “sin taxes,” these levies are imposed on products such as cigarettes and alcohol to reduce consumption and influence behavior in ways that benefit the individual and society.

Many politicians welcome sin taxes because they add billions of dollars to government coffers without irritating most voters, who don’t care if prices go up for smokers and drinkers. The deep economic recession, meanwhile, is tempting many legislatures to close budget gaps by further increasing current sin taxes and to consider controversial new taxes on sugared drinks and fatty foods to combat the country’s growing levels of obesity.

In some cases the public has started to balk. Near Pittsburgh, citizens dumped beer and liquor into a river to protest a new 10 percent tax on poured drinks. In Kentucky, demonstrators splashed bourbon on the capitol steps to protest a new 6 percent sales tax on liquor. After Maine’s legislature passed a hefty new tax on beer and soda, irate voters repealed it. When New York Gov. David A. Paterson proposed an 18 percent tax on soft drinks in 2009, the public outcry quickly forced him to withdraw the idea.

Taxing “sin”

Enter health economists, who are investigating fundamental and complex questions about how sin taxes relate to health and behaviors. Do the taxes really change unhealthy behavior, and if so, to what extent? Are such taxes the best tools for influencing public health, or do less-controversial alternatives get similar results? Perhaps most importantly, do behaviors such as smoking, drinking and eating certain foods have public health consequences beyond their effects on the individual consumer? Such consequences, which economists call “externalities,” are often cited as the reason for taxing some products, explains Jody L. Sindelar, Ph.D.,

professor and head of the division of Health Policy and Administration at Yale’s School of Public Health.

“When you smoke, you’re imposing some costs on other people because you’re harming their air and thus their health,” says Sindelar. “When you drink and drive and have an accident, you’re imposing costs on other people by banging into their cars and hurting them. When you purchase alcohol or tobacco, you aren’t paying the full price of consuming them based on the costs to others; you should be consuming less, so you’re taxed to reflect society’s broader interests.”

The clearest example is tobacco. Though the percentage of U.S. adults who smoke has dropped to less than 20 percent, a recent report by the U.S. Centers for Disease Control and Prevention found that tobacco still kills nearly half a million Americans every year and costs the economy \$96 billion in direct health care, plus another \$97 billion in productivity losses—a huge financial drain on society. “From a public health perspective,” says Sindelar, “tobacco is a pretty tight case—all tobacco use is harmful. So the government says, ‘We’ll help you.’” (Not all governments help equally. The state cigarette tax varies from \$3.46 per pack in Rhode Island to a mere 7 cents in South Carolina.)

Government actions have included anti-smoking campaigns, regulation of advertising and sales to minors, lawsuits against tobacco companies, smoking bans and special taxes. But how influential are taxes in particular? According to Sindelar, research suggests that for every 1 percent increase in the tobacco tax, smokers cut back by 0.4 percent, although there are variations in the estimates. “So it has an effect,” she says, “but not a whopping effect.” Yet since all smoking damages the health of the smoker and of anyone nearby, public health officials consider even a minor reduction important.

For alcohol, the effect of a 1 percent tax increase is slightly higher but still small—from a decrease in consumption of 0.5 percent for beer to 0.8 percent for spirits.

“From a public health perspective, the difference is that all tobacco is bad for you, but there is some evidence that alcohol can be helpful for the heart,” says Sindelar. “Also, most people drink alcohol responsibly. So you might want to tax tobacco as much as possible or even ban it, but for alcohol it’s not clear that that’s the right thing to do. On the other hand, the externalities related to alcohol are more obvious” — drunk driving, domestic violence and fetal alcohol syndrome.

The issue gets still more nuanced when researchers measure how different groups respond to increases in the alcohol tax. A 2009 review by researchers at the University of Florida of 112 studies found “statistically overwhelming evidence” that raising taxes reduces drinking among both moderate and heavy drinkers. The World Health Organization’s new global campaign to reduce the health consequences of alcohol abuse recommends heavy taxation as the most effective weapon.

Yet Sindelar and several co-authors, including a colleague in her division at the Yale School of Public Health, assistant professor Jason M. Fletcher, Ph.D., recently reported ambiguous results in a study of older drinkers. Though higher taxes did influence the majority to drink less, the people least likely to change their behavior were the very ones most likely to cause serious health consequences for themselves and others — heavy drinkers. (Fletcher and Sindelar have found that the same relationship is true for young people who smoke heavily.) Raising the tax forces the moderate majority to pay higher prices; this is regressive, disproportionately penalizing people with lower incomes. Sindelar, Fletcher and their co-authors concluded that the results of their study of older drinkers did not justify further raising the alcohol tax for public health purposes.

Sindelar mentions possible alternatives: stricter laws against drunk driving (such as immediate revocation of a driver’s license); zero tolerance laws for teen drivers with any alcohol in their blood; breathalyzer devices in cars; liability laws that make bars responsible for serving drunk

customers; and safer cars and roads to help limit injuries. But none of these, she notes, produces revenue for the government. Because taxes are relatively easy to implement, are somewhat difficult for consumers to avoid and raise revenue, they are a popular policy.

New targets

The newest and most contentious proposals for sin taxes target fatty foods and sugar-laden drinks. Some countries already hit citizens with a “fat tax.” France, for instance, slaps a levy of nearly 20 percent on foods such as chocolate and sweets. The United Kingdom puts a value-added tax of 17.5 percent on sugared drinks, ice cream and other fattening foods. Several towns in the U.K. have proposed special taxes on fast-food restaurants or zoning regulations that would prohibit such places from opening near schools or in certain neighborhoods, an idea that is also being tried out in Los Angeles.

In the United States, many states already tax sugared drinks, but the levies are almost inconsequential — typically around 3 percent — so most consumers don’t notice or care. But when proposed rates reach 18 percent (New Jersey) or 20 percent (Maine), consumers pay full attention.

Other states and the federal government also have considered soda taxes. Last September, President Barack Obama said, “It’s an idea that we should be exploring. There’s no doubt that our kids drink way too much soda.” (Kids, on average, now drink more soda than milk.) Thomas R. Freiden, M.P.H., M.D., the new director of the Centers for Disease Control and Prevention, is pushing for a tax on sugared drinks. (As New York City’s health commissioner, Freiden banned trans fats and ordered fast-food restaurants to include calorie counts on their menus.) In a widely publicized article in *The New England Journal of Medicine*, a prominent group of doctors and researchers (including Kelly D. Brownell, Ph.D., director of Yale’s Rudd Center for Food Policy and Obesity) advocated a soda tax of 1 cent per ounce.

Proponents cite the same reason: Americans, especially

Additional taxes are being considered for soft drinks as obesity levels rise in the United States.



“So one hesitation is that the taxes will be ineffective because of readily available substitutes. Another question is, why just soda? Should the tax be on cookies or candy too? Where do you draw the line?”

— Jody Sindelar



Getty Images (2)

Fast-food fare remains widely popular but has come under scrutiny by some policymakers and public health officials, who contend that higher taxes on such food could convince consumers to consider healthier options.

children, are growing ever heavier. Recent studies have found that two-thirds of Americans are overweight or obese, and the rate is rising. So is the consumption of sugared drinks. Research suggests that drinking just one more or one less serving of soda per day can lead to long-term changes in weight, up or down. A soda tax, say proponents, could help Americans, particularly children, to slim down by discouraging consumption.

Obesity causes severe health consequences: higher rates of type 2 diabetes, heart disease, cancer and chronic illness, as well as loss of productivity. The health care costs of obesity have doubled in just one decade to a staggering \$147 billion a year, half of which is subsidized by taxpayers

through Medicare and Medicaid. By 2018, according to a November 2009 report by researchers at Emory University, those costs will reach \$344 billion a year. This drain on resources has led some health advocates to liken the public health consequences of sugar and fat to those of tobacco.

So what is stopping the enactment of additional sin taxes on soda? Worries about government intrusion into privacy, adding to the economic burden on families during a recession and a fierce anti-tax campaign under way by the soda industry are among the factors. Lastly, the research on links between obesity, soda and taxes remains inconclusive.

A review of this research by the Rudd Center reported that soda consumption goes down 7.8 percent for every

10 percent increase in price. The report implied that this drop proves the effectiveness of a soda tax. An economist, however, would call this consumption/price relationship “inelastic” — that is, rather inconclusive.

A study in 2008 by YSPH’s Fletcher and colleagues on the effects of soft-drink taxes on weight concluded that current taxes have almost no effect on adult weight. The researchers’ findings also suggested that “even a relatively large tax increase of approximately 20 percentage points ... may not have a substantial effect on population weight.” Similarly, a 2009 study by University of Illinois researchers said that increases in state soda taxes had virtually no effect on adolescents’ weight.

Fletcher, too, is studying the relationship between soda taxes and children’s weight. He says that taxes do slightly reduce the amount of soda that kids drink, “but we find no effect on obesity” — the usual rationale for imposing the tax. “The kids just switch to drinking something else,” he says, “mostly whole milk, which is also a high-calorie drink, though drinking less soda and more milk could be good on other health measures, such as dental health.”

Drawing the line

Sindelar believes that obesity is a huge public health problem that forces government to pay billions for bad decisions made by individuals. Hence, she believes it’s in the public’s interest, as it was with tobacco, to take action. But she’s not sure that taxing soda is the solution. “If people respond to the higher prices,” she says, “they might just drink more lemonade, orange juice or fake fruit punch. All of these have as many, if not more, calories. So one hesitation is that the taxes will be ineffective because of readily available substitutes. Another question is, why just soda? Should the tax be on cookies or candy too? Where do you draw the line?”

J. Justin Wilson draws the line wide and deep between private choices and government intervention. A senior research analyst at the Center for Consumer Freedom, a lobbying group for the food and beverage industry, Wilson has written many op-ed articles against sin taxes on food, and his group has spent millions on ads that warn against government intrusion into diet. Example: “It’s your food. It’s your drink. It’s your freedom.”

Wilson says the government should limit its role in the fight against obesity to providing tools and information. For instance, obesity often correlates with poverty, and parents in poor neighborhoods often don’t let their children go outside to exercise. “So crime reduction would help there,” says Wilson. “Another idea is building parks, bike paths, playgrounds that are safe, subsidizing farmers’ markets that might get more people interested in cooking for themselves and cooking more healthily.”

The real motivation behind the push for soda taxes, he says, “is money and nothing else,” as states look for ways to raise revenue without raising standard taxes. “So they fix the problem with fees and hidden taxes and revenue generation gimmicks. A soda tax is just one more example.”

Demetrios Giannaros is a representative in the Connecticut General Assembly (D-Farmington), where he is also chief assistant deputy speaker for economic affairs. He is also a trained economist. Giannaros approaches the issue of sin taxes from the perspectives of both a legislator and an economist. Such taxes are gimmicks, he says, only if they don’t accomplish health policy goals. Connecticut’s most recent dollar increase in the tobacco tax, for instance, led to a 20 percent drop in smoking among teens. “That’s a huge gain in terms of public health policy objectives,” he says.

His views about taxes on food and sugared drinks are evolving. Until lately he felt that the government should not interfere with dietary choices. He’s rethinking that because of the obesity crisis and its associated health care costs. “Based on economic theory,” he says, “there’s justification for making the foods or drinks that cause those problems more costly so people reduce their use.”

But turning economic theory into reasonable and effective legislation, he adds, is tricky when it comes to people’s diets. He isn’t sure it’s fair to target soda instead of other fatty or sugary foods, and he’s leery of a policy that curtails freedom of choice. “If we tax or regulate a product,” he says, “the social benefits must be greater than the social costs. Given that in the area of food there are lots of uncertainties and questions, we have to be much more cautious. Unless there’s concrete evidence that you’re going to succeed through some public policy action, you should wait.” **YPH**

Steve Kemper is a freelance writer in West Hartford, Conn.

Many states are heavily taxing cigarettes, a policy that raises additional revenue and persuades some smokers to give up or curtail their habit.



Communicating health



An FDA advisory about antidepressants and pediatric suicidality demonstrates the challenges of informing the public about health risks.

By Jenny Blair

In May of 2003, while conducting a clinical trial for the antidepressant Paxil, the drug manufacturer noticed a disturbing trend. Children and adolescents being treated with the drug were having more suicidal thoughts and making more suicidal gestures than their peers in the placebo group.

Paxil had been approved by the Food and Drug Administration (FDA) only for adults, and the manufacturer had been hoping to show that it was safe and effective in children. Instead, the company sent the FDA the troubling news. The agency began an investigation, which soon

included antidepressants other than Paxil. The agency then issued a series of advisories that culminated in late 2004 with a black-box warning about the potential dangers of antidepressant use in children and adolescents. A black-box warning typically appears on the package insert of a prescription drug and warns of serious side effects. In the following months, antidepressant use dropped sharply among both adults and children, but youth suicide rates did not decline. Instead, for the first time in years, adolescent suicide rates started to rise.

Cause for concern

Both the FDA's investigation and its aftermath, say Susan H. Busch, Ph.D., and Colleen L. Barry, Ph.D., associate professors in the division of Health Policy and Administration, constitute an important case study of the limits of the FDA's ability to assess and communicate risk to the public at large. Intrigued by the episode, Busch and Barry are investigating what happened, in order to identify ways to more effectively communicate risk information to providers and the public in the future. "The FDA was in a difficult position and needed to convey risk information to the public in the absence of full information," says Barry.

To Busch and Barry, who primarily study mental health care financing and children's mental health policy, the consequences of the FDA's decision to issue a warning are worth worrying about.

For starters, significant changes in treatment patterns followed the warning. After the warning, a half-million fewer children per year were prescribed antidepressants in the United States, according to their research. And, though their research showed that a reduction in new prescriptions accounted for most of the drop-off—that is, few children who were already on long-term antidepressant therapy were taken off the medication—it is likely that many children could have begun effective treatment on antidepressants given sufficient monitoring. "Depression is an undertreated disease, and further reductions in treatment in this population in response to risk warnings warrant concern," Barry says. "The challenge for the FDA, clinicians and parents is to weigh the risk of treatment with antidepressants against the downside risk of not treating depressive symptoms in children."

As it turned out, youth suicide rates in 2004 climbed by 18 percent over the 2003 rate, the largest increase in 15 years. And though suicide rates started to decline again in 2005 and 2006, rates were still higher than they had been in 2003. Busch and Barry emphasize that there is only an association between declines in antidepressant use and youth suicide rates—not a causal link—since factors such as online social networking, access to firearms or other broader societal changes might be to blame.

But the researchers were concerned about how the FDA made and ultimately communicated its decisions, and about larger issues of information asymmetry. The flow of information from a manufacturer to a parent whose child suffers from depression could be compared to a river with several dams, each of which stops some information from continuing downstream. What ultimately reaches the parent is a much smaller—and potentially murkier—stream of details.

Imperfect information

The FDA itself lay downstream of the first dam—the data that led it to issue the black-box warning were less than



Linda Helton

ideal. Existing studies of antidepressants had not been designed to detect a change in suicidal behaviors in children. In September 2004, an FDA advisory committee examined the results of a meta-analysis of 24 studies involving 4,400 children, which revealed a doubling in risk—from 2 percent to 4 percent—of suicidal thoughts and behaviors in children treated with antidepressants. No child in these trials committed suicide.

To make their decision still more difficult, committee members heard testimonials from parents of children who had reportedly been harmed while taking antidepressants. "A parent's testimony describing the experience of having a child commit suicide after taking an antidepressant conveys a very powerful image," says Busch. In addition, there was little evidence to suggest that anything but Prozac was effective in children. In fact, Prozac at the time was the only antidepressant approved for pediatric use. In a 15-8 vote, the committee recommended that the FDA issue a black-box warning, the strongest action the agency could have taken short of a product ban, to communicate these possible risks to patients and providers. The warning would cover all antidepressants, including older classes and selective serotonin reuptake inhibitors, the class to which both Paxil and Prozac belong.

In part because many patients and providers gather information through the news media, the FDA then faced a serious communications challenge. Given the complexity of these issues, risk warnings can all too easily be oversimplified, and Busch and Barry's research suggests that while the media accurately communicated important aspects of the warnings, news reports on the issue failed to convey some

WELLBUTRIN XL®

(bupropion hydrochloride extended-release tablets)

WARNING

Suicidality and Antidepressant Drugs

Use in Treating Psychiatric Disorders: Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (suicidality) in children, adolescents, and young adults in short-term studies of major depressive disorder (MDD) and other psychiatric disorders. Anyone considering the use of WELLBUTRIN XL or any other antidepressant in a child, adolescent, or young adult must balance this risk with the clinical need. Short-term studies did not show an increase in the risk of suicidality with antidepressants compared to placebo in adults beyond age 24; there was a reduction in risk with antidepressants compared to placebo in adults aged 65 and older. Depression and certain other psychiatric disorders are themselves associated with increases in the risk of suicide. Patients of all ages who are started on antidepressant therapy should be monitored appropriately and observed closely for clinical worsening, suicidality, or unusual changes in behavior. Families and caregivers should be advised of the need for close observation and communication with the prescriber. WELLBUTRIN XL is not approved for use in pediatric patients. (See WARNINGS: Clinical Worsening and Suicide Risk in Treating Psychiatric Disorders, PRECAUTIONS: Information for Patients, and PRECAUTIONS: Pediatric Use.)

Antidepressant use dropped sharply among both adults and children, but youth suicide rates did not decline. Instead, for the first time in years, adolescent suicide rates started to rise.

crucial information. The FDA warning, for instance, urged physicians to maintain close contact with patients after initiating a prescription – as often as weekly face-to-face visits for the first month – and advised that doses be tapered before any prescription be discontinued. It also strongly emphasized the evidence in favor of Prozac (also known generically as fluoxetine) in children.

However, in another study, the two researchers found that the media, while correctly distinguishing the risk of suicidal thoughts from that of suicide itself, often failed to mention the recommendations for extra visits, tapered doses and fluoxetine. At the same time, the media tended to overemphasize information about risk – often with an unbalanced use of anecdotes. “We’re putting a huge burden on news media in trying to convey these scientific complexities,” says Barry. “In situations where you have scientific uncertainty around safety issues ... [news coverage] acts as a filter for this information and has the potential to influence treatment patterns.”

Still further downstream, physicians and other health care providers faced imperfect or incomplete information. In what researchers call the “file-drawer problem,” trials that failed to find evidence of effectiveness of antidepressants were not readily available to clinicians at the time. Although the rules surrounding this since have been changed, the sheer amount of data is forbidding, and a funnel of some kind is necessary. “It’s unusual that practicing clinicians would go back and consider original data submitted to the FDA,” says Busch. “Primary care doctors do not have the time to sift through all available scientific information, so they look for signals from agencies such as the FDA.”

Finally, the episode illustrated barriers to sound decision making by the public itself. People tend to overestimate risks that they themselves cause, such as by taking an antidepressant, while underestimating the risk of not doing so. Education levels also appear to affect decision making. Busch and Barry found that children of more highly educated parents had a steeper drop in new prescriptions than those in less-educated families. And even the way a risk is explained—whether it is framed in terms of gains or losses, and whether statistics or real-life anecdotes are emphasized—can ultimately influence decisions.

How to break down all of those dams? Perhaps, paradoxically, more information might be a good start. Post-marketing surveillance of a drug can bring effects to light that were not apparent in clinical trials, and the 2007 Food and Drug Administration Amendments Act called for large postmarketing databases to provide high-powered data about drugs on the market. The legislation also gave the

agency power to require more studies on the part of manufacturers and required all clinical trial results to be posted on the Internet—not just the ones that showed a positive effect—in the hope that clinicians can access all the information they need.

In the meantime, the stakes may be higher than anyone knows. What troubles Busch most are the consequences of untreated depression, a disorder that is already underrecognized and undertreated. “We have no idea what the effect [of untreated depression] is on long-term educational outcomes or behavioral outcomes,” she says. When decisions about children’s mental health care are made without the best possible information, declines in access to effective treatments may be one of the most troubling side effects of all. **YPH**

Jenny Blair, M.D. '04, is a physician and writer in New Haven.

In the meantime, the stakes may be higher than anyone knows. What troubles Busch most are the consequences of untreated depression, a disorder that is already underrecognized and undertreated.



Getty Images

Testing's turmoil

When it comes to HIV screening, questions of who, how and when are deceptively complex and the topic of fierce debate.

By Jenny Blair

In the 25 years since HIV's discovery, questions about how to test for the virus continue to be fiercely contested.

Before treatments were developed, all a test could do was identify infected patients, which often led to stigmatization. But in the United States and other parts of the world, being HIV-positive isn't a death sentence anymore, and testing is increasingly routine: the Centers for Disease Control and Prevention (CDC) recommended widespread population-based screening in 2006, and the first over-the-counter rapid test kit may soon be commercially available.

But even in the antiretroviral era, decisions about HIV testing—who, how and when—require careful consideration. A. David Paltiel, M.B.A. '85, Ph.D. '92, professor in the division of Health Policy and Administration, has spent years studying these deceptively complex questions. "I'm all for testing," he says, "but tests need to be used wisely, and the costs involved can't be ignored."

Home testing

The Food and Drug Administration's consideration of one at-home test has Paltiel concerned.

The agency is looking at the approval of OraQuick, a cheek swab widely used in medical settings, for sale to the general public. Though the test has shown high sensitivity and specificity in clinical trials, Paltiel says that the expected cost may be too high. When bought in bulk for institutional purposes, the test costs between \$11 and \$17, but retail markup would likely make the drugstore price much higher. That could do more than just put OraQuick out of reach of low-income people—it may erode the test's predictive value and ultimately damage public trust in HIV tests.

That's because the people most likely to buy it will encounter a lot of false results. In the United States, HIV is predominantly a disease of the poor. As with any medical test, pretest probability matters, and among high-risk people who use OraQuick, positive results are more likely to be accurate than in low-risk populations, since pretest probability in the former group is higher. But high-risk

people may not buy it in large numbers—previous research had found that most HIV-positive people in the United States would be willing to pay no more than \$15 for a test. As a result, most OraQuick buyers will be relatively affluent, low-risk, low-pretest-probability users—and according to Paltiel, that means that as many as 50 percent of their positive test results will be false positives.

Apart from the mental anguish that will ensue, such errors can work against the test in the long run. "The overwhelming number of people [who can afford the test] will have a good experience with it," says Paltiel. "[But] one of the things we know about diagnostic tests is that when they're perceived to work poorly, people don't use them. And this could very well undermine testing in facilities where there is a much higher prevalence of undetected HIV infection, like emergency departments, STD clinics and doctor's offices. ... When we base our approval decisions on clinical trial results obtained on very different populations than those likely to use it on the other end, we're not making responsible decisions."

Home testing, too, could promote a false sense of security for people recently infected with HIV who mistakenly take the test while still within the undetectable postinfection "window" period; they will receive false-negative results. And because HIV infection still carries stigma, Paltiel fears that many who test positive won't seek counseling or treatment. When this happens, a case of HIV goes unrecorded, while the untreated disease affects the patient and his or her sexual partners. "Are you empowering people by giving them an over-the-counter test, or are you in fact driving [the disease] underground?" Paltiel asks. He wrote about his concerns in a 2006 *Annals of Internal Medicine* article, but he has not yet received a response from officials. The home test, meanwhile, remains under consideration.

General screening

Instead of expensive home tests that reach only a small part of the population, what Paltiel wants to see is routine screening of every American who encounters the medical

system. Of over 1 million HIV-positive Americans, some 300,000 are unaware that they are infected, and in an influential 2005 article published in *The New England Journal of Medicine*, Paltiel calculated the cost-effectiveness of aggressive screening to identify those undiagnosed patients.

At the time, CDC recommendations called for routine screening only where prevalence exceeded 1 percent. But Paltiel used a computer model to show that, in populations whose prevalence of undiagnosed HIV infection barely reached that threshold, routine HIV screening every 3 to 5 years offered good survival benefits and was more cost-effective than common screens for other chronic diseases like breast cancer. Even in populations with a disease prevalence of 0.1 percent—closer to that of the general population—one-time widespread screening might potentially be cost-effective. Those results suggested that more people should undergo routine HIV testing, not just those deemed high-risk by their caregivers.

Perhaps most striking were Paltiel's estimates of how many secondary transmissions of HIV could be avoided with increased testing. He calculated that a one-time screen of high-risk individuals, with appropriate counseling and treatment of detected cases, might avert up to 300 secondary infections per 100,000 participants. And that number goes up to 5,100 if the screen is repeated annually. His study was printed alongside another with similar findings, and an accompanying editorial called for more widespread HIV screening and interventions, suggesting that such a change might alter the course of the epidemic. The public's reaction to these findings was "incredibly favorable," says Paltiel; the article made headlines across the country. And the CDC revised its guidelines the next year, encouraging providers to begin routine, opt-out HIV testing of every patient who encounters the medical system—even in an outpatient setting, even where prevention counseling is not practiced and even in very-low-prevalence settings.

An early trendsetter among managerial experts who study medical practice, Paltiel came to HIV research from a background in operations management. As a student at the Yale School of Management, he met Edward H. Kaplan, Ph.D., a professor of public health and also of engineering and management. Perhaps spotting a fellow traveler across disciplines, Kaplan pointed out to Paltiel that the tools of operations management could be directly applied to public health. Intrigued, Paltiel soon found those lines of inquiry to be "much more interesting" than the industrial engineering questions he had been studying. "We could make these seemingly huge advances simply by repackaging what was already known in our own field," he says. He went on to earn his Ph.D. in operations management and wrote his thesis on the epidemiological and economic consequences of AIDS clinical trials.

HIV economics

Economic consequences continue to play a central role in Paltiel's research. He expects that widespread HIV testing will expand wherever people have access to treatment, but there is always a price. Even cost-effective testing programs will cost the country dearly, since the price of HIV testing is only the beginning of a financial commitment that can span decades of treatment. In poorer countries, this has led to soul-searching about testing and the allocation of resources. But it's no small matter in the U.S., either. Three years after the CDC's call for widespread screening, compliance from one jurisdiction to the next remains uneven.

In part, says Paltiel, this is because the CDC never took long-term costs into account when it revised its screening guidelines. "I think that the states and people running clinics have not unreasonably asked, 'What is this going to cost? Who's going to pay for it?'" That answer has not been forthcoming from the CDC," he says. "Just because something's cost-effective doesn't mean it's cheap. You've still got to cough the dollars up."

Should we? The Ryan White CARE Act already provides care for about 500,000 low-income and uninsured HIV-positive Americans each year at an annual cost of about \$2 billion. Compare that to a program like dialysis for Medicare recipients, which treat a similar number of people at an annual cost of nearly \$28 billion. By some measures, the HIV patients' treatment may be more cost-effective. But another rationale for aggressive HIV screening is the idea that "treatment is prevention." Perhaps by finding and treating every case, the argument goes, the epidemic could be stopped in its tracks. In the case of a curable disease like multidrug-resistant tuberculosis, this idea makes intuitive sense, and it informs eradication efforts around the world. Analogously, the many HIV infections Paltiel calculates could theoretically be averted with a widespread screening program would seem to make a clear-cut case in its favor.

That is, if treatment is available. Of the world's more than 30 million HIV-positive people, the vast majority live in the developing world, and it is their dilemma that Paltiel has recently begun to study. Initiating antiretroviral care is expensive, as is reinitiating it—for, no matter where they live, people with HIV often stop taking their medication or become lost to follow-up. But in resource-limited places like South Africa, access to antiretrovirals is difficult and the waiting lists of eligible patients are long. Is it worthwhile or even fair to ask new people to be tested when they might not receive immediate treatment? And how should resources be spent on aiding people who already have a diagnosis but have slipped through the cracks? "If you have a dollar at the margin to spend on tracking down the person lost to follow-up, or instead on getting some new person into care, how do you spend those dollars?"

“Are you empowering people by giving them an over-the-counter test, or are you in fact driving [the disease] underground?”

— A. David Paltiel

Paltiel asks. “There may be instances where an economic analysis can help identify opportunities to make our allocation of resources fairer and/or more efficient.”

Now that effective antiretroviral treatments are available and there is evidence that widespread testing in certain circumstances can be cost-effective, Paltiel hopes that the United States will adopt much greater expansions of HIV testing. When it comes to routine testing, he says, “we will increasingly find that this is the right thing to do.” **YPH**

Jenny Blair, M.D. '04, is a physician and writer in New Haven.



Seeking to promote HIV testing, then-Sen. Barack Obama provides an oral sample during a press conference at the second annual Global Summit on AIDS and the Church in 2006.

© 2010 J. P. Morgan Chase & Co.



Ursula Bauer

Taxing tobacco

Ursula Bauer, an architect of New York's steep tobacco "sin tax," believes that such levies are an important and effective weapon in the campaign for better health.

After earning her doctorate in public health from Yale in 1995, Ursula E. Bauer joined the New York State Department of Health in 2001 and served as director of the Tobacco Control Program. She transformed the program and produced an effective and comprehensive tobacco control strategy. During her tenure, two cigarette excise tax increases were implemented that have contributed to a marked reduction in smoking. Bauer joined the Centers for Disease Control and Prevention in January and will work on the prevention of chronic disease.

Are sin taxes effective at curbing unhealthy behaviors?

UB: Sin taxes can have a powerful, positive impact on health when combined with other interventions. Many products are taxed, but few are taxed for the express purpose of changing behavior. With sin taxes, the expectation is that people will buy less of the taxed product. This differs from the sales tax, where the purpose generally is to raise revenue and not to affect purchasing behavior. For a sin tax to be successful it must be sufficiently high, and, I would argue, other interventions need to support the consumer's decision to reduce or eliminate use of the product. Sin taxes that are part of a comprehensive public health strategy are much more likely to contribute to improved health outcomes.

What is the rationale behind sin taxes?

UB: There is a two-part rationale: First, the taxed product inflicts costs on society that are borne by the state or by individuals who are not using the product. The tax is partial compensation for these excess costs (including personal suffering, lost productivity and payments for medical treatment). Second, the tax reduces consumption of the product, thereby changing behavior, improving health and reducing costs. Consumers tend to be "price-sensitive." When prices increase, consumers change their purchasing

behaviors—they stop buying the product, they buy less of it, they switch to a cheaper brand or substitute. Smoking costs New Yorkers \$8.4 billion a year in medical expenses alone. A sin tax can help pay that bill and also lower the bill over time by reducing smoking and improving health.

Is there a successful example of sin taxes in action?

UB: Cigarettes are ideal for taxation because there are a small number of manufacturers and the product is somewhat controlled. Cigarettes are addictive, so enough people will continue to buy the product (over the short term) to guarantee a revenue stream, and they directly cause catastrophic amounts of harm, killing half the customers who use the product as intended. Because of the ease with which a tax can be administered; the amount of revenue that can be generated; the clear harm the product causes; and the mountain of evidence showing that higher taxes lead to lower consumption, especially among youth, lawmakers and the public tend to support these taxes. As a general rule, states with the highest cigarette taxes tend to have the lowest smoking prevalence.

Conversely, is there an area (or product) where this type of taxation hasn't worked particularly well?

UB: It's hard to find another product that so directly, specifically and efficiently kills people at such a high economic cost to nonusers. Automobiles don't kill half of all long-term users, and specific foods rarely cause harm uniquely. For people to understand and support a sin tax, the link between the product and the adverse health outcome has to be clear and direct.

A pack of cigarettes now costs in the neighborhood of \$10 in New York City. Do you see this as a model for other states and cities? Do you think New York should impose still further taxes on tobacco?

UB: The tax on a pack of cigarettes is \$2.75 in New York state and an additional \$1.50 in New York City. The federal cigarette tax, which all smokers pay, is \$1.01 per pack. New York's smoking rate is well below the national average, and New York City has one of the lowest smoking rates in the state. New Yorkers spend \$8.4 billion a year on medical treatments for smoking-caused disease, and the tax brings in well under \$2 billion a year in cigarette taxes. In an ideal

“States should continue to test the limits of high cigarette taxes in order to achieve lower smoking rates.”

– Ursula Bauer

world, to break even, the state should be looking at a four- to fivefold increase in cigarette taxes. However, the state needs to consider a range of factors with regard to further increases in the cigarette tax, including pushing smokers to lower-taxed sources of cigarettes. There is still room for upward movement in New York’s cigarette tax, but we’re in uncharted waters. States should continue to test the limits of high cigarette taxes to achieve lower smoking rates.

Do you think there is a chance that government will eventually tax tobacco out of business in the United States?

UB: While taxes are a powerful weapon in the anti-tobacco arsenal, they cannot accomplish the job on their own. Reducing smoking prevalence requires a multipronged approach that includes keeping the price high (taxes); restricting where smoking can occur (smoke-free air laws); reducing and eliminating the promotion of tobacco products (advertising bans, elimination of smoking imagery in movies); strategies and programs to help smokers quit; and countermarketing campaigns to motivate smokers to quit and to reduce the social acceptability of smoking.

There has been a lot of debate recently about taxing certain fatty foods and soft drinks. What is happening with this? What states are in the forefront?

UB: A number of states, including New York and California, have considered special taxes to increase the price of soft drinks for the purpose of reducing consumption and obesity (as well as raising much-needed revenue). The evidence is clear that soft-drink consumption plays a role in the obesity epidemic, but a soft-drink tax, like a cigarette tax, is only one strategy among many needed to bring the epidemic under control. A soft-drink or fatty-food tax can be a powerful tool, but it needs to be part of a multipronged approach that includes advertising restrictions; junk-food-free zones in our schools, day care centers and other settings; improvements in the nutritional quality of school, restaurant and packaged foods; and better integration of physical activity into our daily routines.

Some people argue that sin taxes end up hurting those with the lowest incomes. What is your view?

UB: Smoking and obesity are both regressive conditions that disproportionately affect the poor. We should be

doing everything we can to eliminate these conditions among those who are least able to afford the adverse health consequences. The problem is that right now cigarettes; fast food; energy-dense, low-nutrition foods; and alcohol are much more readily available in poor neighborhoods than in affluent neighborhoods. Those with lower incomes are much more likely than those with higher incomes to smoke and to drink soda daily. These individuals stand to benefit most from stopping smoking and cutting down on soft drinks. If taxes help them do that, then taxes will have helped, not hurt.

Can government effectively legislate health?

UB: That remains to be seen. What we know right now is that companies that profit from poor health behaviors have effectively “legislated” those behaviors, by promoting them aggressively and making their products widely available. There is a lot of discussion right now about taxing calorie-dense, low-nutrition foods, but we didn’t have a national conversation about whether it was appropriate for McDonalds to make it a corporate goal to have one of its restaurants within four minutes of every American home or for Coca-Cola to aspire to put a soda within arm’s reach of every American. Tobacco companies aggressively marketed their products to children for decades – and we still see smoking promoted in youth-rated movies. Now it’s the food industry that targets children, often with their least-nutritious foods. Profit-making companies have free rein to distort the marketplace and manipulate consumer behavior through advertising and promotions, pricing strategies and product placement. We can only hope that government will be as effective in protecting consumer health. **YPH**

Michael Greenwood

A public health professor widely versed in Russia's dual epidemics—illegal drugs and AIDS—turns his focus to policy responses in the city of St. Petersburg.

By Michael Greenwood

Drug abuse was rare when the Communist Party tightly controlled the former Soviet Union, and illicit drugs were hard to find.

Things changed swiftly in the 1990s, and now, just 20 years later, intravenous drug use has become prevalent in post-Soviet Russia and may be accelerating.

A cohort of young Russians is addicted to heroin that flows into a country spanning two continents and 11 time zones. In St. Petersburg alone, there are an estimated 83,000 injection drug users in a city of 4.7 million inhabitants. Drug users are routinely arrested and incarcerated. All of this has fueled a syndemic that includes addiction, hepatitis, TB, drug overdoses and HIV/AIDS. There are similar situations in Russia's other cities and in the towns and villages that have sufficient wealth to support the black market in heroin.

As with illegal drugs, the swiftness with which HIV has spread has been stunning. In 1996 there were some 1,000 reported cases of HIV infection in Russia. Today there are over 500,000 cases, and the actual number may exceed 1.5 million. Many young people become infected with HIV through needle sharing, and they, in turn, transmit the virus to fellow injectors and to their sex partners. The epidemic has moved out of a core group and into the general population (affecting 2 percent or more of the young-adult populace).

"I've seen this epidemic grow unchecked to the point where it has become hard to eliminate. Very few places have ever stepped back from the brink," said Robert Heimer, Ph.D. '88, a professor in the division of Epidemiology of Microbial Diseases. Heimer has spent a decade researching the origins, spread and growth of the drug and AIDS epidemics in Russia. He routinely travels there, working with public health colleagues and addicts alike. He can discuss in detail Russia's drug culture (how the heroin is prepared and injected and even the types of needles used) and how the problem unfolded when Soviet soldiers returned from the

occupation of neighboring Afghanistan. With a thorough understanding of the dynamics at play, Heimer is shifting his focus to policy: how can Russia combat the syndemic and save lives?

This is a thorny question in a culture and political system that are resistant to strategies that have proven effective in the West. Russia, for instance, bars all forms of opioid substitution therapies for addicts, a strategy that stems illegal drug use and, in turn, can curtail the rate of new HIV infections. Rehabilitation clinics are also limited or nonexistent, and there continues to be an ill-coordinated and ineffective response from government health officials.

In the face of these daunting obstacles, initial indications haven't been especially encouraging. Heimer and his public health colleagues at Yale, who belong to the Center for Interdisciplinary Research on AIDS at Yale, including Nadia Abdala, Russell Barbour, Lauretta E. Grau, Linda M. Niccolai and Edward White, are working with their public health counterparts in Russian to see if they can move officials

"These numbers (AIDS diagnoses and deaths) will increase geometrically over the coming years."

—Robert Heimer

in the city of St. Petersburg to action. This means getting political leaders to listen, garnering public support and coordinating the strained resources of various agencies.

"To have an influence on policy, you have to have an influence on government, because the civil sector remains underdeveloped. This is particularly complicated in Russia," he said.

As outsiders, Heimer and his Yale colleagues know there is very little that they can do directly to change Russian policies and attitudes regarding illegal drugs and HIV.

continued on page 42

Will banning school vending machines help reduce childhood obesity?

By Melissa Pheterson

Among children, soft drinks are a significant contributor to increased calorie intake and weight gain—and when they're used to wash down handfuls of Fritos corn chips or Double Stuf Oreo cookies, the problem only gets worse. Yet many students battling hunger or fatigue in schools with vending machines will happily gorge this way.

So should public health officials advise schools to ban them? And if the proof is in the Pepsi, to tweak an old adage, is there enough evidence to persuade school officials to shut down an important revenue source for the sake of a healthier, and slimmer, student body?

Ten years ago, 25 percent of elementary schools nationwide sold soft drinks through vending machines. Between 2000 and 2004, Arkansas and California implemented bans in elementary schools, with some other school districts in the country following suit. By 2006, the percentage of elementary schools nationwide with soda-stocked vending machines had fallen to 16 percent.

Jason M. Fletcher, Ph.D., assistant professor in the division of Health Policy and Administration, used data from surveys of students in 1,000 schools throughout the country from 2004 to 2007 to compare rates of soda consumption in schools with vending machines against rates in schools without vending machines. The disparity was underwhelming: 86 percent in the former group had cracked open a soda in a given week versus 84 percent in the latter—with no significant decrease in body mass indexes between the groups. “Bans alone may not shift soft-drink consumption to more healthy alternatives,” he said, noting that students have no shortage of alternate points of access, from their home refrigerators to convenience stores.

“Any such policy is toothless when there are 10 ways to get soda, and a ban on vending machines may only redirect

kids to the other nine,” he added. “In this case, you should not expect to make a dent in consumption.”

Public health experts contend that policies that promote healthier behavior, such as taxes on soda and smoke-free public spaces, can promote marked lifestyle changes. “We know these subtle nudges can often influence behavior,” said Brian D. Elbel, Ph.D. '07, an assistant professor at the New York University School of Medicine who studies behavioral economics to understand consumer decisions. “You could imagine that making it harder to find sodas and snacks could work, in theory. If kids can't buy a Coke in school and have to trudge for blocks to the 7-Eleven, they may choose to forego the soda.”

But, he said, the act of getting a soda must be truly difficult—not just mildly inconvenient—before “behavioral economics kick in.”

“Removing vending machines doesn't inconvenience kids too much if they have other points of access,” said Elbel, “and if they're just going to buy soda or high-fructose fruit juice in the cafeteria.”

A ban could also deprive schools of the proverbial “silver lining”: namely, revenue to enhance the students' education or athletic opportunities at school. You could make the argument that if kids are going to buy soda anyway, their money might as well be kept within the school system, said Elbel.

Under federal guidelines adopted by such states as Virginia, 75 percent of the products sold by a vending machine should contain fewer than 200 calories per serving and should include “better-for-you” choices such as snacks with less sugar per serving. Offering healthier options might steer children toward

milk instead of soda or toward wheat crackers instead of peanut M&Ms.

“Even if we couldn't reduce caloric intake per se by changing policies on soda access at school, since kids may substitute high-calorie milk for high-calorie soda, the kids would at least be healthier and likely feel better,” said Fletcher. **YPH**





A scholarship allows Heping Zhang to conduct research on two continents and help train a new generation of scientists.

By Theresa Sullivan Barger

As a child growing up in rural China, Heping Zhang's family was so poor that he had neither toys nor books. His mother was unable to read and none of his high school teachers had attended college.

Despite this, Zhang started college at 14. After graduating with a bachelor's in 1982—while still in his teens—he became a college instructor and began graduate school. He earned his master's four years later and earned the highest score on an exam for young Chinese statisticians seeking to study abroad.

It was his ticket to an American education. Attending Stanford University on a fellowship, he said, gave him his “first systematic education.”

After earning his Ph.D. from Stanford in 1991, he worked as a postdoctoral fellow at the Stanford School of Medicine and in the statistics program and at the Mathematical Sciences Research Institute in Berkeley, Calif. He began a joint appointment at Yale in early 1992.

It was an easy choice. He liked the intellectual atmosphere, New England's seasons and New Haven's affordability and culture. He didn't even wait to hear from other prestigious, top-flight schools.

Zhang, a professor in the division of Biostatistics, achieved another career milestone recently when he was named a fellow in the Chang-Jiang Scholars Program. Established by China's ministry of education and the Li Ka Shing Foundation, the program brings some of the brightest minds from around the world to China to lead teams of scholars in advanced scientific research. Zhang was one of some 100 selected for the three-year fellowship.

With a multimillion-yuan starting budget from Sun Yat-sen University, Zhang plans to work with the university to train Chinese scholars on how to conduct research that meets international standards and how to have their work published in top-tier journals. In return, he'll be able to expand his research into China, leading researchers in his three primary areas of specialty—the genetic causes of infertility, premature birth and addiction.

Zhang's main focus, meanwhile, will continue to be at Yale, where he is director of the Collaborative Center for Statistics in Science. He will travel to China as needed to oversee parallel studies conducted by his Chinese research team and seek external funding in China. The source of the grants will dictate the specific nature of the research.

Calling the selection “a great honor,” Zhang sees it as “an opportunity to give back to China in a significant way.” Throughout his life, he said, he received “a lot of support from people who were incredibly instrumental to my success,” so he appreciates this opportunity to teach Chinese researchers.

“I have the best life here. When I go back to China, I see a totally different perspective. My siblings don't have guaranteed work, guaranteed income or health benefits.” He sends money to more than a dozen family members to improve their quality of life.

He's also grateful for the chance to extend his research. “Now I have a base there [in China] and the support of the university and the government that gives me the leverage to do what I like to do,” he said.

Zhang's work involves collecting and coordinating data from international studies identifying the genes common in women who have premature deliveries, with the ultimate goal of preventing them. He's already working with a Chinese colleague on infertility research and hopes this appointment will allow him to expand that study.

He is still collecting data on 2,000 women and children in the United States, but he hopes to apply his findings in two or three years. With this scholarship, “my hope is to do a similar thing in China,” he said, with research on premature births. “I'd like to see whether there are any common genes [present in American and Chinese women and babies] that underlie the population.”

Zhang chose to apply his mathematical skills to public health research because “health is one of the most important issues in society,” he said.

And teaching is another. When he retires, Zhang would like to return to his boyhood village, start a school and teach. “It's still a very poor and remote part of China,” he said. “I know I can make a difference.” **YPH**

Theresa Sullivan Barger is a freelance writer in Canton, Conn.

Founder's family visits YSPH

Descendants of school's original benefactor impressed by "extraordinary place of learning."

By Melissa Pheterson

In 1914, Harriet Lauder Greenway and her family gave money to start a department of public health at Yale that would help strengthen the Connecticut health department.

Fast forward to October 2009, when the Yale School of Public Health welcomed Greenway's grandchildren to tour the building that houses the academic discipline she helped to create from the fund named after her mother, Anna M.R. Lauder.

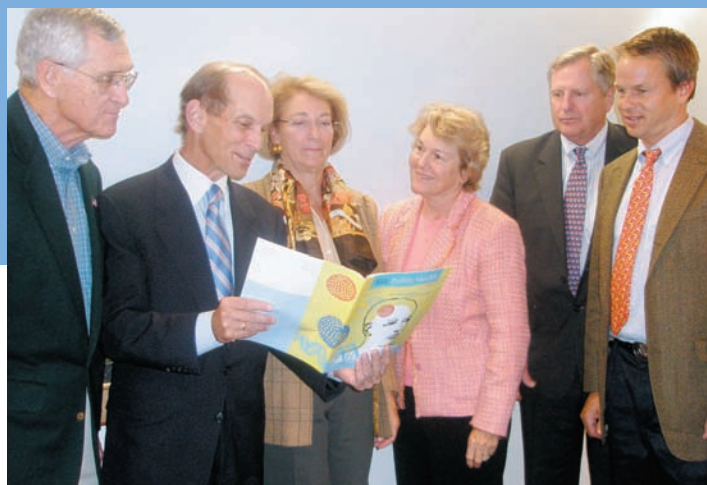
"To summarize 100 years in two minutes, the gift your family gave was truly prescient," Dean Paul D. Cleary told the founding family. "Leaders of public health around the world were catalyzed by the gift. It has created one of the leading public health programs in the country—well, the world," he amended, grinning. "I can show a little hubris with this group."

Cleary said that Yale's public health program was one of the first eight to receive accreditation, seeding the ground for public health as a distinct scientific pursuit.

John Griswold, a 1967 Yale College graduate, had been tracking another family scholarship at Yale, this one in honor of Harriet's husband, James Greenway, when he inquired about the Lauder Fund. Griswold's cousin, Sadie O'Dea, had spotted a mention of the fund in an article from the archives of *The New York Times* while conducting family research. "This endowment came as a surprise to us," said Griswold.

Griswold and O'Dea were joined by Harriet's great-grandson, Frederick Schavoir, and Griswold's sister and brother-in-law, Ursula and Tom LaMotte.

"We're in the same business as the medical school and as Yale writ large: the business of improving the human condition," Cleary said as he described the breadth of a discipline concerned with addressing obesity in New Haven; air quality in China; and diseases such as HIV, cancer and malaria. "Our science is as good as it gets. But that would all be for naught if we didn't take that expertise and apply it to the lives of our next-door neighbors."



From left to right: Tom LaMotte, Dean Paul Cleary, Sadie O'Dea, Ursula LaMotte, John Griswold and Frederick Schavoir discuss initiatives under way at the Yale School of Public Health.

YSPH graduate students Ryan Carney, Derek McCleaf and Javier Cepeda joined the visiting group, sharing their endeavors as students in the division of Epidemiology of Microbial Diseases: from tracking infectious diseases in Colombia (McCleaf) to working with Google to hone the use of technology as a surveillance tool for pandemics (Carney).

When Griswold and his family expressed interest in corporate support of technology firms' contributions to public health, Cleary pointed out that Google identified swine flu patterns two weeks ahead of the Centers for Disease Control and Prevention. When asked about involvement with corporations, he noted that some meetings on HIV prevention and treatment have involved Coca-Cola executives, who are experts in distribution to resource-poor environments. "As we think about how best to deliver vaccines, water and medication to remote destinations, we should take advantage of the knowledge and expertise of international companies that have learned how to deliver products to distant parts of the world," Cleary said.

Led by Curtis L. Patton, Ph.D., professor emeritus, the family noted the portrait of Noah Webster near the entrance to LEPH, then proceeded to the "tickery" lab (home to some 50,000 ticks) on the sixth floor that is used to study disease pathogens. "It's very heartening to know that there are such brilliant and dedicated people working on some of the most intractable and dangerous diseases on the planet, and that they do so often in relative obscurity and without much compensation other than their job satisfaction," said Griswold, who called the tour "impressive."

"Our visit reinforced our view of Yale and the school as an extraordinary place of learning and research," he said, "and it made us proud that our ancestors helped make it more so." **YPH**

Melissa Pheterson



Students

Hands-on public health

A trip to rural El Salvador gives an M.P.H. student the chance to apply classroom knowledge and reminds her why she entered the field.

By Sara Bodnar

As I walked through the bright and modern airport in San Salvador, the capital of El Salvador, I was struck by how much it looked like all the other airports that I have ever traveled through. Duty-free stores selling touristy trinkets lined the walkway of my terminal, and people sat in the restaurants, hurriedly eating before boarding their planes.

Despite these seemingly familiar surroundings, I knew that this trip would be unlike any other I had taken. I was traveling to this Central American country as a member of Yale HealthCORE (Community OutReach and Education), an organization comprising public health, nursing and medical students and devoted to health outreach in Latin America. Aside from being the first community health work I have ever done, it was also my first outreach effort in another country.

Before pursuing a master's in public health, I primarily wrote about health and nutrition for women's magazines such as *Cosmopolitan* and *Shape*. This work was interesting and gave me the opportunity to explore issues important to our readers, but I never had the chance to actually do something about health problems. The more I learned about health through writing, the more I realized that

many diseases could be prevented through health promotion and lifestyle changes. I had always hoped that I would one day have the opportunity to do this type of hands-on public health work.

But while waiting in line at customs, I listened to the people around me speak in Spanish and was reminded once again of how poor my own Spanish was. Between the inability to communicate and my relative lack of public health experience, I started having serious doubts right there in the airport about what good, if any, I could do on this trip. When I arrived at the front of the line, the official stared curiously at me for a moment, probably wondering what I would be doing in this country. "Are you a doctor?," he asked.

I shook my head and attempted to explain in halting Spanish that I was a public health student. "*Estudiante de salud publica*," I replied. The unfamiliar words were difficult to pronounce, and judging from his puzzled expression, I suspected that I mispronounced most—if not all—of them. I had been in El Salvador for less than an hour and I started thinking that maybe I should have done something else for spring break.

As we waited for the van that would take our group of 15 students to Isla de Mendez, a village on El Salvador's coast where we would be staying, I pulled a Spanish dictionary from my bag and started to read. I had a lot to learn in a short period.

A two-and-a-half-hour drive from the capital, Isla de Mendez is a fishing village located in the country's southern region of Usulután, not far from the Nicaraguan





The Bay of Jiquilisco, which borders the rural fishing village Isla de Mendez, is vital to the livelihood of many in the community.



Yale HealthCORE students spent a day at a school in Isla de Mendez and taught lessons on nutrition and hand-washing. Second-year M.P.H. student Sara Bodnar, center, and Yale nursing student Lumor Chet, lower right, get to know students before a lesson.

HealthCORE members meet with representatives from a range of local organizations to learn more about the health issues affecting the village.



“This helped me realize that my public health training to date has not only given me the ability to identify issues that are affecting a community, but has also provided me with the skills to come up with solutions to these problems.”

— Sara Bodnar

border. Instead of paved highways, narrow dirt roads connected one house to the other, and the pungent smell of cashew trees filled the air. Lively Salvadorian *cumbia* pulsed from stereos in the small marketplaces, or *tiendas*, where we stopped for snacks. The familiar surroundings of the airport had quickly melted away.

There were myriad projects that had to be completed by the end of our eight-day visit to Isla de Mendez. Our tasks included data collection, health fairs, educational sessions on reproductive health, training local public health workers, environmental cleanup and teaching health-related lessons at the local school.

Each of our days started early, when the entire HealthCORE team would typically meet to prepare for a health fair or educational session later that morning. We would then coordinate with community members to ensure that we would have good attendance for each event. Then we'd spend an hour or two meeting with community organizations to understand the various health issues that were particularly important to the people of Isla de Mendez, such as the preservation of its bay or the diseases that afflicted the area. At day's end, we tested our athletic skills in a friendly soccer game with high school students from the village. We'd then convene for an evening meeting and prepare for the next day's busy agenda.

As our work began, I soon discovered how exciting it was to practice public health and that I could actually apply the skills I had learned at Yale in a real-world setting. As a social- and behavioral-sciences student, the health fairs provided an opportunity to discuss important health behaviors, such as dental hygiene. Our interviews with the village's sole doctor allowed me to see how Isla de Mendez's environment contributes to the types of diseases that are common in the village. Due to the lack of a sanitation system, for example, large quantities of garbage are burned near homes and the streets where people congregate. The exposure to smoke from this garbage, coupled with the use

of wood-burning stoves that are found in many of the village's homes, results in abnormally high rates of respiratory diseases such as asthma. Because women spend so many hours in the kitchen, they experience disproportionately higher rates than men.

We also met with representatives from community organizations to discuss developing an alternative system for garbage disposal. This helped me realize that my public health training to date has not only given me the ability to identify issues that are affecting a community, but has also provided me with the skills to come up with solutions to these problems. It struck me that, for the first time in my career, I wasn't on the sidelines, merely writing about health issues. I was in the field, finally contributing something to prevent illness and helping people. This is what had drawn me to public health and prompted me to pursue a degree.

And with the help of some fellow HealthCORE members with exceptional Spanish skills, I was even able to teach a nutrition class at the local school. At the end of my lesson, I pointed to pictures of fruits and vegetables and asked the 7- and 8-year-old students if these foods were healthy, which is *sano* in Spanish. When I was met with an enthusiastic chorus of *sano*, I was reassured that, in spite of the language barrier, I was still able to convey an important health message.

At the end of our short stay we said our goodbyes, and the group returned to San Salvador's airport. I was excited about finishing the spring semester and solidifying lessons that had important health applications in the real world. I boarded the plane back home, still not entirely sure where my journey in public health would ultimately take me, but knowing that I was on the right path. **YPH**

Sara Bodnar is a second-year M.P.H. student at Yale. She traveled to El Salvador with HealthCORE in 2009.

A spectacular sunset—and an impromptu soccer game on Isla de Mendez's expansive beach—marks the end of a busy day for HealthCORE students.



Students

Reading palms

A doctoral candidate evaluates a new technique for measuring nutritional status in adults, children.

By Melissa Pheterson

How do you know if children are truly eating their fruits and veggies? It may be as easy as reading their palms.

A team from the Yale School of Public Health has been evaluating the reliability and validity of a noninvasive method for measuring nutrient intake and status. The technique, resonance Raman spectroscopy (RRS), requires shining visible blue light into the skin of the palm to quantify levels of plant pigments known as carotenoids, found in such foods as carrots, spinach and oranges. The technique could eventually be used to objectively estimate fruit and vegetable intake in public health research, do nutrition surveillance or evaluate dietary interventions.

“Carotenoids are considered the best biomarker of fruit and vegetable intake,” said Stephanie Scarmo, M.P.H. ’06, Ph.D. ’09. A type of antioxidant that protects the body from free-radical damage, carotenoids like beta-carotene and lutein may play a role in preventing disease and prolonging life.

Scarmo, a graduate of the division of Chronic Disease Epidemiology, was involved in three studies of the RRS technique under Susan T. Mayne, Ph.D., head of that division and the principal investigator.

Starting in 2004, the team recruited 75 adults of different ages, smoking status and skin pigmentation for an RRS skin analysis, to examine the reproducibility of RRS scanning results over a period of 6 months. The team then did a second adult study, measuring carotenoids in skin biopsies to compare to the scanner’s findings and evaluate validity. These adult studies indicated that RRS results were both reproducible and valid and that they correlated with subjects’ self-reported fruit and vegetable intake.

In October 2007 the team received a shoebox-size, easier-to-use RRS scanner from collaborators at the University of Utah. The next fall, collaborating with a group led by Valerie B. Duffy, Ph.D., at the University of Connecticut, they evaluated the technique with preschoolers. “The purpose was to see if we could assess fruit and vegetable intake in a more-objective way than parental



Stephanie Scarmo scans the palm of a preschool child with a portable spectrometer that reads pigment levels known as carotenoids.

reporting and in a less-invasive way than blood or tissue samples,” Scarmo said.

The selected preschools enrolled many children from low-income families, some of whom qualified for government food assistance. After measuring each child’s height and weight and querying the parents about the foods their child ate and liked, Scarmo took the RRS readings. A laptop interface displayed the results. The research team was able to collect data on nearly 400 children.

“We saw significant correlation between the parents’ report of their children’s fruit and vegetable intake and what RRS was detecting,” said Scarmo. Findings were consistent across minority groups (60 percent of the children were Hispanic and 25 percent were African-American). Children who were obese had lower carotenoid status, a finding that is consistent with results from adult studies using carotenoid measures in blood.

“This contributes to a growing body of evidence that RRS is a feasible, valid, objective indicator of fruit and vegetable intake,” said Scarmo. “Our hope is to identify kids with low carotenoid status and target interventions to improve their diet.”

While the research is promising, Scarmo said that further studies are needed to explain how melanin in skin affects the measure and to assess the scanner’s ability to detect changes in response to controlled dietary interventions.

Scarmo majored in biology at Villanova University, getting a taste of lab work, and then decided to pursue her M.P.H. and Ph.D. at Yale. She plans to work in the field of nutritional epidemiology.

“Our findings have great potential to identify children who may be at risk later in life for disease caused by dietary inadequacies,” she said. **YPH**

Kerah Kennedy

Health without reservation

An alumna returns to her Navajo homeland to address the health needs of her people.

By Cathy Shufro

Dornell Pete didn't know much about Yale when she found its M.P.H. program listed on the website of the American Public Health Association. From Pete's vantage point on the Navajo reservation, Yale was "one of the prestigious schools way over there on the east side of the reservation, way past the mesas."

Pete, M.P.H. '06, had become interested in environmental health while testing water for the tribal utility company. She had grown up on the Navajo reservation, which covers much of northeastern Arizona and swaths of neighboring New Mexico and Utah; her hometown was Shiprock, on the New Mexico side. In her job with the utility, Pete discovered that some of her fellow Navajos (or *Diné*, in their language) were drinking water that was polluted—by arsenic and radon from mining, and by organic contaminants from abandoned underground fuel tanks.

The incident helped Pete decide to study public health. When Yale admitted her in 2004, she drove the 2,300 miles to New Haven by herself, energized by indie rock and phone calls from friends.

Navajo health

Now Pete serves as one of just two epidemiologists for the Navajo Epidemiology Center in the tribal capital, Window Rock, Arizona. In the three years since earning her degree at Yale, she has been gathering, evaluating and analyzing basic data about the health of the 205,000 men, women and children living on "Navajo," the local term for the reservation. Most live in clusters of houses and trailers, and occasionally eight-sided log hogans, separated by miles of arid high plains punctuated by mesas.

Because the tribe lacks the money to conduct surveys of its own, Pete and her colleague at the epidemiology center spend their days searching for extant data that they can use. Pete's task is to ask: "Who has data that are Navajo-specific? Or American-Indian-specific?" She scours statistics from state health departments, the Centers for Disease Control and Prevention (CDC) and the Indian Health Service. "We have to make sure it's accurate, it's representative, it's timely," says Pete. "So it's basic epidemiology. Deborah and I have made that our priority." Deborah is center director Deborah Klaus, Ph.D., the

tribe's other epidemiologist. Coincidentally, she earned her degree from Yale, too—a doctorate in epidemiology, in 1992.

Working on the reservation has required Pete to learn public health practice that complements her study of science. "After my training at Yale, I (knew) how to calculate a *p*-value, but little about how to translate public health knowledge into effective advocacy, policies and practical action. [Now] I'm learning to communicate with the community, to have fruitful and successful relationships in our community, to have them trust us." Pete collaborates with the CDC, the Indian Health Service and health departments from three states.

Pete's Navajo upbringing is an advantage for the epidemiology center, says Klaus. "All of her decisions are that much better-informed, because she knows how things work here. She has a foot in both worlds."

In the next few months, Pete will complete two major projects. The first is a report on cancer epidemiology and screening. One finding is that 15 percent of Navajo adults ages 50 to 64 have had colorectal screening of some kind, compared with about 50 percent for the entire Southwest region. "Is it a cultural thing?," asks Pete. "Is it because the Indian Health Service for the Navajo area doesn't have the capacity or the equipment?"

The complexity of understanding public health issues on Navajo is exemplified by the difficulties that arise from how to understand the word *cancer*. The Navajo word for *cancer*, *lood doo na'zihii*, translates as "the sore that does not heal." A Navajo



Dornell Pete

speaker who learns she has cancer may not return for treatment after hearing that her sore won't heal. Another example: The Indian Health Service has reported that American Indians and Alaska Natives die from diabetes at triple the rate of Americans overall. But findings that represent 562 tribes may not convey anything useful about diabetes deaths among Navajos, with their distinctive diet, environmental exposures and patterns of physical activity.

Pete's other major undertaking is collecting data on perinatal risks to mothers and babies. She hopes that the data from both projects will provide the basis for improving services and for initiating new research. Eventually, Pete would also like to advance public health education using videos that incorporate messages about prevention in terms familiar to the tribe, and videos spoken in Navajo. Perhaps the videos will draw on traditional values and practices. "These are strengths of our community," she says.

Studying at Yale

At first, Pete was ambivalent about her coursework at Yale. She'd studied biochemistry at Fort Lewis College in Colorado, where Native Americans get free tuition. "For me, with my

biochemistry studies, it was really foreign." Public health, she recalls, required her to learn "a new language, a new vocabulary: methods, cross-sectional studies, cohorts. At first, I thought, 'Is this for me?'" But learning the language began to seem worthwhile once she recognized how public health knowledge can help communities. Pete says her understanding grew largely out of conversations with her teaching assistant for "Principles of Epidemiology 1," Ali Rowhani-Rahbar, M.D., M.P.H. '05, Ph.D. As Rowhani-Rahbar remembers Pete, "She always asked questions. Sometimes we'd talk for 10 minutes, 20 minutes, after class to discuss a particular concept or question. In a nutshell, she cared a lot about what she was learning, and she valued it."

Pete also found a mentor in Meredith H. Stowe, Ph.D. '94, a lecturer at the school, and she began to meet students in the global health division. "I was in awe of the things they had already done. They were in Nepal, they were in Africa. They were in the Peace Corps, in South America, in China. These were people who had a pretty good idea of what they wanted to do." And when Pete reflected on the hardships that these classmates had witnessed in the populations they served, she thought, "The conditions

of the people they served are not much different from how I grew up." Time away from home had given her perspective. "When you're in it [hardship situations], that's just the way of life. You don't take notice."

These days, Pete spends most of her free time with her extended family on the reservation and weekends with her partner, Joyce, and Joyce's daughter, Kendra, in Albuquerque, N.M. She plays guitar and enjoys running, hiking and reading; she recently read Katherine Dunn's *Geek Love*. She'd like to learn Navajo, which her parents did not teach her: both her mother and father were relocated to attend distant boarding schools where they were forbidden to speak their language. Despite the downside of Navajo life—high rates of alcoholism, 50 percent unemployment, poverty—Pete says, "I love it here. The openness of the landscape. And it's home, the good and the bad that made me who I am. I have to respect it, and I do."

Still, sooner or later, she plans to leave again, to pursue a Ph.D. And then she'll return to Navajo, to continue the work she has chosen: to show her people, "This is what epidemiology can do for our community." **YPH**

Cathy Shufro is a freelance writer in Woodbridge, Conn.



Dreamstime (2)

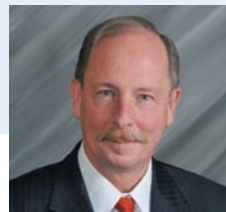
Alumni News



Paul Etkind



Kate Walsh



Brian Triplett



Megan Lindley



Sara Shamos and
Kaakpema Yelapaala

1970s

Paul Etkind, M.P.H. '76, Dr.P.H. '98, is pleased to join the National Association of County and City Health Officials (NACCHO), the professional voice of local health in the United States, where he is the senior analyst for immunizations. The office is located in Washington, D.C. Paul joined NACCHO just in time for the onset of the H1N1 pandemic and has been almost solely involved in the H1N1 response since his arrival. He is looking forward to being able to resume initiatives concerning other aspects of immunization safety, promotion and best practices.

Michael E. Klein, M.D. '71, M.P.H. '72, was recently appointed associate professor of oncology at Thomas Jefferson University. Additionally, Michael received the Best Teacher for Oncology Service award from medical house staff there last June.

Kate Walsh, M.P.H. '79, executive vice president and chief operating officer of Brigham and Women's Hospital, is the new president and CEO of Boston Medical Center (BMC). Kate, who has been at Brigham and Women's Hospital for the past five years, was approved by a unanimous vote of BMC's board of trustees on January 5 after a nationwide search that attracted numerous candidates. She began her new position on March 1. "Kate Walsh was the best candidate to emerge from an extremely strong field of candidates from every region of the country," said Ted English, chair of both BMC's board of trustees and the selection committee.

1980s

Brian Triplett, M.P.H. '88, CEO of the Society of Chest Pain Centers (SCPC), was recently in New Haven to present Yale-New Haven Hospital with a three-year accreditation as a Chest Pain Center. Yale-New Haven is the first and only hospital in Connecticut to receive Cycle III accreditation, the highest designation given by the SCPC. According to the society, an accredited Chest Pain Center is generally thought to provide better care, better prognosis, better quality of life, faster treatment and decreased length of stay in the hospital.

1990s

Ursula Bauer, M.P.H., Ph.D. '95, has been named director of the CDC's National Center for Chronic Disease Prevention and Health Promotion. Ursula previously worked at the New York State Department of Health, where she most recently served as the director of the Division of Chronic Disease and Injury Prevention. She joined the New York State Department of Health in 2001 as the director of their Tobacco Control Program. In that role, she helped to implement two cigarette excise tax increases and the statewide Clean Indoor Air Act.

Simon Tang, M.P.H. '99, and his wife, Renee, welcomed their second daughter, Kaela Tang, into the world in December 2009. All, including older sister Kiele, are doing well.

2000s

Megan C. Lindley, M.P.H. '04, appeared on *Jeopardy!* in April 2009, and her public health training paid off in one of the categories—called "Eat It, Beat It, or Treat It"—in which she was able to identify unusual diseases such as ague and yaws.

Indeed, Megan was ahead for most of the game. During Final Jeopardy (during which contestants face a single question), however, she guessed the wrong answer and lost the game. Megan, who is an epidemiologist for the Centers for Disease Control and Prevention, credits her boyfriend, Mike, with helping her get ready for the appearance on national television. "[He] created a study guide full of hundreds of questions from previous *Jeopardy!* episodes and had been quizzing me. ... So I felt well-prepared."

Rachael T. Overcash, M.P.H. '04, married Michael A. Umpierre, J.D. '06, in June 2009. Rachael and Michael were joined by friends and family from around the globe for a full weekend of festivities, including an outdoor ceremony followed by a night of dinner and dancing, a traditional Southern pig pickin', a golf and tennis tournament, a Cuban-themed rehearsal dinner (for Michael's Cuban heritage), a Chinese tea ceremony (for Rachael's Chinese heritage) and a farewell brunch.

Sara Shamos, M.P.H. '07, and **Kaakpema Yelapaala**, M.P.H. '06, were married in Denver on June 13, 2009. Sara and Kaakpema met at a YSPH global health potluck debate on the state of HIV/AIDS care and treatment in Tanzania, where they have both worked. They now live in Washington, D.C.

Have an update?

Your classmates want to hear about you! Help us share your news of a new job, promotion, recognition, marriage, birth of a child, etc. Send items (and photos) to ysph.alumni@yale.edu.

YSPH Alumni Day: June 4, 2010

Exploring the Intersection of Violence and Public Health

Professional Development Workshop

The Emotionally Intelligent Manager

David R. Caruso, Ph.D., special assistant to the dean for organization development, Yale College, and research affiliate, Department of Psychology, Yale University

Keynote Address

Violence Prevention in America: A Public Health Mandate

Deborah Prothrow-Stith, M.D., consultant, Spencer Stuart group, and adjunct professor, Harvard School of Public Health

Symposium

Violence: Community Responses to a Public Health Epidemic

Moderator: David Dan, L.C.S.W., research and program development specialist, Friends of the Children, and consultant, Resources for Human Development

Panelists: Shafiq Abdussabur, founder and C.E.O., CTRIBAT Institute for Social Development; Erika Tindill, Esq., executive director, Connecticut Coalition Against Domestic Violence; and Barbara Tinney, M.S.W., executive director, New Haven Family Alliance

Annual Alumni Day Luncheon and Awards Ceremony

SAVE THE DATE

ysph.alumni@yale.edu

203-785-6245

Alumni Day 2010

Violence: A hazard to our health

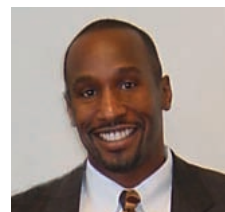
By Kevin Nelson

Conventional wisdom leads many to conclude that violence is a criminal justice matter. An act of violence is committed, the perpetrator is identified, judgment is rendered and punishment is delivered. However, this is a purely punitive approach and is ineffective at reducing future instances of violence. Furthermore, the criminal justice approach does not consider the broader impact. Violence touches everyone's life. At a minimum, it affects the emotional and mental health of the community, increases health care costs, decreases property values and disrupts social services. Given the potential outcomes and evolving strategies to reduce occurrences, violence is increasingly being recognized as a public health issue.

The Yale School of Public Health Alumni Day on June 4 is devoted to this important and timely topic. We have the privilege of welcoming Deborah Prothrow-Stith, M.D., as the keynote speaker. She is a nationally recognized public health leader and the author of *Deadly Consequences: How Violence Is Destroying Our Teenage*

Population and a Plan to Begin Solving the Problem, the first book to present a public health perspective on violence. Prothrow-Stith will discuss violence as a public health issue, including the history of this approach and its implications. She will also highlight several community-based methods related to violence prevention.

In a continuing effort to make Alumni Day a valuable experience for all, there are a few notable changes in this year's format. The program begins with a professional-development workshop—*The Emotionally Intelligent Manager*—presented by David R. Caruso, Ph.D., special assistant to the dean for organization development at Yale College. Caruso is also a co-author of *The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership*. The workshop will focus on how emotions affect decision-making in the workplace and how managers can be more effective by leveraging emotions. The workshop will be followed by Prothrow-Stith's presentation and a town-and-gown conversation on responses to the violence



Kevin Nelson

epidemic affecting communities across the country. We anticipate that this multifaceted format will foster greater interaction and participation.

The program will also include the customary luncheon and alumni awards ceremony. In addition to comments from Deputy Dean Brian P. Leaderer, M.P.H. '71, Ph.D. '75, we will recognize alumni for their contributions to public health. Also new this year, the luncheon is structured to allow additional time for networking and conversation.

Registration materials have been mailed to you. I hope that you will make plans to join Prothrow-Stith and the YSPH community for a timely and thought-provoking experience. I look forward to seeing you there.

Kevin Nelson, M.P.H. '92, is president of the Association of Yale Alumni in Public Health.



Leah Hoffman

A Vietnamese sex worker and her boyfriend embrace in Hai Phong. A study done as part of a Downs fellowship found that the majority of such workers report always using condoms with their clients, but few sex workers in Vietnam consistently use condoms in love relationships.

Downs fellows reflect on research abroad

Yale program encourages students to “leave home” and discover the world.

For 10 Yale School of Public Health students who lived abroad last summer as Downs International Health Student Travel Fellows, the thrill of discovery extended beyond their research findings.

“I entered as an epidemiologist and left as an ethnographer of Russian culture,” said Javier Cepeda, an M.P.H. student in the division of Epidemiology of Microbial Diseases who assessed the behavior of drug-using social groups in St. Petersburg.

Each year, the Downs fellowship funds a select group of students drawn from the schools of public health, medicine and nursing to conduct research in developing countries. The YSPH students went to Eastern Europe, South and Central America, Asia, Africa and the Caribbean, overcoming language barriers and bureaucratic logjams while adjusting their

methods and adapting to local customs as they found their bearings.

The fellowship was started by Wilbur G. Downs (1913-1991), professor of epidemiology and public health at the Yale School of Medicine. Downs was keenly aware that research doesn’t take place in a vacuum. “One of the best ways to grow up,” he often told his students, “is to leave home.”

“Much as Yale is now a global university, Will Downs would consider himself a globetrotter,” said Curtis L. Patton, Ph.D., professor emeritus, speaking at the symposium and poster session for the fellows. “He’d be right here in the second row, curious about your work, your findings, your mistakes.”

Paul D. Cleary, dean of YSPH, lauded Downs’ prescience in creating this fellowship. “I have the privilege of writing to the Downs family every year to describe your work,” he told the fellows. “It is so heartwarming to describe your skills and determination.”

Leah Hoffman, an M.P.H. student in the Social and Behavioral Sciences

program, framed her research in Vietnam as a “couples” study, inviting sex workers and their partners to answer questions surrounding trust, condom use and the power scale within relationships. She found that couples with a greater disparity of answers were less likely to use condoms, confirming a hypothesis that condom usage hinges on clear communication. She plans to use the results to advise Vietnamese public health officials on strategies to promote condom use among sex workers, perhaps via role-playing to strengthen their communications skills.

Molly Rosenberg, an M.P.H. student in the division of Epidemiology of Microbial Diseases, worked with a microfinance venture to study whether economic empowerment reduces H.I.V. risk behavior among Haitian women. “Every day I took a motorcycle ride through the countryside to different loan repayment meetings to interview participants,” she said. Her analysis revealed that women with more microfinance experience are nearly four times as likely to use condoms if their partner is unfaithful.

“The Downs fellowship has allowed me to see an epidemiological study through, from the design stage to data analysis,” she said.

The symposium is organized by Yale’s Committee on International Health, whose members select Downs fellows under the direction of Kaveh Khoshnood, M.P.H. ’89, Ph.D. ’95, assistant professor in the division of Epidemiology of Microbial Diseases.

Melissa Pheterson

Public health expert shares insight on community care

The Yale School of Public Health is pursuing an array of initiatives to improve New Haven's health.

Eric Whitaker, M.D., M.P.H., freely admits to being a “skeptic” about town-gown relations.

Yet he suspended his disbelief long enough to forge ahead with groundbreaking initiatives in Chicago, becoming a crusader for community health by following in Michelle Obama's footsteps.

Whitaker, a close friend of the first couple, struck an optimistic tone at the annual Dean's Lecture in Winslow Auditorium late last year, urging students and faculty at the Yale School of Public Health to pursue an array of initiatives to promote better health in the New Haven community.

Whitaker is a “virtuoso of this field,” Dean Paul D. Cleary said during his introductory remarks to the gathering.

In 2007, Whitaker replaced the first lady as director of the Office of Community Affairs at the University of Chicago Medical Center (UCMC). He assumed the post acutely aware of the jarring disparities between the city's affluent Hyde Park enclave and its poverty-ridden South Side.

To help UCMC function as both a community hospital and an academic health center, Whitaker directs the Urban Health Initiative, a series of programs designed to promote community health by matching residents with a “medical home,” or primary care provider; providing incentives for medical students to pursue community health; and maintaining an online catalog of local health and social services.

Jeannette R. Ickovics, Ph.D., director of both the Social and Behavioral Sciences program at YSPH and CARE: Community Alliance for Research and Engagement, said there are parallels between Whitaker's



Eric Whitaker, keynote speaker at the annual Dean's Lecture, urged students and faculty to promote better health in Greater New Haven.

programs and community-based efforts now under way at YSPH, the School of Medicine and Yale-New Haven Hospital. Both Yale and UCMC can draw on the capital of a major university—from financial resources to brain trusts—in training a community health workforce and developing sustainable health programs, she said. Whitaker agreed.

“We focus on assets, not deficits, to achieve health promotion through disease prevention,” he added.

Whitaker's lecture was followed by a panel discussion with Chisara Asomugha, M.D., M.S.P.H., New Haven's community services administrator; Charles Lockwood, M.D., chair of the board of governors of Yale Medical Group; and Rafael Pérez-Escamilla, Ph.D., director of the Office of Community Health at YSPH.

“It is essential for health care institutions to become part of the community, and not to operate as islands or silos driven by a commercial model,” said Pérez-Escamilla, who noted that initiatives such as CARE must unfold in the context of national health care reform, to reduce the

glaring disparity in access between social classes. “The first step is to recognize that health care access is a human right,” not a privilege.

“This is a great blueprint for what we can do in New Haven,” Lockwood said of Whitaker's programs. “YSPH is ahead of the game in taking an inventory of community needs and sharing its resources accordingly. It's time for the medical school to take our primary care out of the hospital basement and deliver it to the community.”

A community care philosophy can amount to a sound business decision, he added, as federal funding for such services can increase hospital revenue.

“It's time to erase the false dichotomy between sustainability and service,” Lockwood said.

M.P.

Fletcher wins health economics prize

Jason M. Fletcher, Ph.D., assistant professor in the division of Health Policy Administration, has won a prestigious research award in recognition of his contributions to health economics.

Fletcher shares the RAND Corp.'s Victor R. Fuchs Research Award with Steven F. Lehrer, an associate professor at Queen's University in Kingston, Ontario.

Their prize-winning paper, “The Effects of Adolescent Health on Educational Outcomes: Causal Evidence Using Genetic Lotteries Between Siblings,” recently published in the journal *Forum for Health Economics & Policy*, tracks the effects of adolescent health on educational outcomes. Their study found that poor mental health in children curtails their length of time in school.

In their study, the team introduces a new research methodology called a “genetic lottery” identification strategy, based

on the variations in genetic inheritance among siblings.

“Our basic idea is to use the random variation between biological siblings in their genetic inheritances as an ‘experiment in nature’ and trace through the effects of these genetic differences from childhood health to schooling outcomes,” said Fletcher.

The study supports an investment of resources in childhood and adolescent health interventions to target issues such as depression and attention deficit hyperactivity disorder.

Presented annually by the RAND Corp., a U.S.-based, nonprofit global policy think tank, the \$10,000 Fuchs Award is given for the best research paper with the potential to generate new research in an underdeveloped area of health economics or health policy.

Melissa Pheterson

City residents surveyed about their health, habits

In the second stage of a long-term effort to reverse worsening rates of chronic disease in New Haven, residents of six city neighborhoods have been surveyed about their current health and health habits.

Starting in early October and lasting through November, approximately 1,400 adults in the city’s Dixwell, West River/Dwight, Fair Haven, Hill North, Newhallville and West Rock neighborhoods were interviewed about their health issues, including access to health care, diet, exercise, tobacco use and neighborhood environment. The data are being combined with information from health maps of the same six neighborhoods completed last summer.

The combined findings will be used to develop policy proposals and health programs to curb obesity, smoking, diabetes

and other factors that contribute to the onset of chronic disease. New Haven, like other urban centers, disproportionately bears the burden of chronic disease. Such diseases account for 70 percent of all illness and death in the United States and for 75 percent of health care costs—yet they are preventable.

“Everyone is crucial to this effort,” Jeanette R. Ickovics, Ph.D., a professor in the division of Chronic Disease Epidemiology, said of the project’s second phase. Ickovics also is director of CARE: Community Alliance for Research and Engagement at Yale, which is spearheading the study.

William P. Quinn, M.P.H. ’75, then-director of the New Haven Health Department, said the survey would give a voice to residents who are not often heard from. “What you [CARE] are doing is extremely important,” he said.

Michael Greenwood

Professor appointed to global HIV research agency

A. David Paltiel has been named to the Scientific Review Committee of The French National Agency for Research on AIDS and Viral Hepatitis (ANRS).

Paltiel, Ph.D. ’92, a professor in the division of Health Policy and Administration, hopes his expertise in disease simulation modeling will help inform policy about HIV prevention, detection and care, especially in resource-poor settings where large-scale clinical trials and observational studies are difficult to pursue.

“In situations where pressing decisions need to be made, and where we have neither the time nor the money to obtain all the direct scientific evidence we wish we had, model-based methods can be a practical alternative,” Paltiel said.

His two-year term includes a special assignment to the agency’s program on



CARE workers knocked on doors in six New Haven neighborhoods to talk with residents about their health. The findings will be used to develop policy proposals to reduce chronic diseases.

research in developing countries in such regions as sub-Saharan Africa, where AIDS has spread rapidly. The committee meets twice a year to review scientific proposals.

Paltiel's current research focuses on model-based evaluation of HIV/AIDS testing, prevention, treatment and care in vulnerable and underserved populations in the United States and abroad.

Created in 1989, ANRS leads, coordinates and funds research on AIDS and viral hepatitis, both in France and in developing countries. Outside the United States, ANRS is one of the largest and most successful funding and coordinating agencies for international HIV/AIDS studies.

M.P.



Nancy Ruddle

Professor emerita receives achievement award

Nancy H. Ruddle, Ph.D. '68, received the 2009 Lifetime Achievement Award from the International Cytokine Society at its annual meeting in Lisbon, Portugal, in

October. This award is given annually to a scientist who has contributed in a sustained way to research on cytokines.

"It was a great honor to be recognized by my peers in this group, which has done so much to promote the discovery of cytokines and their functions in health and disease," said Ruddle, professor emerita and senior research scientist in the division of Epidemiology of Microbial Diseases.

The award was presented to Ruddle in recognition of her research on lymphotoxin, a cytokine released by the white blood cells that was one of the first cytokines to be identified. Ruddle had described lymphotoxin in her thesis in 1968, when she was a Ph.D. student in microbiology at Yale. Cytokines, proteins released by cells within the immune system, are critical to regulating the body's immune response.

Ruddle's research focuses on lymphotoxin and other cytokines in autoimmune diseases and lymphoid organ development. She served as president of the International Cytokine Society from 2001 to 2002.

M.P.

Researcher named top editor of scientific journal

Serap Aksoy, Ph.D., an authority on vector biology and the pathogen that causes sleeping sickness, has been named an editor in chief of *PLoS Neglected Tropical Diseases*.

The open-access, electronic journal focuses on the pathology, epidemiology, prevention, treatment and control of diseases that are primarily found in developing countries. Topics include understudied diseases such as elephantiasis, river blindness, leprosy, hookworm, African sleeping sickness, leishmaniasis and Chagas disease.

The journal was launched in 2007 with funding from the Bill and Melinda Gates Foundation. Aksoy, professor and head of



Serap Aksoy

the division of Epidemiology of Microbial Diseases, will serve as co-editor in chief with Peter J. Hotez, M.D., Ph.D., a former YSPH faculty member who is now at George Washington University.

Aksoy said that one of her goals as editor will be to feature articles from researchers living in as many disease-endemic countries as possible.

"Despite the devastating impact of these diseases in the developing world and the good work that we know goes on in these countries, only a fraction of the papers we publish are submitted by authors from disease-endemic countries," she said.

Some research reported in the journal has subsequently appeared in other scientific and medical journals and, in turn, has been picked up by the national and international media. This attention has put the diseases on the agendas of the United Nations and the World Health Organization.

M.G.



Mammals such as the white-tailed deer contribute to the spread and prevalence of Lyme disease. Their role was explained in a recent exhibit on infectious diseases.

Museum exhibit explores infectious diseases

Wriggling larvae, jars of ticks and a larger-than-life mosquito devouring a blood meal are some of the ways the Yale Peabody Museum of Natural History sought to demystify infectious disease with its exhibit *Solving the Puzzle: Lyme Disease, West Nile Virus and You*, developed with guidance from Leonard E. Munstermann, Ph.D., senior research scientist in the division of Epidemiology of Microbial Diseases.

Munstermann, who also serves as the Peabody's head curator of entomology, developed the display to give museumgoers a better understanding of vector-borne diseases and of how humans exert an

impact on their spread and prevention.

"*Solving the Puzzle* reduces the complexity of the information so a lay audience can easily absorb it and can play a role themselves in combating these diseases," said Munstermann.

The exhibit's opening featured a puppet show and games for children, who studied ticks and mosquitoes as both jarred specimens and stuffed-animal-size replicas. Placards defined such public health terms as *pathogen*, *host* and *vector*, explained the blood meal transmission of the diseases and advised visitors on how to protect themselves against infection. The exhibit ran through the end of January.

Melissa Pheterson

Magazine names Mayne Researcher of the Year

A professor at the Yale School of Public Health has been named Researcher of the Year by *Business New Haven* magazine for her inquiries into nutrition, genetics and cancer prevention.

Susan T. Mayne, Ph.D., head of the division of Chronic Disease Epidemiology, appeared in the magazine's "HealthCare Heroes" supplement late last year with a profile on her research on the role of diet and nutrition in the development of chronic diseases, including cancer. The article detailed potential future applications of Mayne's research, including dietary guidelines tailored to a patient's genetic makeup to treat or prevent cancer, amounting to personalized prevention.

"I am honored to have received this award," Mayne said. "It reflects the efforts of a team of people who carry out the work mentioned, including students, faculty collaborators and other members of our research team."

The article detailed the broad scope of Mayne's research, ranging from studies of risk factors for skin cancer to how genetics influences taste and therefore dietary intake. The profile also noted Mayne's leadership at the Yale Cancer Center and in Yale's predoctoral training program in cancer epidemiology and genetics, a joint program with the National Cancer Institute.

"I am passionate about my chosen research area," Mayne said, "and it is wonderful that others recognize the value of the work we do."

M.P.

Students awarded for commitment to health

Two Yale public health students have received awards in recognition of their commitment to the analysis and study of health care.

Kristian Henderson, an M.P.H. student who is studying health policy and administration, received the Diversified Investment Advisors 2009 Leaders in Health Care Scholarship. The \$5,000 award is available annually to students pursuing degrees in health care administration.

Henderson has worked with residents of New Orleans in the aftermath of Hurricane Katrina and also has traveled to Africa and the Dominican Republic. The experiences have sparked a desire to improve what she describes as glaring disparities in public health along race and class lines.

Joshua Keagle, an M.P.H. student in health management, won an essay competition sponsored by the Connecticut chapter of the Healthcare Financial Management Association. His essay, "Transparency in Health Care," forecasts profound changes in the way that many Americans will select and receive health care. Keagle received \$4,000 and a year of professional training from the organization.

M.P.

Researcher testifies before President's Cancer Panel

Beth A. Jones, M.P.H. '86, Ph.D. '93, a research scientist in the division of Chronic Disease Epidemiology, was invited to testify before the President's Cancer Panel in Los Angeles late last year.

Citing her expertise on racial and ethnic differences in breast cancer, Jones was asked to present the findings of a recent paper, "The Changing U.S. Population and Breast Cancer Disparities: Lessons Learned from the Study of African American Women."



Beth Jones

Noting a pattern of relatively worse breast cancer outcomes for African-American and also Hispanic women, Jones testified about the unique challenges that affect immigrant populations, as well as opportunities to improve early detection and treatment.

"Given that many of the racial and ethnic subpopulations, including first- and second-generation immigrants, are similar in terms of relatively low socioeconomic status and poor access to care, efforts to impact public policy that mitigate the social class disparities will be critical in ensuring that all of the progress toward effective cancer control to date is not simply overwhelmed by a surge in the population that is woefully underresourced," she said.

Information gathered at the meeting will be used to monitor the development and execution of the National Cancer Institute's initiatives and in an annual report to the president. The theme of the 2009–2010 meetings was "America's Demographic and Cultural Transformation: Implications for the Cancer Enterprise."

Michael Greenwood

An evening of poetry for a good cause

YSPH staff and students teamed up with area veterans for a night of poetry and to raise money for the Homefront, a project to convert an empty New Haven building into a shelter for soldiers returning from Iraq and Afghanistan.

Coinciding with Veteran's Day, the event raised \$1,100 (\$100 more than the goal) for the shelter and provided veterans with a venue to express themselves and raise awareness of the struggles they face during war and upon returning home.

Lewis Mungo, a Vietnam-era veteran, read his poem, "Old Soldier," to the gathering at Bru Cafe.

*"... The world don't march to the same drummer as you
You're an old soldier what can you do
You remember the war and times of fear
No matter where you go it's always there
You're an old soldier ..."*

The YSPH Community Connections Committee sponsored the event and also collected linens and towels for the shelter. The money raised was matched by the Community Foundation for Greater New Haven.

The Homefront project was launched by Columbus House to convert the former Lead Safe House on Davenport Avenue into transitional housing for 12 to 14 veterans.

M.G.



Vietnam veteran Allan Garry reads a poem during a fundraiser for the Homefront project.



Kim Tsao

Tick research presented at international conference

Kim Tsao, a Ph.D. student in the division of Epidemiology of Microbial Diseases, was one of 11 students selected from the United States (and one of 25 internationally) to present at the 5th International Congress of the Society for Vector Ecology in Antalya, Turkey, late last year.

Kim's research, "Tick Burden and Aggregation Affect Survival of a Host-Specialized Pathogen," seeks to explain the existence of multiple strains of *Borrelia burgdorferi*, the bacterium that causes Lyme disease, found among its host population (mostly rodents in the northeastern United States). Some research has suggested that specific strains, all carried by ticks, have evolved to thrive only among certain species. However, ticks' "generalist" feeding habits mean "they'll feed on just about anything that's warm, in addition to the host species the pathogen has to infect to survive," Tsao said. "So how could host-specialized bacteria survive if ticks are constantly putting them into the 'wrong' hosts?"

Tsao designed and ran a computer simulation to determine how host-specialized pathogens replicate in omnivorous ticks. "Surprisingly, such a pathogen

could survive, but only under certain conditions," she said. "A certain proportion of ticks have to feed from the right hosts, but depending on how many ticks per host there are, this required proportion varies." Tsao's simulation also found that if ticks cluster among the hosts, the pathogen is less likely to survive—a finding that countered the traditional notion that vector clustering increases transmission.

Melissa Pheterson

OCH pursues research with (not on) local residents

Academic research in public health often overlooks the "public" facet of the discipline, according to Rafael Pérez-Escamilla, Ph.D., hired this year to direct the Office of Community Health (OCH) at YSPH.

"My vision is to create a bridge from our classrooms to the community," he said. "I see this office creating an infrastructure to train our students better, to facilitate translation of scientific findings into community-level efforts and to help guide policymakers by supplying data."

OCH was established in March 2008 to enhance public health practice education, applied research and community-university health partnerships. Pérez-Escamilla joins founding staff members Elaine O'Keefe, M.S., and Mary Ann Booss and brings 15 years of experience in applied public health research initiatives and translating scientific findings into programs and policies.

A major obstacle to applied initiatives, he said, is "the traditional academic model based on using communities to do research on them instead of *with* and *for* them."

The office's community outreach aims to reconfigure the equation. "Our evolving agenda is driven by the belief that research questions must be developed, and programs designed, with input from community members and public health practitioners," said O'Keefe, executive

director of OCH. O'Keefe recently collaborated with the Connecticut Association of Directors of Health and others to secure funding to establish a statewide public health practice-based research network that will be launched this year.

In addition to enriching the required public health practicum options for M.P.H. students, OCH has nurtured a public health ambassador program statewide to introduce students in middle and high schools to the field.

M.P.

Dean Cleary named chair of HIV committee

Paul D. Cleary, dean of the Yale School of Public Health, will head a new Institute of Medicine (IOM) committee created to collect information that will be used to develop a national HIV/AIDS strategy in 2010.

The HIV Screening and Access to Care committee will explore the extent to which health insurance policies pose a barrier to expanded HIV testing; the capacity of the health care system to administer a greater number of HIV tests and to accommodate new HIV diagnoses; and federal and state policies that may inhibit entry into clinical care.

Cleary, who is also director of the Center for Interdisciplinary Research on AIDS (CIRA) at Yale, has conducted extensive research on health care delivery systems and quality of care and previously chaired an IOM committee focused on the allocation of Ryan White funds. His appointment as chair of the new IOM committee is particularly timely, as CIRA seeks to develop a multilevel HIV intervention research project in collaboration with other HIV prevention research centers, emphasizing enhanced HIV testing and treatment in order to have a greater effect on the spread of the epidemic.

Michael Greenwood

YSPH students appear on *Jeopardy!*, *Millionaire*

Attesting to the breadth of knowledge on display at YSPH, two students competed on game shows nationally televised in December.

The December 10 episode of ABC's *Who Wants to Be a Millionaire* saw M.P.H. student Javier Cepeda win \$12,500 as a contestant, with a crew of YSPH students cheering in the audience.

"It was a very surreal experience," said Cepeda, a student in the division of Epidemiology of Microbial Diseases, who was given two days' notice that he had been selected from the finalist pool. He prepared for 48 sleepless hours before arriving at ABC studios in New York last September to tape the episode.

Cepeda plans to spend his winnings on a new computer, a gift for his father's birthday and airplane tickets for his siblings to visit New Haven.

"I just wanted to do something crazy," said Cepeda, "and now I've checked off one thing on my list of things to do in my life."

On December 15, Saif S. Rathore, M.P.H., a Ph.D. candidate in the division of Chronic Disease Epidemiology, appeared on ABC's *Jeopardy!*

Upon passing several rounds of tryouts, including a sample on-camera game, Rathore flew to California to tape the show in November. He finished in third place and received \$1,000.

"I never really got the hang of the buzzer," said Rathore.

M.P.

Challenges of climate change, public health outlined

Cases of poison ivy, Lyme disease and kidney stones are all on the rise in the United States, likely as a result of climate change.



Saif Rathore appeared on *Jeopardy!* last December.

But Howard Frumkin, M.D., M.P.H., director of the National Center for Environmental Health at the Centers for Disease Control and Prevention, pointed out in a February speech on campus that many of these consequences can be addressed and ameliorated through public health interventions.

Frumkin listed a number of health challenges that are already evident or are expected to soon arise due to climate change: air pollution, allergies, vector- and water-borne diseases, adverse effects to water and food supplies, mental health challenges and an increase in environmental refugees. He said the public health model that focuses on prevention and preparedness can be applied to issues that arise from the impact of climate change on humans.

To illustrate, Frumkin pointed to heat waves, which have caused many deaths in recent years, especially one in Europe that killed thousands of people in 2003. "The risk factors range from individual attributes such as age and medical status to community and social attributes such as neighborhood characteristics," he said. "In any given city that suffers from a heat wave, it's relatively predictable who will be at risk of dying, having to do with where in the city you are, how old you are, how well socially networked you are, and so

on." He noted that cities are hotter than the countryside and that within a city the most vulnerable are poor people whose neighborhoods lack trees and whose dwellings lack air conditioning.

"We can use a health communication model to communicate environmental threats," said Frumkin. "Preparedness matters a lot in protecting people." That information can help save lives.

"The topics we think about, the ways in which we think and the methods and strategies we use to protect health all need work," he said. "More and more, energy policy, transportation policy, housing policy, land use policy—these will be interventions we undertake to address climate change, but they're interventions that are very much determinants of public health as well."

And he explained that just as a conceptual shift is involved in moving from the clinical approach of caring for individuals to the public health approach of caring for communities, climate change is requiring another conceptual shift—to caring for future generations. "So we need to be thinking about the legacy aspects of public health interventions that we undertake."

Melinda Tuhus

Minority students learn about careers in public health

Just what is public health and what do public health professionals do?

Minority high school students from the New Haven area learned that the profession offers an unusually wide variety of opportunity, from testing the safety of pharmaceuticals, to improving access to clean water, to studying why African-Americans are more likely to suffer from a range of chronic health conditions.

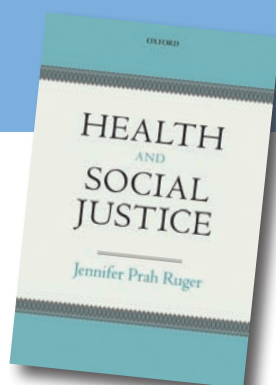
Nearly 30 students listened closely as Dean Paul D. Cleary, YSPH faculty, students and an alumna talked about their journeys to public health, the challenges and rewards associated with the field and how their work has taken them as far away as Indonesia, Thailand and Ethiopia. The researchers also sought to demystify the profession—and college—for the teenagers, explaining terms such as epidemiologist, biostatistics and dean.

"I can't imagine having picked a better career. I think you would find it a very exciting thing to do," Cleary told the students gathered as part of the Yale School of Public Health's 9th annual Diversity Day in February.

Cleary explained how public health workers are seeking to reduce the spread of HIV, studying the origins of different cancers and working to eliminate health disparities between different ethnic groups in the United States.

Melinda M. Pettigrew, Ph.D. '99, an associate professor in the division of Epidemiology of Microbial Diseases, explained that unlike doctors who have a one-on-one relationship with patients, public health practitioners help large groups or even whole populations at once. Disease vaccinations, public safety laws and a cleaner environment are just some of the successful results.

Michael Greenwood



New book explores health, social justice

The recent impasse over health reform in the United States was predictable, and it is likely that meaningful progress will continue to be thwarted until fundamental change occurs in the way individuals, health care providers and institutions view health and health care.

In a new book—*Health and Social Justice*—Jennifer Prah Ruger, M.Sc., Ph.D., an associate professor at the Yale School of Public Health, examines the many factors that curtail the distribution of health and health care to all segments of society, both in the United States and abroad. Ruger argues that it is a moral responsibility to replace the "dysfunctional" health system that is now in place and offers, through her *health capability paradigm*, a path for doing so. The paradigm argues that health care and health are moral imperatives and must be treated as such by society, requiring principles of equity and efficiency.

Ruger also examines the limitations of current approaches to these issues and how they have led to a status quo where many millions of people lack access to even basic health coverage and costs are out of control. Through an approach that she calls *shared health governance*, Ruger puts forth a system where all of the principal parties cooperate to create a model that allows everyone to be healthy.

Amartya Sen, the 1998 recipient of the Nobel Prize in economics, praised the book as "far-reaching" and as a "major contribution" to a very complex but important topic.

M.G.



An "unchecked" epidemic *continued from page 22*

Therefore, the group has been working for more than a year with a St. Petersburg-based agency known as Stellit, which, he said, shares a similar outlook and commitment.

Stellit is well-connected in the city and has worked with the Yale researchers to document the growing problem; held meetings and seminars to make their findings known to city officials; and developed policy responses that, if enacted, could start to slow the tide of new HIV cases. Success in St. Petersburg could perhaps then be used as a model for Russia's other cities.

A step such as introducing opioid substitution clinics is a long way off. It's just too controversial right now. Heimer said his team is looking to start with more modest initiatives, such as providing expanded access to clean needles for injection drug users. He would also like to see fundamental changes in the way the city's AIDS center treats and responds to people with the disease.

"It has to be done rapidly," Heimer said. "These numbers (AIDS diagnoses and deaths) will increase geometrically over the coming years. Huge numbers of people will be dying."

Heimer's work with addiction and HIV is well-known in Connecticut and beyond. In New Haven, he was a central figure in the evaluation of the city's needle exchange program in the 1990s. Giving needles to drug users was, and in some locations still is, controversial, but the program in New Haven became a model, inspiring similar programs in other U.S. cities.

It took a lot of convincing and lobbying for the needle exchange program to become a reality in New Haven, but in the end it has prevented countless HIV infections without encouraging drug use, Heimer said. He would like to see something similar occur in Russia. "I couldn't do this work without being an optimist on some level." **YPH**

Samuel S. Herman, M.P.H. '48, Ph.D. '50, died on February 2 after spending his entire career in the public health field. Among Samuel's many positions, he served as associate dean of the Temple University Medical School, associate director of extramural research at the National Institute of Environmental Health and deputy associate director of the National Cancer Institute. Samuel is survived by his wife, Liselotte Vogt-Perl, and two children, Hans-Oliver and George Nicholas.

John J. Kwasnowski, M.P.H. '60, died on August 21, 2009, at the age of 78. John lived in Big Flats, N.Y., and was interred with full military honors in St. Mary Our Mother Cemetery in Horseheads, N.Y. A veteran of the Korean War, John served his country in the U.S. Air Force. He retired as a pharmacist from Corning Hospital in Corning, N.Y., and continued working as a pharmacist at Gerould's Pharmacy in Elmira, N.Y. John was a lifetime member of the Knights of Columbus, a charter member of the Big Flats Lions Club and a communicant of St. Mary Our Mother Church. He enjoyed spending time with his family and his grandchildren. John is survived by his loving wife, Marian Stafford Kwasnowski; his son and daughter-in-law, Daniel J. and Karen Kwasnowski; his daughter, Beth Shoemaker, and her fiancé, Fred McKaig; and his grandchildren, Jonah D. Kwasnowski, Colden J. Kwasnowski, Tanya E. Shoemaker and Taylor M. Shoemaker. Memorial gifts may be made to St. Mary Our Mother Church, 816 West Broad St., Horseheads, NY 14845.

Kristine M. Napier, M.P.H. '84, died peacefully on May 25, 2008, at the age of 52. Born in Minneapolis, Kristine was the author of 12 books, notably *Eat Away Diabetes* and *How Nutrition Works*. As an editor for the American Dietetic Association, Kristine was responsible for the publication *Cooking Healthy Across America*. She was a visiting professor at UW-Green Bay for two semesters and former director of the Nutrition Enhancement Project for the Cleveland Heart Center Preventive Cardiology Program. She is survived by her husband, Dr. James L. Napier Jr., of Green Bay; two children, Susan (Alex) Napier Berger of Santa Monica, Calif., and James Napier III of Green Bay; one brother, Greg Gillett, of Altoona; one sister, Kathy (Keith) Beecher, of Coon Rapids, Minn.; her mother, Anne Gillett, of Eau Claire; her husband's mother, Irene Napier, of Crystal Lake, Ill.; and her nieces and nephews, Catherine, Olivia, Robert and James Napier.

Lawrence E. Shulman, Ph.D. '45, M.D. '49, died of bladder cancer on October 10, 2009, at his home in Washington, D.C., at the age of 90. After graduating from Yale, Lawrence completed his residency at Johns Hopkins, and from 1955 to 1975 he served as director of the connective tissue division. During this time, he made scientific contributions to the study and treatment of systemic lupus, scleroderma and other connective tissue diseases, one of which he discovered and described – eosinophilic fasciitis, now widely known as Shulman's syndrome. Lawrence joined the National Institutes of Health in 1976

and became founding director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases. During his nearly 30-year career, he became an advocate for research on women's and minority health and such health issues as osteoporosis, lupus, scleroderma and rheumatoid arthritis. His wife of 41 years, the former Renate "Reni" Trudinger, a Baltimore interior designer, died in 2000. He is survived by two daughters, Barbara Shulman-Kirwin of Guilford, Conn., and Kathy Shulman of Baltimore; three grandchildren; and his companion of the last few years, Dr. Belinda Straight of Washington, D.C.

Randie L. Zimmermann-Jarrett, M.P.H. '75, died on June 11, 2009, at the age of 58. Randie was a volunteer for a number of years with the nonprofit Healing the Children, and from 1981 to 1989 she was an organizer for the Fairfield County Heart Association. She earned a bachelor's degree in communication at Boston University before attending Yale. Randie is survived by a sister, Laurie Goldstein of Mineola, N.Y.; an aunt, Doris Greenwald of Great Neck, N.Y.; and a cousin, Ronny Jo Siegal of Alpine, N.J. Donations can be made to the Randie Jarrett Memorial Fund-Healing the Children, c/o Dr. Laura Sudarsky, 411 Midland Ave., Upper Nyack, NY 10960.

Send obituary notices to
ysph.alumni@yale.edu.



Serum bank gathered samples from Peace Corps, military recruits

The World Health Organization established a reference serum bank at Yale—at the time one of the few such facilities in the world (in addition to those in Prague and Johannesburg)—in the early 1960s. Its mission was ambitious: collect human sera from sources around the globe to better understand diseases and disease transmission.

In this photo, taken in 1964, Marie Pisano, research assistant, and Raul R. Cuadrado, M.P.H. '63, Dr.P.H., test blood samples from Peace Corps volunteers before they started their service. The samples were compared with samples taken during and after their service. The bank collected more than 15,000 samples, including sera from Brazilian, Colombian and American military recruits and residents of the Caribbean.

“I tested them all,” said Cuadrado, who worked as a research associate and field coordinator at the Yale School of Public Health in the mid-1960s in conjunction with the Communicable Disease Center (now known as the Centers for Disease Control and Prevention). He currently lives in Florida and is helping to open a new medical and global public health school in the Turks and Caicos Islands this year.

John Rodman Paul, M.D., who served as director of the serum bank, wrote in an annual report that the bank’s work held much promise and could be the basis of a new elective course at Yale.

“This deserves to be passed onto others,” he said.

Michael Greenwood

Today



Heidi Brown

YSPH students seek mosquito larvae over fun, sun in Caribbean

As Caribbean destinations go, the Valley of Desolation might not sound like a magnet for American tourists. Its sulfurous air and rocky terrain are often described as an alien landscape.

But the thermal springs, burbling mud pots and steam vents found in this part of the island nation of Dominica (part of the Lesser Antilles) do draw mosquitoes, some of which may feast on human blood while transmitting disease. Observing where these insects live and determining their roles as vectors of infectious disease are crucial to the ongoing research conducted at the Yale School of Public Health.

Durland Fish, Ph.D., professor in the division of Epidemiology of Microbial Diseases, continues to lead students to the island to conduct surveys that involve sampling bromeliad plants whose water-filled leaves hold mosquito larvae.

“Dominica already has a problem with dengue fever, and the government is concerned about West Nile virus and the reintroduction of malaria, which has plagued the island in the past,” said Fish. “They need our help in assessing risk from mosquito-borne diseases, and our students need field experience in the tropics.”

Mosquitoes transmit diseases to over 700 million people each year globally. Studying their biology and behavior in the field guides Fish and his students in developing new methods for the prevention and control of vector-borne infections.

Melissa Pheterson

Yale Public Health
60 College Street
P.O. Box 208034
New Haven, CT 06520-8034

Non-Profit
U.S. Postage
PAID
New Haven, CT
Permit No. 526

Yale SCHOOL OF PUBLIC HEALTH

