

# Yale Public Health

FALL 2010

## The quest for health equality



A city's well-being | The troubling gap | Battered health  
America's diet | Tick technology

Yale SCHOOL OF PUBLIC HEALTH





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FALL 2010

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Women escaping violence and prostitution in Poland are provided sanctuary in this shelter. Often with their children in tow, they find space here to rebuild their lives in peace and safety. See article on the inside of the back cover.

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## Dean's Message

### Toward a more equitable future

**“Health inequalities between rich and poor are morally unacceptable, and this divide gets at the very heart of what is a good, fair and compassionate society.”**

— Sir Michael Marmot at the Yale School of Public Health

“Fairness and Health in an Unequal World,” the title of Sir Michael Marmot’s poignant talk at YSPH this spring, reminds all of us in the field of public health what is at the very heart of our mission and is also the topic of this issue of *Yale Public Health*.

Among the 30 developing nations that make up the Organisation for Economic Co-operation and Development, the United States ranks near the bottom on most standard measures of health status. Furthermore, among the 192 nations, the United States was 46th in life expectancy and 42nd in infant mortality. AIDS was first diagnosed almost 30 years ago, but it is still a major health problem in this country and nearly 3 million people throughout the world are infected with HIV each year. More than a billion people suffer from neglected tropical diseases and 400,000 die from them each year.

Closer to Yale, Connecticut’s African-American community had a death rate that was 1.2 times higher than that of Caucasians from 2000 to 2004. During the same period, the death rate from stroke alone for African-American residents in the state

was about 1.4 times higher than that of Caucasian residents. In 2005, Connecticut’s African-American population had a hospitalization rate for diabetes and lower-extremity amputations that was 3.8 times the hospitalization rate of Caucasian residents.

Our goal should be for all persons, regardless of their socioeconomic status, gender, ethnicity or race, to experience the best possible health. Perhaps the most morally disturbing issue still facing us is that for many health problems, the situation is substantially worse for subgroups of the population. Health inequity is still a critical challenge in this country, and there are dramatic disparities between the levels of health we experience in the United States and those of individuals in low-resource countries. In his presentation, Sir Michael challenged us, “Let’s all have a dream where social justice is taken seriously.”

In this issue of *Yale Public Health*, we feature several examples of the impressive work that our faculty, staff and students are doing to improve the health of individuals in New Haven, in Connecticut, in the United States and around the world, ultimately to help us realize our goal of health equity for all.

Our dream is that this research and other work under way at YSPH will eventually make the study of health disparities obsolete.

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

**“Our goal should be for all persons, regardless of their socioeconomic status, gender, ethnicity or race, to experience the best possible health.”**



## Letters to the Editor

### Faced with mounting budget woes, New York lawmakers embrace (and reject) “sin tax” remedies

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#### Dean

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

#### Editor

Rosalie J. Blunden

#### Managing Editor

Michael A. Greenwood

#### Web Coordinator

Denise L. Meyer

#### Copy Editor

Anne Sommer

#### Design

AH Design, Angie Hurlbut  
NYM Design, 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](mailto:michael.greenwood@yale.edu)  
Web: [publichealth.yale.edu](http://publichealth.yale.edu)

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The *Yale Public Health* issue (Spring 2010) on “sin” taxes was timely. Specifically, the article “Unhealthy Taxes” provided balanced messaging on the complex issue of taxes and obesity. While it’s easy to point a finger at the food and beverage industry or blame lack of personal restraint in consuming sweets and processed foods – this piece clearly outlined the positive and negative ramifications of a tax.

As a recent graduate of YSPH and as a voice close to this debate, I feel that the multifaceted issue of obesity will not be solved overnight. To ostracize one industry or stakeholder in this broad debate does nothing to solve the crisis. Thought leaders in this conversation, from former President Bill Clinton to first lady Michelle Obama, recognize that problems can best be solved through partnership. Surgeon General Dr. Regina Benjamin said it best: “We must educate our citizens, form partnerships between government and industry and call upon the creativity of our best minds to develop long-term programs that encourage healthy eating and more exercise.”

Consequently, solid science-based evidence should back sound policy changes on an issue of such magnitude and with such long-term health consequences as the obesity epidemic.

*Pamela Y. Fuller,  
M.P.H. '07, C.H.E.S.*

The success – and failure – of implementing “sin taxes” was on display in neighboring New York this spring and summer as the legislature there considered additional levies on tobacco and soft drinks to help close the state’s yawning budget gap.

New Yorkers now pay an additional \$1.60 per pack of cigarettes, bringing the total cost to nearly \$11 in New York City (or about 55 cents per cigarette) and to \$9.20 in the rest of the state (city residents pay more because the city imposes its own cigarette tax).

YSPH research suggests that there is a correlation between cigarette price and consumption, but the effect is not staggering. Taxation needs to be used in concert with other initiatives – smoking bans in public areas, educational campaigns and regulation of advertising – if anti-smoking initiatives are to be truly effective.

On another front, New York lawmakers considered, and rejected, a proposal to levy a penny-per-ounce tax on soda. Such a tax, they said, would be too onerous for families who are looking for tax relief, not tax hikes.

*Michael Greenwood  
Managing Editor*

### Smoking, drinking take toll on cancer survivors

Regularly smoking or drinking alcohol after a diagnosis of head and neck cancer decreases a patient's chance of survival.

While it was already known that smoking and drinking before diagnosis increased the risk of individuals developing additional head and neck cancers, it was unclear what role continuing these habits had on overall cancer survivorship.

Researchers at YSPH followed 264 survivors of early-stage head and neck cancer for up to seven years. Twenty-one percent of the patients smoked continuously after diagnosis. Those who did were approximately twice as likely to die as those who did not smoke, and those who continued to drink regularly were around three times as likely to die as those who did not. Nearly 50,000 Americans are diagnosed each year with oral, pharynx and larynx cancers.

"We expected that continued smoking would be associated with poorer overall survival. We did not know what to expect for continued drinking, because moderate alcohol consumption has been associated with a lower risk of cardiovascular disease in the general population. Our results showed that continued drinking was harmful, even more so than continued smoking—an unexpected finding," said senior author Susan T. Mayne, Ph.D., head of the division of Chronic Disease Epidemiology.

Mayne said that accelerating efforts to help patients stop smoking and drinking could result in better survival rates. "Effective smoking and alcohol

interventions will not only prevent second cancers, but will also reduce the risk of dying," she said.

Michael Greenwood

### Birds giving flight to ticks, Lyme disease

Lyme disease's range is spreading in North America, and it appears that birds play a significant role by transporting the bacterium and ticks over long distances.

School of Public Health researchers analyzed published records and concluded that at least 70 species of North American birds are susceptible to infection by black-legged ticks (*Ixodes scapularis*), the principal vector of the Lyme disease bacterium (*Borrelia burgdorferi*). The evidence also suggests that these bird species are dispersing infected ticks into areas that had previously been free of the disease, such as Canada.

*B. burgdorferi* is usually associated with small mammals such as mice and squirrels. Immature ticks (in the larval and nymphal stages) become infected with the bacterium when they feed on these mammals. During subsequent blood meals, an infected tick transmits the infection to other hosts, including humans. The white-tailed deer—while playing an important role in maintaining and spreading tick populations—is a biological dead end for the bacterium because it is immune to infection.

Birds, however, are not immune, and numerous species can be infected and are capable of transmitting the pathogen to ticks, the researchers found. What remains to be seen is whether the *B. burgdorferi* strains that can infect birds can also cause disease



in humans. If so, the role of birds in the epidemiology of Lyme disease could be profound.

"Birds are often overlooked in studies of Lyme disease," said Robert Brinkerhoff, a postdoctoral student in Maria A. Diuk-Wasser's lab and first author of the paper, "but they may be playing a key role in its rapid expansion." M.G.

### Young fathers begetting more young fathers

The sons of adolescent fathers are nearly twice as likely to perpetuate the cycle of young parenthood as the sons of older fathers.

Previous studies have documented the intergenerational cycle of adolescent motherhood (in which the daughters of adolescent mothers are more likely to become teenage mothers), but this is believed to be the first research that confirms a similar relationship between teenage dads and their sons.

The School of Public Health research team analyzed data from 1,496 young males who were 19 years old or younger and found that sons of adolescent fathers were 1.8 times more likely to become adolescent fathers than were the sons of older men. This intergenerational effect remained significant even after controlling for a

number of related risk factors, including the influence of having an adolescent mother.

“We often neglect the importance of men in reproductive and maternal-child health. We need to recognize that men play a significant role in the health and well-being of families and children,” said senior author Trace Kershaw, Ph.D., associate professor in the division of Chronic Disease Epidemiology.

Teenage parenthood is associated with a range of problems for both the young parents and their offspring. Adolescent fathers typically have lower educational achievement and poorer earning potential than their peers who delay parenthood. There is also evidence of poor parental attachment and low levels of parental support. The children of such parents are often raised in low-income homes and are at higher risk for neglect and abuse.

M.G.

## D2B strategies saving many heart attack victims

Strategies that better coordinate care for heart attack patients are resulting in dramatic improvements in “door-to-balloon” (D2B) times—the time from when a patient enters the hospital to when blood flow is restored to the heart by opening a blockage with angioplasty. Such prompt treatment improves the chances of survival.

The D2B Alliance, a national campaign sponsored by the American College of Cardiology and its partner organizations, has set a goal of 75 percent of patients receiving lifesaving heart attack care within 90 minutes of hospital arrival.

Yale researchers surveyed D2B times in 831 hospitals from 2005 to 2008. They found marked reductions in unnecessary delays in treatment and widespread adoption of recommended strategies to improve care. The improvements were seen in hospitals across the nation.

Fewer than half of hospitals surveyed in the study met clinical guidelines for D2B times in 2005. Today, more than 80 percent are achieving the benchmark.

Examples of strategies that reduce delays in D2B times include activation of the catheterization laboratory by



Paul Zwolick

emergency medicine staff with a single call, the presence of the catheterization team in the laboratory within 20 to 30 minutes of being paged and the provision of prompt data feedback to staff about D2B times.

“The key is to have a leader and a team devoted to a single goal and to be persistent, even in the face of setbacks,” said first author Elizabeth H. Bradley, Ph.D. ’96, professor in the division of Health Policy and Administration. “This campaign has changed the way heart attack care is delivered—for the benefit of patients.”

M.G.

## Night shift poses health hazard for women

New research has identified a gene that might be associated with breast cancer in women who work the night shift over long periods of time.

Scientists at the School of Public Health found that epigenetic and genetic changes to a gene responsible for regulating the body’s circadian rhythm—known as the CLOCK gene—increase a woman’s risk of developing breast cancer.

While previous studies have shown that repeated disruptions to the body’s circadian cycles—such as a job requiring nighttime work—may negatively affect cellular function and increase the risk of breast cancer by as much as 50 percent, the underlying biological mechanisms were poorly understood. The public health researchers discovered that changes to the CLOCK gene—a key component of the molecular circadian regulatory system that enhances the expression of various genes—appear to trigger breast cancer susceptibility.

“Ideally, we will be able to use genetic and epigenetic profiling to identify a subset of women who are particularly susceptible to the harmful effects of shift work, and we could recommend that these women not engage in occupations involving night work,” said Yong Zhu, Ph.D., associate professor in the division of Environmental Health Sciences and the study’s principal investigator.

Zhu has long studied the link between cancer and circadian rhythms, the roughly 24-hour cycle that regulates the body’s most basic functions and processes, and believes that





Michael Woloschinow

repeated interruptions to these natural rhythms could be a “very significant” factor in breast cancer, as well as prostate cancer, non-Hodgkin’s lymphoma and other forms of cancer.

*Michael Greenwood*

## Support after heart attack critical to health

A lack of social support following a heart attack appears to contribute to worsening health and depressive symptoms, particularly for women.

Researchers at YSPH followed 2,411 heart attack survivors at 19 centers in the United States and measured the level of social support they received and their ensuing health status over the first year of recovery.

Patients with lower levels of support during recovery fared significantly worse than their peers who received regular and comprehensive support during recovery. Those with low levels of support had an increased risk of

angina, more depressive symptoms, lower mental functioning and a poorer heart-related quality of life.

This association was more pronounced in female patients and did not vary appreciably over time. “Our results demonstrate that low social support is linked to important outcomes for patients not only during the early recovery period, but throughout the first year after a heart attack,” said senior author Judith H. Lichtman, M.P.H. ’88, Ph.D. ’96, associate professor in the division of Chronic Disease Epidemiology.

The researchers asked participants about several aspects of social support, including whether they had someone available to listen, give good advice, provide love and affection and/or provide emotional support.

*M.G.*

## Childhood obesity defying preventive measures

Attempts to curb childhood obesity by restricting access to school vending machines and making soft drinks more expensive with additional taxation are having a negligible effect, to date, on the waistline of America’s youth.

A School of Public Health researcher examined whether the two policy approaches have slowed what many regard as a childhood obesity epidemic that has been fueled, in part, by growing consumption of soda and other sugar-based beverages.

Jason M. Fletcher, Ph.D., assistant professor in the division of Health Policy and Administration, said that the evidence shows that, as currently practiced, neither public health policy

is leading to a “noticeable weight reduction in children.” He concluded that beverage taxes are not high enough to reduce consumption and that children are not deterred by vending machine bans. They simply find calorie-comparable substitutes or procure soft drinks elsewhere.

“Our strongest finding is that current policies of low soda taxes and incremental soft-drink restrictions do not lead to any noteworthy weight reductions in children,” said Fletcher.

The published study found that in schools that allow access to soft drinks, 86 percent of the students reported consumption within the past week. In schools without access, 84 percent of the students still consumed the beverages. As for taxation, the researchers found that current soft-drink taxes (with a mean national rate of 2.7 percent) have almost no effect on consumption. The research also found that increasing the tax to 6 percent (more than double the current rate) would result in only a small weight change.

*M.G.*



Tomasz Walenta



Recently passed health care reform in the United States will not erase inequities, but many health professionals agree it is a significant step forward.

“Assuming it will include a mandatory health insurance provision, in the short term it’s likely to significantly increase health insurance coverage among socioeconomically disadvantaged individuals, who are overrepresented among ethnic/racial minorities. Unfortunately, it excludes the millions of unauthorized individuals residing in the United States. Thus, one of the most vulnerable groups is unlikely to benefit from this reform unless immigration reform is fast-tracked.”

—Rafael Pérez-Escamilla, Ph.D., professor in the division of Chronic Disease Epidemiology at YSPH

“Improving access to care is a necessary, but not sufficient, means of reducing disparities in treatment. This legislation may have a greater impact if it supports the growing movement toward a reimbursement structure that directly links payment to quality of care, thereby creating a financial disincentive for treatment disparities.”

—Saif Rathore, M.P.H., an M.D./Ph.D. student in epidemiology at Yale

“In the midst of persistent and widespread health disparities, we need to revisit and underscore the moral and philosophical foundations for health improvement activities—to give them more forceful grounding and solidity in our culture. The recent health care reform is a positive step, *but it isn’t enough*. The next challenge is one of *shared health governance* through respective roles and responsibilities around the common objective of health equity.”

—Jennifer Prah Ruger, M.Sc., Ph.D., associate professor in the division of Health Policy and Administration at YSPH

“It was a statement that the [United States] wants to be more inclusive.”

—Sir Michael Marmot, Ph.D., professor of epidemiology and public health at University College London, who delivered a Dean’s Lecture at YSPH in March

“By establishing uniform Medicaid eligibility, subsidies to individuals and families with incomes less than 400 percent of the federal poverty line and subsidies to small firms, the Patient Protection and Affordable Care Act increases access to care, but it does more. It funds a major expansion of community health centers, creates innovative community collaboratives focusing on new ways to provide and encourage use of care, increases primary care especially in underserved areas and modifies provider incentives to improve access and quality.”

—Barbara Wolfe, Ph.D., professor at the University of Wisconsin-Madison, who delivered a Dean’s Lecture in April at YSPH



Michael Woloschinow

“Health care reform is a welcome first step. However, many factors contribute to health disparities, with most rooted in inequities in wealth and other resources. The most compelling aspect of this legislation is its implicit message—as a society, there is a collective responsibility for the health of all citizens.”

—Beth Jones, M.P.H. ’86, Ph.D. ’93, research scientist in the division of Chronic Disease Epidemiology at YSPH

“When the Patient Protection and Affordable Care Act is fully implemented, we can expect to begin to eliminate many disparities in access and quality of care. This reform will cover 32 million currently uninsured Americans and will improve affordability of health care coverage through subsidies for those with low incomes and caps on premiums and out-of-pocket costs related to income. This will move us toward a high-performance health system—one with better access and improved quality and efficiency, particularly for society’s most vulnerable.”

—Karen Davis, president of the Commonwealth Fund

# A city's well-being

New Haven is marked by wide—and perhaps growing—health inequities. A School of Public Health researcher and her colleagues are making a commitment to narrowing the divide.

By Michael Greenwood

*“We can reduce adverse health outcomes.  
It is our responsibility to do so.”*

– Jeannette Ickovics







Courtesy of CARE

CARE community outreach coordinator Maurice Williams and interviewer Sheila Jackson go door-to-door to speak with residents about their health.

New Haven is a city that is bucking national health trends, but in the wrong direction.

In important measures, residents in several city neighborhoods are gravitating toward poorer health or, at the very least, have settled into a status quo of unrelenting chronic disease.

Despite Connecticut's wealth and the educational and medical resources within New Haven, the health of numerous city residents is, in a word, poor. Factors such as poverty, crime, a lack of opportunity and limited access to resources are contributing to a health landscape that curtails productivity and promise.

These inequities are troubling to many. Jeannette R. Ickovics, Ph.D., a professor and director of the Social and Behavioral Sciences Program at the Yale School of Public Health, is among them. But rather than focusing on the unfairness of it, Ickovics is wagering years of work, time and, to some extent, her impressive and well-founded professional reputation that the unhealthy status quo can be reversed.

Ickovics envisions a New Haven that is in the vanguard of good health, a place that overcomes deeply rooted disparities associated with race and class and where residents, city and school officials, academics and health workers alike collaborate to promote – and also measurably improve – the collective health of all who live here.

To reach this brighter future, Ickovics is guiding a small and committed research group that is working with six of New Haven's most disadvantaged neighborhoods – Dixwell, Fair Haven, Hill North, Newhallville, West River/Dwight and West Rock – to build a sustainable future in which residents are physically and mentally healthier.

"What exists now is simply unacceptable. Period!" Ickovics says, revealing a tenacious bedrock that is not immediately evident in a woman who is relaxed and gregarious in everyday conversation. "We *can* reduce adverse health outcomes. It is our responsibility to do so."

### 3,000 miles (and counting)

As the daughter of Holocaust survivors, for Ickovics it is a deeply personal issue to remain on the sidelines – and by default be complicit in – what she sees as suffering and injustice happening all around her.

The question is, how can something as monolithic and entrenched as poor health be reversed? Ickovics believes that an intervention program started in England by the Oxford Health Alliance and known as Community Interventions for Health offers a chance for change.

The resulting New Haven research project, run locally by CARE (Community Alliance for Research and Engagement), a research group at Yale directed by Ickovics, began in earnest late last year after Ickovics and her colleagues invested months of time preparing, planning and collaborating with community leaders and residents. They wanted to get word out first at local gatherings and community events about a project that will require everyone's commitment and trust if it is to succeed.

The initiative itself is divided into three general phases, the first two of which – mapping and surveying – were completed relatively quickly in late 2009. These phases focused on collecting data and getting a handle on the scope of the city's health problems. CARE workers logged some 3,000 miles on foot (a feat since turned into a short documentary film, titled *3,000 Miles*, produced by high school students from a local media nonprofit organization, The Color of Words, and Mayor John DeStefano Jr.'s Youth@Work program) to gather the data set that is the structural foundation for the project's next stage – development of program and policy proposals for better health. This phase will be followed by implementation and ongoing monitoring to gauge the success or failure of the various initiatives.

This final phase is still in its infancy and promises to be more complex and potentially more controversial than either of the first two. And it will likely take years before the outcome of the entire effort can be fairly and accurately judged.

The mapping aspect, in hindsight, was relatively uncomplicated, Ickovics says. Trained CARE staff and youth interns with hand-held computers fanned out in the neighborhoods to map the physical terrain in terms of health resources. They were looking for tangible assets, such as parks and other recreational facilities (resources that can be used to promote exercise and fitness), restaurants and food stores (an important indicator of the types of foods people are regularly eating), schools, health facilities and gardens. All the data were then compiled and overlaid on a city map, and a comprehensive chart of health assets in the neighborhoods—believed to be the first—was created.

It's a snapshot of what is, and is not, available to thousands of residents and provides clues about the city's present health status, says Ickovics.

While mapping the neighborhoods, CARE found plenty of restaurants and eateries, particularly clustered along the busy Whalley and Grand avenue corridors. But almost all of them are fast-food outlets with limited, if any, healthy fare. Even something as simple as menu labeling, commonly found in many American cities, is essentially unknown in the neighborhoods. And there are plenty of smaller stores scattered throughout the enclaves, but the vast majority are convenience stores and liquor stores and almost all of them sell cigarettes and other tobacco products.

Fresh produce and other healthy alternatives, meanwhile, are hard to come by. For people with limited mobility (or for those afraid to regularly venture outside because of safety concerns, and many people voiced such concerns), this more or less restricts them to a diet as monotonous as it is unhealthy. Shaw's Supermarket on Whalley Avenue, the one large-scale grocery that served New Haven, officially closed its doors in late March. Meanwhile, large, new markets and corner stores are being planned for downtown, and CARE is involved in their development and implementation, promoting the inclusion of healthy products.

## Door-to-door

The mapping phase was followed by a wave of one-on-one health interviews. CARE hired 32 women and men from New Haven as interviewers, this time going door-to-door to conduct health surveys with some 2,400 residents: 1,205 households and 1,175 students at their various schools. The CARE workers, clad in their bright orange windbreakers, knocked on doors and, if granted entry, talked with residents about their health, health habits and health concerns.

Ann T. Greene was among the cadre of interviewers. Along with Duke Porter-Boozer, Greene spent weeks in the living rooms and kitchens of New Haven households, listening and learning. Much of it was not encouraging.

A knock on one door revealed a very pregnant young woman who led Greene through the maze of a living room packed full of clothes, furniture and gifts. Sensing Greene's bewilderment, the woman volunteered that she was in the midst of moving. She escorted Greene to an equally cluttered kitchen, full of cookbooks, dishes and magazines. Greene maneuvered her chair sideways in order to sit down and listen.

"I was struck by the wisdom of this woman saddled with moving house weeks before she was to give birth to another child," Greene says. Many of her careful and considered answers to the survey questions were laced with knowledge of her own contradictions. For instance, she ruefully confessed that her greatest sacrifice in this pregnancy was that she had to stop drinking at least until the baby was born; and she admitted that her efforts to eat fresh vegetables were no more successful than her effort to finish high school. "And then she'd laugh as if to say, 'What you gonna do?'"

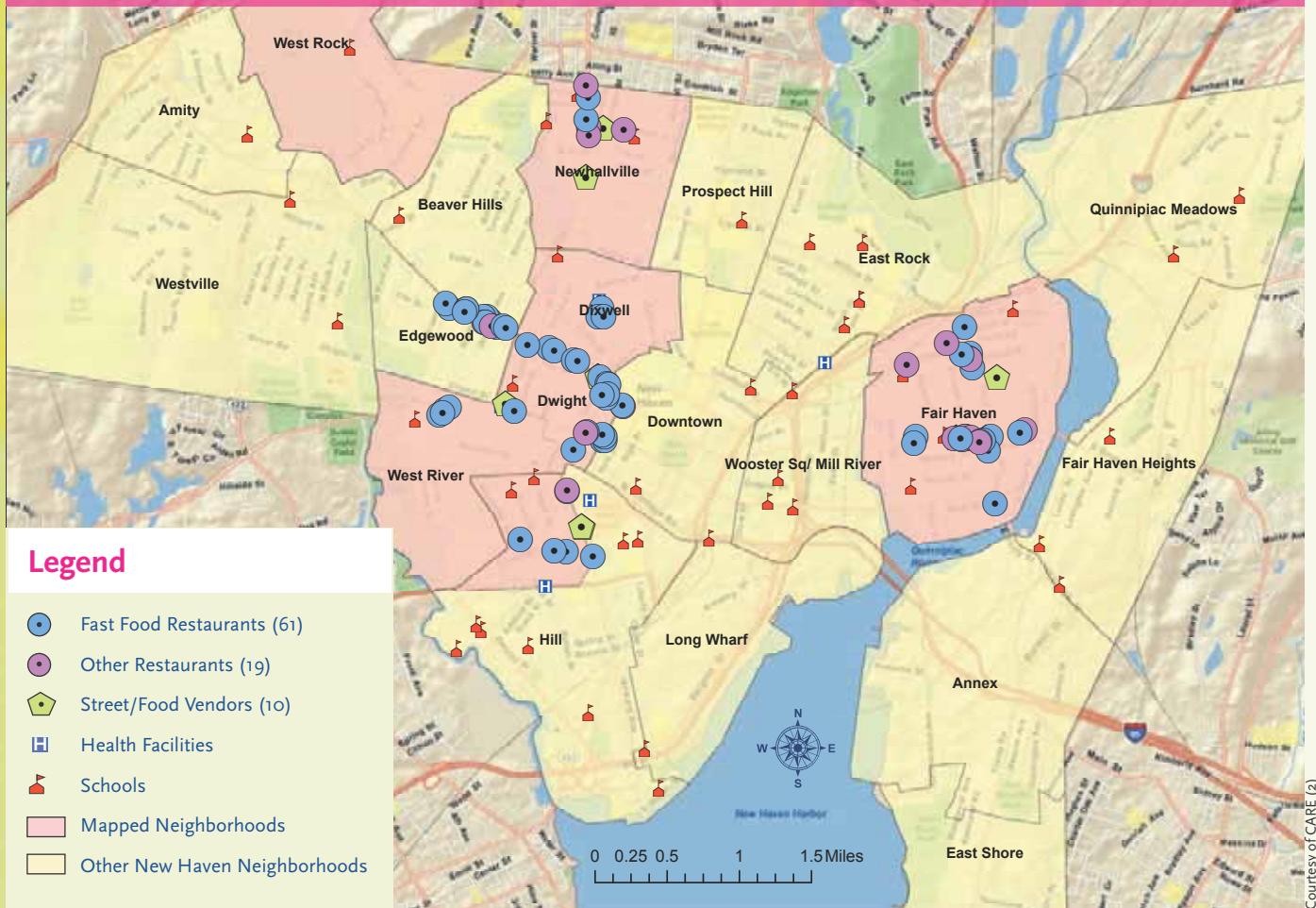
On another visit, Greene left a leaflet at a Newhallville residence with a man who was getting ready to go to work. The man advised that if Greene came back another day, his mother-in-law might agree to be interviewed. Greene did return, and the woman welcomed the survey. She was

Ann Greene (left) talks with a woman about her health and health habits as part of a survey of New Haven's residents.





## New Haven Asset Mapping – Restaurants by Type



CARE is focusing its health initiative in six New Haven neighborhoods: Dixwell, Fair Haven, Hill North, Newhallville, West River/Dwight and West Rock. As part of the neighborhood mapping project, members of the group surveyed the location and type of restaurants available to residents.

a grandmother in her sixties who cared for her toddler grandchild and school-age grandson after school; cooked dinner for her husband, daughter and son-in-law; and then prepared herself for a third-shift job.

“By the time we asked her the ‘Have you ever been told by a doctor or health professional’ questions, I wasn’t surprised by her answers. Have diabetes? ‘Yes.’ Have hypertension? ‘Of course.’ Needed to lose weight? ‘Yes again,’” Greene says.

And then there was the West Rock man in his thirties. He was in his yard working on a car as he answered Greene’s questions. He shared that he was on disability and hadn’t had a job for years because of an asthma condition. He admitted that he didn’t cook, relying instead on prepackaged meals. “Every meal he consumed was heated up in a microwave, which means every meal he ate was full of sugar, salt and fat,” Greene says.

Three factors were found in abundance in the neighborhoods—a lack of exercise, high rates of tobacco use and unhealthy diets. In turn, these are contributing to pronounced rates of chronic disease—namely, the deadly quartet of diabetes, stroke, heart ailments and lung disease.

William Quinn, M.P.H. ’75, who until recently served as director of the New Haven Health Department, sees the

CARE initiative giving voice to a segment of New Haven’s population that is not regularly heard from or consulted. “What [CARE is] doing is extremely important,” he says.

After each stage of the project, which is funded in part by The Donaghue Foundation, CARE returns to neighborhoods to discuss its findings and what will be happening next. “It’s important to bring our research results back to the neighborhoods from which we took the data. Not only do they have a right to the data, but their perspective on what we found and how we should move forward is central to the success of this initiative. Residents are the true experts on their neighborhood,” says Alycia Santilli, M.S.W., CARE’s assistant director.

### A bridge to Paris

Changing the health habits of even one person can be challenging; changing the habits and health status of a city as big, as diverse and, in many cases, as poor as New Haven promises to be Herculean in its scope and commitment.

During a discussion with students earlier this year, Ickovics compared the project to building a trans-Atlantic bridge from the United States to the shore of France. In some respects, she says to the laughter of the audience, the bridge poses fewer challenges.



The mapping project takes Shawanda Miller, an intern with CARE and The Color of Words, inside New Haven's stores and restaurants to survey the foods that are locally available.

This humorous opening quickly gave way to a very serious discussion about the daunting health obstacles and problems faced by many of New Haven's residents. Indeed, the data collected from 1,205 randomly selected households in the six low-resource neighborhoods by CARE are sobering:

- 1 in 5 of the respondents reported food insecurity, skipping meals because they did not have either enough food or money.
- 1 in 4 reported depression and/or moderate to extreme stress.
- 1 in 3 reported that they smoked daily, a percentage well above the national average.
- 2 in 3 reported that they felt unsafe going for walks in their own neighborhoods at night.
- Of the fifth- and sixth-grade students interviewed and for whom physical measurements were available, one-half were overweight or obese and one-quarter had asthma.

Despite the unsettling statistics, there are reasons to be hopeful. Many of the people interviewed expressed a longing to change what they know are bad habits. There is a desire to be healthy. Some people just don't know how or where to start. Also, city officials are supportive of the project, and there is a commitment at the Yale School of Public Health to see it through.

Dean Paul D. Cleary has identified the school's partnership with New Haven as a top priority. To Cleary, being a good neighbor is more than a courteous cliché. It means working with the community and creating viable and effective partnerships that ameliorate the serious health problems New Haven faces. CARE, which is part of the Yale Center for Clinical Investigation, is a major initiative toward this goal.

"The vision is that residents are not alone in dealing with their health issues," Cleary says. "Instead of feeling isolated ... all of a sudden it feels like, 'Gee, the entire community is working to make my children and me as healthy as we can be.' That's where we should be."

Indeed, C.-E.A. Winslow, who created public health training at Yale in the early part of the 20th century and is considered to be a father of the public health movement, would agree. Winslow wrote many years ago that the goal of public health is "to enable every citizen to realize his birthright of health and longevity."

Ickovics is not under any illusions about the road ahead. It will be difficult. Even though she has been ribbed about being "optimistic" and even "delusionally optimistic," she believes that the data collected to date are so compelling that they will prompt consequential policy changes at the city level. It's tough to argue away or dismiss worsening and even failing health, especially in

To hear a podcast by Ickovics on CARE and New Haven, go to [publichealth.yale.edu/news/podcasts/index.aspx](http://publichealth.yale.edu/news/podcasts/index.aspx) and click on "Act Locally."

To view *3,000 Miles*, go to [publichealth.yale.edu/news/podcasts/index.aspx](http://publichealth.yale.edu/news/podcasts/index.aspx) and click on "3,000 Miles."

To get involved, contribute or learn more about CARE, contact [care@yale.edu](mailto:care@yale.edu).





Robert Lisak

Jeannette Ickovics (second from left) leads a long-term project to improve health equity in six of New Haven's most disadvantaged neighborhoods.

children. "Knowledge can create change. We need to take this evidence and put it into action," she says.

## Change for New Haven

So what kind of change does CARE have in mind? Specific proposals will unfold over time and in consultation with the neighborhoods involved and with local officials, but the initiatives will take aim at poor health in everyone from children to adults.

The proposals will focus on four general settings: neighborhoods, schools, health centers and workplaces. Specifically, the policies will seek to curb smoking, promote physical activity and encourage the consumption of healthier foods. These factors together contribute to up to 70 percent of all morbidity and mortality in the United States from chronic disease. Smoking, for instance, could be reduced through initiatives such as taxation, education and restricting areas where smoking is allowed. CARE is eager to work with the business community to develop private-public partnerships for health.

It's the kind of approach that is needed in the city, says Katrina Clark, M.P.H. '71, executive director of the Fair Haven Community Health Center (located in a section of the city where the CARE initiative is focused) and a member of CARE's advisory committee. Her clinic addresses health needs on the individual and group levels in one section of New Haven. CARE has set its sights citywide.

"As a city, there are really things that we can still do," Clark says. "We've got some possibilities now."

CARE is working with Clark and others across New Haven, including city hall staff like Community Services Administrator Chisara Asomugha, who also envisions a healthier New Haven. City initiatives include Health Matters!, a coalition and campaign that promotes better health, as well as the Kellogg Foundation-funded Health Equity Alliance, which uses data to underscore the root causes of health inequities.

New Haven is the first U.S. city to participate in the grass-roots Community Interventions for Health program. Similar initiatives also are under way in India, Mexico, China and the United Kingdom. Despite the diverse geography and cultures, the program's goal in each place is

the same — create communities that are healthier and, thus, more equitable.

It's a sentiment that Sir Michael Marmot, whose well-known Whitehall studies in England clearly established the link between an individual's social class and health, spoke about passionately during a lecture at YSPH earlier this year. The gaping health inequities that exist between the rich and poor are morally unacceptable and the divide gets at the very heart of what is a fair and compassionate society, he says.

The good news is that a health disparity can be changed dramatically and quickly — improvements can be seen within a few years — if a society deems it important enough. The knowledge and the means to improve health on such a widespread scale are within our reach. "The question is, what do we have in our hearts?" Sir Michael asked the Yale audience, a capacity crowd. "We need to put the creation of a fair society at the heart of all decision making."

The creation of a fairer and healthier society is a theme that Ickovics returns to again and again. The mother of two young boys, she well understands that if a child develops unhealthy habits, they are likely to carry over into adulthood. Once established in adults, habits such as smoking, eating poorly and failing to exercise are much more difficult to reverse.

A healthier New Haven will have to be built one person at a time. But a healthier city will mean children who perform better, improving their chances of reaching their physical and academic potential. Healthier residents also will require less medical care and, hence, save money. In time, a healthier city will also become a more pleasant and inviting place to live. It will likely take years before changes of this magnitude become apparent. And, needless to say, Community Interventions for Health and CARE will not solve all of the city's health problems.

Still, the status quo that has existed for as long as anyone can remember can be improved. Ickovics is certain of that. By exactly how much remains to be seen.

"Our vision is health for individuals, families and our community," Ickovics says. "We believe that we can make that vision a reality." **YPH**

The background is a complex, abstract composition of various colors and shapes. It features large, semi-transparent silhouettes of people in different colors (white, grey, brown, green, orange, purple) overlaid on a background of colorful, textured blocks and rectangles in shades of green, blue, red, yellow, and purple. The overall effect is a layered, artistic representation of diversity and community.

# The health gap

Troubling racial inequities persist in health and health care, but the causes are not so easy to pinpoint.

By Steve Kemper

“We wish it was this nice linear process, but all these things are happening at the same time. The problems are multifactorial and complex, and the solutions will be too.”

— Beth Jones



Not all patients are created equal.

Some — most often minorities and the poor — get less treatment, later treatment or inferior treatment. As a result, such patients are far more likely to suffer bad outcomes, including higher rates of mortality, than their peers who receive timely and high-quality care.

These gaps in care and outcomes, known as “health inequities,” entered the spotlight in 2002 when the Institute of Medicine released a report titled *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, which described disturbing and widespread patterns of inequality. The report galvanized researchers and policymakers.

## An unequal landscape

Health inequities have many causes. Patients who lack money, insurance or transportation are far more likely to forgo regular visits to the doctor or ignore medical problems until they become serious. Language and cultural barriers keep other patients from seeking care. Bureaucratic hassles can discourage patients from entering the health care system. Medical facilities in rural or poor urban areas may be unable to afford up-to-date technologies for treating patients. Sometimes patients get shortchanged by health care providers who are simply substandard. For some diseases, disparate outcomes for Caucasians and minorities may be caused by genetic factors that still aren’t fully understood. Treatments and outcomes can also be affected by health care providers’ biases, conscious or unconscious, against a patient’s race, ethnicity, gender, sexual orientation or religion.

Though the causes are varied and complex, one thing is readily apparent: in most categories, minorities are disproportionately represented. They are less likely than their white peers to have insurance and less likely to engage in screening measures such as Pap smears, regular mammograms and prostate exams. The consequences are predictable: African-American women have a greater risk than Caucasian women of dying from breast and ovarian cancers; African-American men are twice as likely as men from other racial groups to die from prostate cancer. Among Latinos, the rate of liver cancer is twice that among Caucasians. Minorities are also more likely to suffer from diabetes, cardiovascular disease and obesity.

Earlier this year the American Academy of Pediatrics reported that the nation’s 31.4 million minority children are at greater risk than Caucasian children for developing asthma, attention deficit hyperactivity disorder, HIV/AIDS, sexually transmitted diseases and several kinds of cancer.

“We still don’t quite understand why disparities exist,” says Anne C. Beal, M.D., M.P.H., former director of the Commonwealth Fund’s program on health care disparities and now president of the Aetna Foundation, which supports further research on the problem. “Is it about economics? Financial access to care? Personal responsibility?

Environmental exposures? We haven’t really defined the root causes for the existence of disparities, and therefore programs to address them are oftentimes shots in the dark. In the last 10 years the research has been about identification and description of disparities. The next round of research will be about what is driving and causing them.”

## A cancer case study

That describes the work of Beth A. Jones, M.P.H. ’86, Ph.D. ’93, a research scientist in the division of Chronic Disease Epidemiology at the Yale School of Public Health. Jones is researching the factors that drive racial/ethnic inequities in cancer outcomes, especially breast cancer.

African-American women, for example, have lower rates of breast cancer than Caucasian women but much worse rates of survival. Jones’s research suggests several possible explanations: African-American women are less likely than Caucasian women to undergo regular mammograms and less likely to be notified of the results. When a mammogram is abnormal, African-American women are more than three times less likely than Caucasian women to receive adequate follow-up.

And yet, Jones has also found that even when diagnosed at the same stage of cancer, African-American women are less likely to survive than Caucasian women. “So even African-American women who do get mammograms don’t seem to get the same benefits,” she says. That led her to molecular research, which confirmed previous reports that breast tumors are more aggressive in African-American women and that there are more frequent mutations of the p53 gene in African-American women as well. These studies have triggered a spate of research by others on the triple negative phenotype found in African-American women, which might contribute to the disparity in survival.

Jones now has a \$4.1 million grant from the National Institutes of Health to extend her studies about breast cancer to Latinas in the northeast United States, a growing population understudied by health researchers. Like African-American women, Latinas tend to be poorer than Caucasian women, to be diagnosed with breast cancer later and to have worse survival rates. Latinas are even less likely than African-American women to seek mammograms. Some avoid medical visits because they speak little or no English.

“We were certainly aware of the challenges going into the study,” says Jones. To study health inequities, researchers need extensive patient data, yet the populations that suffer most from them often avoid the health care system or, once in it, may be suspicious of questioners and elusive for follow-up studies. Such issues are magnified for immigrants who are undocumented.

Jones initially hoped to enlist women through ads and letters. “But our focus groups and key informants who work in the health centers said, ‘You can’t recruit Latina



Primary care physicians viewed pictures of African-American and Caucasian patients (all of whom were actors) in a study that assessed whether a patient's race influenced physicians' prescriptions. The researchers found little connection between race and prescription. *Reprinted with permission of K.A. Schulman and The New England Journal of Medicine.*

women that way. You need to do it in person.' That has slowed the process but it has also been incredibly successful — our participation rate to date is high, at 82 percent."

Thus far Jones has an enroller and an assistant in nine health centers, with plans to expand to several more. All the teams are bilingual; nearly 90 percent of the interviews have been conducted in Spanish. "That speaks to the need to deliver medical care in culturally sensitive ways," says Jones. More than 500 women had joined the study by early summer, and Jones expects to enroll 1,600 women by 2011.

The study's last phase will be a follow-up interview in two and a half years. Jones knows that recontacting these women might be tough. Many of them don't have cell phones or home phones; they leave the researchers the number of a relative or neighbor. As incentives, each woman gets a \$45 gift card for enrolling and the promise of a \$70 card at the time of the follow-up interview. As a back-up, the women were asked to return a consent form that permits access to their mammography records. About 97 percent have done so, which gives Jones another way to track their health status. She hopes the results of the study will suggest ways to improve both outreach to Latinas and access to breast screenings and treatment.

Earlier diagnosis and treatment are important, she adds, but they are not enough. "If we want to address disparities, we need to look further upstream to prevent illness and even further upstream to make policy changes that improve distribution of resources, which will impact many more people and cut across many diseases."

### Striking differences (and not)

The costs of ignoring prevention are underlined in a recent YSPH study led by Jeannette R. Ickovics, Ph.D., a professor and director of the Social and Behavioral Sciences Program, which found that African-Americans are hospitalized at a much younger age than Caucasians — by an average of five years for all conditions. The most striking differences occurred for the most serious illnesses, uncontrolled diabetes (12 years) and bacterial pneumonia (7.5 years), but the researchers also found wide inequities for chronic obstructive pulmonary disease, congestive heart failure, dehydration and other conditions.

Such findings, says Katie B. Biello, a Ph.D. student who worked on the study with Amy Carroll-Scott, a post-doctoral fellow, and Yale-New Haven Hospital colleagues James E. Rawlings, M.P.H. '80, and Rosa Browne, suggest that African-Americans "have not received adequate ambulatory care for the underlying conditions in the years leading up to their hospitalization. This may reflect the well-documented fact that African-Americans in the United States have less access to care. In this way, conditions that might otherwise be controlled at home or treated in the doctor's office can instead worsen, resulting in more severe outcomes and ultimately hospitalization."

Two other YSPH researchers have found that in some instances health inequities may not exist between different racial and ethnic groups. In a paper published last year, Saif S. Rathore, M.P.H., an M.D./Ph.D. student in epidemiology, and Andrew J. Epstein, Ph.D., a former assistant professor in the division of Health Policy and Administration, determined that race did not influence doctors who prescribed medications for hypertension and diabetes. This echoed an earlier study by Rathore and Harlan M. Krumholz, M.D., professor of investigative medicine at the Yale School of Medicine and of public health at YSPH, which found that racial differences in quality of heart attack care varied by geographic region in the United States, with equal quality of care among African-American and Caucasian Medicare patients hospitalized in the Northeast but larger differences in the South.

In both cases, notes Rathore, doctors had no doubts about the best course of treatment. "We've found that when it's obvious what to do, you're less likely to see treatment differences. When you have some clinical uncertainty, race or factors associated with race, like education or income, may start to exert an influence."

Race and ethnicity are understandably volatile subjects that Rathore and Krumholz believe have sometimes been difficult to tease apart in research findings about health inequities. In a 2004 essay they created a framework for interpreting reports of racial differences in health care. Among their conclusions were that if inequities have causes other than race, then solutions or policies aimed at race and ethnicity may leave the real problems untouched.



"We have new work coming out that says the hospital or site of care is a bigger determinant of disparities than race or ethnicity," says Rathore. He found that minority patients are more often treated at hospitals that provide poorer quality of care and by physicians who often have lower rates of board certification. "If that's the case, there's a remedy that's very different from ensuring that physicians aren't making biased decisions, because then we're talking about targeted interventions at these centers — do they need more resources, more funding, more support, to make them able to take better care of these patients? That's where we want to focus, because if we focus on everybody, it will cost a lot more and we'll miss where the problem is."

Krumholz says it's a mistake to assume that a group who's getting less of something is by definition worse off and should get more. "Equity isn't about giving everyone the same," he says, "it's about giving people what they need and figuring out who is using too much, who is getting too little. Sometimes the bigger picture is that nobody is getting good enough care."

He points to a project that focused on timely treatment of heart attack patients in hospitals. Krumholz found that African-American patients tended to go to hospitals that provided slower care than that received by Caucasians in other hospitals, but that the Caucasians weren't receiving fast care either.

"So we initiated a national effort to improve times for everybody. Instead of saying, 'When a black patient comes in, make sure you do this,' we said, 'When any patient comes in, use these system solutions to improve care.'" Times improved for everyone and the differences between races virtually disappeared. "So the solution might not be to single out a group," says Krumholz, "but to give every individual the best possible care. If we have a health care system like that, people won't be systematically disadvantaged by economic status or race or sex. We'll eliminate disparities and raise the level for everybody."

Jones, Biello, Rathore and Krumholz all agree that the health care reforms passed this year could diminish inequities by giving millions more people access to medical care. Though it likely won't be enough, since it is estimated that access to health care explains only 10 percent to 20 percent of variation in health status. And all agree that the issue is extremely knotty because it incorporates so many threads — race and ethnicity, socioeconomic factors, genetics, behaviors of patients and caregivers, social and physical environments and variations in health care facilities.

"We wish it was this nice linear process," says Jones, "but all these things are happening at the same time. The problems are multifactorial and complex, and the solutions will be too." **YPH**

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

## Faculty diversity at medical schools focus of new study

**The racial and ethnic composition of the health care workforce does not reflect the diversity in the U.S. population.**

The study started this summer and will examine whether promotion and retention patterns at medical schools are contributing to a marked shortage of racial/ethnic minority faculty.

"Without such data, it will be difficult to design effective interventions to attract and support a diverse academic physician workforce," says Marcella Nunez-Smith, M.D., M.H.S. '06, the study's principal investigator and an assistant professor of medicine at Yale.

Nunez-Smith is collaborating with the Yale Center for Analytical Sciences (YCAS), a new research group within the School of Public Health. "The assistance of the statistical scientists at YCAS constitutes a significant contribution to my study," she says.

The current racial and ethnic composition of the health care workforce does not reflect the diversity in the U.S. population, Nunez-Smith says. While African-Americans, Hispanics and American Indians together represent 25 percent of the overall U.S. population, they constitute only 8 percent of all physicians. This disparity extends into academic medical faculty. Minorities constitute 7 percent of all current medical school faculty and fewer than 5 percent of all new academic faculty.

The majority of racial and ethnic minorities who are on the faculty of academic medical schools are concentrated at the assistant-professor level. Also, among all racial and ethnic groups, men are more likely than women to hold full-professor rank. Furthermore, racial and ethnic minorities have reported less career satisfaction, and there is evidence that they are promoted at a lower rate compared with their Caucasian colleagues.

The Association of American Medical Colleges has set a goal of increasing medical school enrollment by 30 percent over the next decade. "This is an ideal time to address the issue of faculty diversity," Nunez-Smith says.

*Michael Greenwood*





# Battered health

Emerging research is focusing on intimate partner violence, how it affects one's health after the bruises have healed and what moves someone to such behavior.

By Jenny Blair

“The work that I’m trying to do is [to] change the way people think about intimate partner violence.” —*Jhumpa Gupta*





Corbis

Intimate partner violence is a corrosive phenomenon that cuts across race, class and age. Yet, though it affects millions of American women each year—as well as some men—and costs the country over \$4 billion annually in direct health care, its health repercussions are not fully addressed and its causes are poorly understood.

What moves people to violence against a spouse or partner? What short- and long-term health consequences burden the victims, most of whom are women? Are there unique factors that contribute to intimate partner violence (IPV) in vulnerable populations, such as migrants or those of lower socioeconomic status?

Jhumka Gupta, M.P.H., Sc.D., an assistant professor in the division of Chronic Disease Epidemiology and the Social and Behavioral Sciences Program, studies these difficult questions in some of the world's most underinvestigated groups, including inner-city residents, refugees and immigrants in the United States and migrant and conflict-affected populations internationally. Meanwhile, her colleague, Jason M. Fletcher, Ph.D., assistant professor in the division of Health Policy and Administration, has analyzed how poor health and IPV are related and found that the reality may be more complicated than some might think. Several of the basic questions underlying their work have little precedent in the research literature, in part because the science is still emerging.

“Historically, intimate partner violence has been viewed as a private matter or as solely having relevance to the criminal justice field,” Gupta said. “It is only in the past decade and a half that we have seen increasing attention to intimate partner violence in the public health field.”

### Patterns of abuse

Take the health consequences of IPV. Initially, Gupta said, researchers focused on the obvious and visible injuries, like broken bones and bruises. But the closer they looked, the more they found a whole host of other kinds of health problems. For instance, many of the most critical health issues facing women and girls, including unwanted pregnancies, HIV and other sexually transmitted infections, eating

disorders and poor mental health, have been linked with IPV experiences.

Along with colleagues, Gupta has investigated the effects of this type of violence on reproductive health in a study of 2,677 Bangladeshi married couples. An astonishing three-fourths of the men reported having recently been violent toward their wives. Women suffering physical violence, both with and without sexual violence, were found to have suffered more miscarriages, induced abortions, stillbirths and unwanted pregnancies leading to live births.

That evidence points to reduced reproductive control on the part of women experiencing violence at the hands of their male partners. Because such disempowerment is recognized by the United Nations as a key factor in limiting economic development, Gupta and colleagues suggested that efforts to reduce IPV might enhance development—making such efforts not only a human rights priority but also an economic one. Furthermore, this work underscores the importance of integrating efforts to reduce IPV into existing programs that promote reproductive health.

In an effort to reduce the toll that IPV takes on women and girls, Gupta is also leading research efforts to examine the etiology of gender-based violence against women in some of the most vulnerable and marginalized communities, both in the United States and beyond. While much research has documented risk factors for women's victimization from IPV, far less has been done on factors that place men at risk for becoming perpetrators. This is particularly true in ethnic minority and immigrant communities.

While social and cultural norms that promote gender inequality are important aspects, it is also critical to consider the structural factors and vulnerabilities affecting immigrant communities that can play a role in increasing risk for IPV. “There's the whole issue of stressors accompanying the immigrant experience that I think has not been tapped into yet,” said Gupta. Among these are the misconceptions that greet foreigners. Workers in public health agencies may be quick to ascribe violent behavior in immigrants to their “culture,” and a fear of confirming such discriminatory oversimplifications may make immigrant women reluctant



Christian Roux

to seek help. “They don’t want their community to look bad,” Gupta said.

Adapting to new cultural norms, too, and dramatic postimmigrant changes in social status — professors reduced to driving cabs; women becoming breadwinners — can severely stress couples. Furthermore, policies that can lead to deportation of immigrant men charged with IPV can also deter immigrant women from stepping forward for help. Daughters of immigrants whose parents have forbidden them to date may find themselves unable to seek family support if they are abused during a surreptitious relationship.

There is also the issue of premigration experiences that is rarely addressed by public health agencies. Gupta led a study of IPV among immigrant men who had been exposed to politically motivated violence in their home countries. Among a group of 379 such men who were treated in a Boston health clinic, one in five had experienced premigration political violence while still in his homeland; Gupta found that men in this group were more than twice as likely as their counterparts to report having physically or sexually abused a partner — even after controlling for factors such as education and English-speaking ability.

These studies are believed to be the first to examine a link between experiences of premigration political violence and IPV in immigrant men. In a related study of the same group of men, Gupta found a short-term protective effect of immigration in a decreased incidence of IPV; this effect, however, seemed to fade among men who had been in the country longer than six years, after which IPV rates rose. Furthermore, the least-integrated men appeared to be at greatest risk for IPV perpetration. This raises the question of whether immigrant men who face the greatest levels of discrimination as well as being the least able to access resources are the most vulnerable to becoming perpetrators.

To begin to investigate these issues, Gupta has launched a study with migrant male laborers in South Africa (funded through Yale’s Center for Interdisciplinary Research on AIDS). She will look explicitly at adverse migration-related experiences (e.g., discrimination, oppression, isolation, harsh working conditions) and examine how they may

relate to perpetration of violence against women and other harmful health behaviors involved in HIV risk. With this and other research projects, Gupta hopes to both elucidate the root causes of IPV and work toward developing strategies to prevent such violence from ever occurring.

### A new view

The plight of immigrants, populations affected by conflict, IPV victims and the links between oppression and subsequent violent behavior are all topics that have interested Gupta since her youth.

Her mother migrated as a refugee to Calcutta, India, from what is now Bangladesh due to ethnic conflict in the aftermath of India’s bloody 1947 partition. As a child growing up in the Washington, D.C., area, Gupta heard her mother’s friends discussing cases of domestic violence in the South Asian community. In high school and college, she volunteered with organizations that provided direct services to IPV victims and she worked with HIV-positive women and children, where she witnessed firsthand the connection between health and IPV.

“A lot of these mothers were being infected with HIV because they didn’t have any type of negotiation power with abusive partners,” she recalled. Gupta later published a study on sex-trafficked women in India, finding that they experienced violence upon initiation into the sex trade and were often unable to access health services or negotiate condom use and, thus, were likely to have less autonomy to protect themselves from HIV than were sex workers who did not experience violence. As Gupta continues with her work, she hopes that a more nuanced understanding of the stressors immigrants and other vulnerable communities face will overcome stereotypes and inform better policy decisions. It isn’t clear that just one or two factors contribute to IPV; the reality is more complex. “The work that I’m trying to do,” she said, “is [to] change the way people think about intimate partner violence.”

The relationship between external pressures and IPV is familiar to Rita Smith, executive director of the National Coalition Against Domestic Violence (NCADV). “People



who are feeling pressure from outside may try to gain control within their family,” she said, “and start to use coercive behaviors against their own family members.” Arizona’s recent immigration law requiring immigrants to prove their legality has already led to increased problems in that state, she said. “We are already hearing some reports about the immigrant community [in Arizona] becoming more isolated. ... Immigrant battered women will have less and less access to resources, and that’s a concern. Living in that environment of prolonged stress and physical danger has got to have huge impacts.”

Another pressure is the economic kind. Smith said the NCADV has noted an uptick in violence since the recession, after having made some progress in reducing IPV in the last 10 to 15 years. Her agency is focusing some of its efforts on involving multiple branches of government in prevention, including the Departments of Labor and Education. “There are a lot of different ways we can start to expand beyond just the usual [agencies, such as] the Department of Justice and the Administration for Children and Families,” she said.

### Cause and effect?

Sound policies, though, require a clear understanding of cause and effect, and confounding variables often muddy the waters when it comes to IPV. How is poor health in IPV victims a direct effect of the violence they’ve suffered? Is it more accurate to say that both the violence and the illness stemmed from other sources? The ways in which health and IPV interrelate is something that Fletcher continues to explore, including a recent analysis of an adolescent health data set.

“Most people who do work in this area are very sensitive to the issue of alternative stories of why IPV and health are statistically related,” he said. “There are a lot of reasons they could be linked.” IPV could directly cause poor health beyond the initial violence. But, he explained, in a poorer neighborhood, where residents are likely to have less access to health care, this disadvantage could create a link between violence and health that might not have anything to do

with direct causal effects. Teasing out which “stories” about causation are accurate is important for informing cost-effective health policy decisions, as officials try to decide whether to prioritize scarce dollars toward, say, relocating people out of poor neighborhoods, treating mental illness or combating IPV directly.

In his recent analysis, Fletcher examined health outcomes in a nationwide sample of over 8,000 sexually active American adolescents, including over 600 sibling pairs, who were followed throughout their transition into adulthood. He determined that 30 percent to 50 percent of the presumed magnitude of the effect of IPV on long-term health can be accounted for by confounders such as pre-existing depression, neighborhood crime rates and poverty. That suggests that the proportion of health effects explained by IPV may have been inflated in previous studies that did not separate out those confounders. Still, there was a robust and persistent effect upon depressive symptoms, utilization of the health care system and self-reported health. Even when the violence stopped several years prior, Fletcher notes that there were lingering adverse effects.

The results led Fletcher to suggest that programs to reduce IPV might be cost-effective for mitigating depressive symptoms compared to programs that move residents out of poor neighborhoods. Interestingly, gender did not seem to affect self-reported health in IPV victims; both sexes reported similar health outcomes. Fletcher would like to know if his results hold up in other data sets and, in particular, whether the absence of a gender difference is replicable. And it remains unclear how effective a strategy relocation out of poor areas is with regard to reducing IPV.

As Gupta discovered, in immigrants, at least, such a move helps — at least for a time. But researchers like Gupta and Fletcher are just beginning to uncover and sort out the complex ways that IPV echoes in the lives and in the health of its victims. **YPH**

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

Intimate partner violence in the United States costs some \$4 billion a year in direct health care, yet its long-term health repercussions and its causes are not well-understood.



Sir Michael Marmot

## A fairer society

### A British researcher argues that gaping health inequities around the world are not only unjust, they are morally unacceptable.

Sir Michael Marmot's well-known Whitehall studies in England clearly established a link between an individual's social class and his or her health. He considers health inequities between the rich and poor unacceptable and believes that the "divide gets at the very heart of what is a good, fair and compassionate society." Sir Michael delivered a Dean's Lecture at the Yale School of Public Health to a capacity audience in March.

#### What is the likely adult health outcome for a child born into poverty?

**MM:** Life expectancy for a poor child in some sub-Saharan African countries is less than 40 years. For a girl born in Japan it is 86 years. Within any country, those born into poverty can expect to live up to 20 years less than those born to parents at the top of the socioeconomic spectrum.

#### Why does this happen?

**MM:** There is accumulation of advantage and disadvantage throughout the life course. It starts before conception and continues through pregnancy and birth, infancy and right through adulthood. Early child development is very important, but it is not destiny. Improved conditions at any stage of life can improve the prospects for an individual with disadvantage.

#### Can you give an example of social class and health disparities in a single city?

**MM:** Men in the poorest part of Glasgow have a life expectancy of 54 years and in the richest part, 82 years — a 28-year difference within one Scottish city.

#### Can disparities such as this be narrowed?

**MM:** Evidence shows that the magnitude of health inequalities is not fixed. It changes over time and varies by region within countries. If it can change, then potentially we can

change it. Indeed, the history of health in industrialized countries in the 20th century shows dramatic narrowing of absolute differences in health between social groups. For example, in England, the difference in infant mortality between richer and poorer groups was about 150 in 1,000 live births in 1900 and about 5 in 1,000 in 2000. If we turn to life expectancy more recently, regrettably, there are more examples of widening health inequalities than the opposite. Such widening is consistent with growing economic and social inequalities.

#### How long does it take to narrow health disparities, and how much does it cost?

**MM:** Health inequalities arise from deep-seated social structures and processes. Narrowing the health gap requires fundamental change. The question is not really how much it costs but whether we are prepared to do things differently. For example, income inequalities have grown dramatically in the United States and the United Kingdom in recent years. In the United States, particularly, most of the income benefits of economic growth have gone to the rich; society has become more unequal. This inequality is likely to be playing a role in health inequalities. Redistribution could be cost-neutral in straight money terms but "costly" in the howls of rage from those who stand to lose a small part of the fantastic gains they have enjoyed over the last three decades, particularly since 2000.

#### Can these health disparities ever be fully erased?

**MM:** I don't know of a society where they have been. That said, and taking into account my previous answer, it is possible to make changes rather quickly. In Britain, for example, the most deprived quarter of the population had improvement in life expectancy of 2.9 years for men and 1.9 years for women over a 10-year period that started in 1995. Wow! A dramatic improvement. The challenge comes because the average improved slightly more, so the gap did not narrow.

#### What is the reaction to your work by policymakers and officials?

**MM:** I am surprised, delighted even, by the degree of attention being paid to it. The World Health Organization's global Commission on Social Determinants of Health



# “Freedom to wallow in poverty is not among those freedoms most cherished.”

— Sir Michael Marmot

(CSDH), which I chaired, attracted the attention of 39 member states who endorsed it enthusiastically at the 2009 World Health Assembly. A resolution on the CSDH report was adopted unanimously. As an obviously biased observer, I focus on those countries where it has inspired action.

One country that took the CSDH seriously was my own, the United Kingdom, where the government invited me to conduct a review of how it could be applied. In the four months since we published our report, *Fair Society, Healthy Lives*, my colleagues have given 50 invited talks on the Marmot Review all over the country. Each of these areas is working to apply our recommendations. This is in addition to the 10 talks a month, on average, I give in various parts of the world.

## Have your findings led to changes at the government level?

**MM:** Brazil and Chile both have taken concrete steps. Several Nordic countries have social determinants and health inequalities under active consideration. In the United Kingdom, there has been much interest by local government. We have a new coalition government nationally. It is a little early to tell what they will make of it, but in the Queen's speech to open the new session of parliament—a statement of government's intentions, Her Majesty stated that the government would be taking action on health inequalities, a view echoed by the Secretary of State for Health. I am ever hopeful.

## Is there a country that has overcome such disparities?

**MM:** None that I know of. But the absolute differences in health in several of the Nordic countries are dramatically less than, for example, those in the countries of Central and Eastern Europe—the post-Communist countries. Communism was rather bad for health, by the way.

## How did they (the Nordic countries) do it?

**MM:** We asked the Nordic countries that question. At our request the Swedish government funded the Nordic Experience: Welfare States and Public Health (NEWS) group. The NEWS group pointed to generous welfare policies that have reduced both absolute and relative poverty levels and social differentials in education, include a high degree of gender and social class equity, give real attention to working and employment conditions and narrow income inequalities.

A general lesson has been that the Nordic welfare states did not just concentrate on the poor but had a universalist approach to social policy and programs, funded by taxation and with public provision.

## What is the situation in the United States?

**MM:** Globally, the United States does not look good in health. One metric we have used is life expectancy from birth to age 65. The United States ranks 39th in the world for men and 44th for women. There are also large health inequalities within the country—see Christopher Murray's “eight Americas,” for example. There is a problem. But our Nordic colleagues' description of how they achieved overall good health and narrowed health inequalities will sound like a description of socialist hell to some sections of American opinion. Some commentators, while acknowledging that the United States has a dismal health record by international standards, and large health inequalities, and that the United States has pursued a very different social and economic model from the Nordic one, will nevertheless say that correlation is not causation. Correct. It is not. Jumping to conclusions is a hazardous sport. That said, the considered judgement of the CSDH and the English (Marmot) Review is that a set of policies akin to the Nordic ones will lead to good health and narrower health inequalities. If that goes against the grain of what Americans want from their democratic system, that is the choice they have to make. But do not paint the choice as between individual freedom and overweening state control. Freedom to wallow in poverty is not among those freedoms most cherished.

## Where does race fit into this dynamic?

**MM:** A report from the Robert Wood Johnson Foundation shows that most of the racial/ethnic differences in health are socioeconomic in origin. But not all. I said to a group of African-American colleagues recently that it was easy for an outsider to fail to appreciate the role that race plays in America. They told me that was correct: an outsider does not begin to understand its persisting importance. **YPH**

Michael Greenwood

## A growing body of evidence suggests that victims of discrimination suffer physically as well as emotionally.

By Michael Greenwood

It is well-known that the sting of racism and discrimination causes anger, resentment and feelings of despair. But an emerging body of research substantiates another possible consequence: poor health.

Ongoing studies at the Yale School of Public Health have found evidence that discrimination—ranging from overt racism to more subtle forms of disrespect—can be internalized and can result in physical manifestations such as increased blood pressure, plaques in the coronary arteries and elevated levels of a harmful protein that is known to result in a range of cardiovascular problems.

Since joining the Yale School of Public Health in mid-2006, Tené T. Lewis, Ph.D., an assistant professor in the division of Chronic Disease Epidemiology, has focused much of her research on how psychological and social factors affect racial disparities in cardiovascular disease.

It is known that African-Americans, on average, live four to six years less than their Caucasian peers in the United States. Much of this difference is due to heart disease and stroke. “Traditional risk factors for heart disease don’t completely explain black-white differences in health, so what else is going on?” Lewis asked.

Her most recent research, published earlier this year, found that African-Americans who report experiences of discrimination have higher levels of a particular protein that is associated with cardiovascular and other health problems.

The marker, C-reactive protein (CRP), is found in the blood, and its levels increase in response to inflammation. In addition to heart problems, its presence has also been linked with mental stress and depression.

Lewis and fellow researchers studied 296 older African-American adults and assessed their experiences with “everyday” forms of discrimination through a nine-item questionnaire that rated the frequency of various forms of mistreatment (ranging from subtle forms of disrespect to outright insults and harassment). Blood samples were taken from each participant and a “significant” correlation between CRP levels and degrees of discrimination was identified.



Paul Zwolak

“People are often reluctant to believe that discriminatory treatment may have a negative impact on health,” Lewis said. “It is important to note that these types of experiences, in addition to making people feel bad, are also associated with actual physiological processes inside the body. These processes, in turn, may have long-term effects on health. It should not be the case that the color of your skin determines how old you live to be in this country.”

But until now, the underlying biological processes involved have been poorly understood. “We want to prevent disease. This study sheds some light on one potential pathway,” she said.

Indeed, the association between discrimination and CRP levels remained strong after adjusting for a range of existing health problems, including depressive symptoms, smoking, heart disease and hypertension. The correlation, however, was attenuated when body mass index (BMI) was taken into consideration. CRP levels were partially, but not completely, independent of BMI, the study found.

Experiences with discrimination can be thought of as a chronic, ongoing source of stress, Lewis said. In addition to a variety of mental health problems, discrimination has previously been linked to high blood pressure, early signs of atherosclerosis and mortality. Another study that Lewis authored found that African-American women who feel that they are the targets of discrimination had higher levels of visceral fat, which, in turn, puts them at increased risk of heart disease.

Lewis said that future research will look at whether discriminatory treatment is associated with changes in CRP levels over time and whether there are any psychological or social factors that might alter the effects of discrimination on CRP levels, in hopes of developing preventive interventions. **YPH**



### Far-reaching changes in the nation's eating habits are recommended to stem growing rates of obesity and chronic disease.

By Michael Greenwood

In the face of soaring obesity rates in the United States, a national dietary advisory committee that included a Yale School of Public Health professor is recommending sweeping changes to the American diet that include a decrease in caloric consumption, a drastic reduction in sodium and sugar intake and a shift to a more seafood- and plant-based diet.

The report, prepared by the 2010 Dietary Guidelines Advisory Committee, has been forwarded to the U.S. Department of Agriculture and the U.S. Department of Health and Human Services and will become the foundation for updated federal guidelines on nutrition, diet and health. The recommendations also could influence existing food assistance programs such as school lunches and food stamps and prompt changes in industry practices.

Rafael Pérez-Escamilla, Ph.D., a professor in the division of Chronic Disease Epidemiology, was among the 13 national experts who worked on the comprehensive evaluation and review of existing federal nutrition guidelines and put forth the proposed changes. Congress mandates that the dietary guidelines be updated every five years.

The advisory committee recommends the following:

- A shift to a more plant-based diet that emphasizes vegetables, cooked dry beans and peas, fruits, whole grains, nuts and seeds. In addition, an increase in the intake of seafood and fat-free and low-fat milk products, and consumption of only moderate amounts of lean meats, poultry and eggs.
- A significant reduction in the intake of foods containing added sugars and solid fats. Solid fats should be less than 7 percent of caloric intake. Foods with these components have excess calories and few, if any, nutrients.
- A reduction in the maximum recommended daily sodium allowance from 2,300 mg to 1,500 mg for adults.
- Because the problem of obesity starts developing very early in life, mothers-to-be should have an adequate weight when becoming pregnant, avoid gaining excessive weight during pregnancy and prevent excessive

caloric intake among their offspring during infancy and early childhood.

With as many as two-thirds of adults and one-third of children in the United States considered to be either overweight or obese, existing health and diet trends were in the forefront as the committee worked on its recommendations. If the guidelines are adopted and followed, they could have a significant effect on the health and waistlines of Americans, Pérez-Escamilla said.

With the support of the current administration—including first lady Michelle Obama, who has used the committee's preliminary findings as the foundation of her own anti-obesity initiatives—and advances in nutritional science, there is a real chance to reverse current trends.

"There is no doubt in my mind that this is an historic opportunity," Pérez-Escamilla said.

Reducing sodium intake will take time and require the cooperation of the food industry, Pérez-Escamilla said. The majority of sodium intake in a person's diet—as much as 80 percent—comes from processed foods. And even though most packaged foods already contain information about sodium content, more needs to be done in this area.

On fish consumption, Pérez-Escamilla said that the public is confused by conflicting messages about how much fish is safe to eat, particularly for pregnant women and women who are breastfeeding. While consumption of certain types of seafood should be limited (such as swordfish), fish is a healthy choice and the government should promote it as such.

For the first time the committee also provided specific advice on the major environmental and policy changes needed to facilitate the implementation of its recommendations.

They include improving nutritional literacy and healthy cooking skills; increasing comprehensive health, nutrition and physical education programs and curricula in U.S. schools; creating greater financial incentives to purchase and prepare healthier foods; and encouraging restaurants and the food industry to offer health-promoting foods that are low in sodium, added sugars and solid fats.

The committee's recommendations were prepared over an 18-month period that included extensive public hearings and the preparation of reports that contained the latest science on nutrition and health. "This was a monster of a task," Pérez-Escamilla said. **YPH**

### The fight against Lyme disease goes high-tech as YSPH researchers use field studies and mapping technology to develop an application for the iPhone.

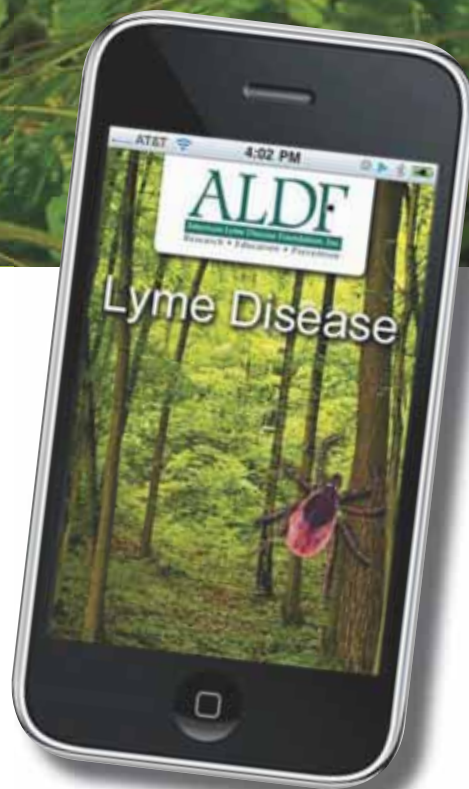
By Michael Greenwood

The popular iPhone and other Apple devices now offer a Lyme disease “app” that provides consumers with a high-tech layer of protection against the most prevalent insect-borne disease in the United States.

Faculty and students at the Yale School of Public Health combined years of research data with creativity to build the new application. It includes information on the density of infected ticks at the user’s location (within the United States) as determined by a global positioning system (GPS) that is built into the device. If ticks are determined to be present, the user is given a list of precautions that lessen the chances of being bitten. A tick identification chart with life-size photos of black-legged ticks (also known as deer ticks) is also provided, so that each life stage can be determined, since the disease cannot be transmitted at some stages of development. Instructions on how to properly remove a tick are provided, along with a narrated video.

The application also provides life-size photos of ticks at various stages of blood engorgement and advises patients to seek medical attention if a tick has been attached to their body for more than 48 hours. Lyme disease can be transmitted after 48 hours of feeding by an infected tick, and treatment guidelines recommend treating such patients with a short course of antibiotics to prevent the disease. Another feature of the application displays a panel of skin rash photos characteristic of Lyme disease, along with a list of other symptoms, and prompts users to seek immediate medical attention if they are infected. Finally, a physician locator finds doctors nearest to the user, again using GPS, and provides the phone number and map directions to each physician’s office.

“This is the first health application for smartphones that could have an immediate impact on a major disease. It really ought to help people prevent Lyme disease,” said Durland Fish, Ph.D., a professor in the division of Epidemiology of Microbial Diseases, who oversaw the application’s development.



Users of the app should be able to avoid being bitten if they know that ticks are around, and if they are bitten, they can tell if it is the right kind of tick and at the right stage to cause Lyme disease. The application displays pictures of different species of ticks and shows them at different stages of development—larval, nymphal and adult—allowing users to easily determine whether a tick that has bitten them is cause for concern.

Users will know when to seek medical advice so that the disease can either be prevented or be treated in its very early stages. “You can get Lyme disease only in certain areas, only from certain ticks and only after a tick has remained attached for a certain amount of time,” said Fish.

The data for the application took years of research to gather and included more than 100 field workers, who collected tens of thousands of ticks from sites around the eastern United States. Each tick collected was tested for Lyme disease, and the data were used to determine the density of infected ticks over vast areas.

Content for the application was provided by Lyme disease researchers at Yale in cooperation with the U.S. Centers for Disease Control and Prevention, the American Lyme Disease Foundation and IntuApps, an applications development company in New York City. It is available through the Apple iTunes Store for \$1.99. Proceeds will support the research and educational mission of the American Lyme Disease Foundation, based in Lyme, Conn. **YPH**



# Winslow award presented to acclaimed researcher



## Sir Iain Chalmers is recognized by YSPH for a lifetime of achievement.

By Michael Greenwood

While the medical research community conducts many worthwhile studies and produces volumes of academic papers, it fails, in many cases, to routinely address the medical questions that are most important to the public, patients and medical practitioners.

So said Sir Iain Chalmers, the 2010 recipient of the Yale School of Public Health's C.-E. A. Winslow Award, earlier this year via a live trans-Atlantic video link. He further chided the research community when he said that patients have suffered, and even died, as a result of established scientific research priorities and practices.

"Should patients and the public trust research?" he asked.

Chalmers' lecture was preceded by the presentation of the Winslow Award for a lifetime of contributions to public health, along with a signed first-edition copy of a book written by Winslow. The Yale School of Public Health was founded in 1915 by Winslow, who is regarded as a father of the modern public health movement.

Dean Paul D. Cleary credited Chalmers with revolutionizing how medical research is approached and conducted, citing a long list of professional accomplishments that includes groundbreaking perinatal studies and the establishment of a library with records of unbiased evaluations of medical treatments spanning 1,000 years. "He is one of the foremost health researchers of his generation," Cleary said.

Chalmers is only the third person to receive the Winslow Award since its creation 10 years ago. It is given to individuals whose work in public health represents Winslow's spirit and ideals, particularly his concern for social factors affecting health.

On the question of why he was accepting the award from England, and not in person, Chalmers said that travel to the United States is politically problematic for him. He is involved in solidarity causes that support Palestinians and Palestinian statehood. Wearing a pin of a Palestinian flag on his lapel during the lecture, Chalmers said that he risked being questioned by U.S. authorities if he accepted the award in person. "My name is on lists," he said.

Indeed, it was his work in the Gaza Strip as a young physician in the late 1960s and early 1970s that formed

Chalmers' commitment to assessing the effects of health interventions and investigating areas of medical uncertainty. Recently out of medical school, he followed his training and withheld antibiotics from children with measles. Some of them died as a result. There was enough research evidence available at the time, however, to show that such a treatment course was inadvisable.



Michael Bracken (left), the Susan Dwight Bliss Professor of Epidemiology at the Yale School of Public Health, presents Sir Iain Chalmers with the C.-E. A. Winslow Award and a book written and signed by Winslow.

Theo Chalmers

Beyond the "mismatch" between what researchers study and what the public wants studied, Chalmers noted that many studies with disappointing results fail to get published. Such biased reporting can kill, he said, citing studies done in the 1980s on antiarrhythmic drugs. Chalmers also said that the medical research community more often than not fails to review and synthesize existing knowledge when it reports new research. This happens even in the most prestigious medical and scientific journals.

Chalmers began gathering medical evidence when he became the founding director of the U.K.'s National Perinatal Epidemiology Unit in the 1970s. It became a leading research center for the study of infants and pregnant women in Europe. In 1992, Chalmers founded the Cochrane Centre, which inaugurated the Cochrane Collaboration, a nonprofit international organization that prepares, maintains and publishes systematic reviews (currently numbering some 4,000) of the effects of health care interventions. In 2003, he founded the James Lind Library.

Michael B. Bracken, M.P.H. '70, Ph.D. '74, the Susan Dwight Bliss Professor of Epidemiology at the School of Public Health and a friend and colleague of Chalmers, formally delivered the Winslow Award and the book during a subsequent trip to England. **YPH**

## Students

### The land of high mountains



### A summer working in Haiti's remote and overcrowded prisons provides a Downs Fellow with insights into the valuable role of public health in the wake of natural disaster.

By Samantha Diamond

Since the devastating earthquake struck Haiti on January 12, many residents whose houses are intact still sleep in tents alongside the road, terrified to fall asleep under the same concrete roofs they saw collapse on their neighbors.

As my taxi driver maneuvered around these tents shortly after my arrival in Port-au-Prince in June, he asked me what sort of relief work I would be doing over the summer. Almost apologetically, I explained that I was a student on a fellowship, researching the social and health costs of prolonged pretrial detentions in prison.

Without knowing how to rebuild a house or fix plumbing, I felt almost useless upon my arrival. Indeed, I was surprised when a week after the earthquake, my preceptors, human rights lawyers Brian Concannon Jr. and Mario Joseph, told me that the Health and Human Rights in Prisons Project we had been working on for a year remained a priority. I wrote to the Downs International Health Student Travel Fellowship committee, underlining the importance of sustaining development in the rest of the country despite the devastation in and around the capital.

### Prisoner advocacy

There is a Haitian proverb, *dye mon, gen mon*: “beyond mountains, there are only mountains.” As my taxi left Port-au-Prince and climbed into the hills of the countryside, I began thinking about this proverb’s meaning and the three months of work ahead. I was leaving the disaster zone of the city to encounter a new challenge: trying to improve the truly horrific conditions that exist in rural prisons.

In 2008, the Bureau des Avocats Internationaux (BAI) brought a case before the Inter-American Court of Human Rights. That prompted a ruling that gave Haiti until June 2010 to meet international standards on prisons and prisoner care. In an effort to improve conditions in its 17 severely overcrowded centers, the prison directors joined

with BAI and Partners in Health to create a mobile clinic to better address the legal and medical needs of detainees. After the earthquake, this clinic was all that remained of an already skeletal prison health system.

I worked with doctors and lawyers in this mobile clinic to research and write an advocacy report on the current state of Haiti’s prisons. My work took me to three of the more remote and overcrowded prisons and included analyzing data from the mobile clinic as well as interviewing family members of prisoners who may have been arrested and detained without due process.

Given the continued urgency of earthquake relief, it is not surprising that the reforms outlined by the court were not met. What attention the media did give to prisons focused on the 4,000 prisoners who escaped when the National Penitentiary in Port-au-Prince collapsed. There was little mention that these prisoners had been crowded into a building with a capacity of 800 or that approximately 96 percent of them had yet to be convicted.

Though I had read about Haiti’s prison conditions before my arrival, I was not prepared for how bad things really were. I was struck by the 115-degree heat and the stench from a 20- by 20-foot cell that was filled beyond capacity with 67 men. A single bucket served as their communal toilet. These inmates are often forced to stand for periods of up to 20 hours, taking turns sleeping because of the lack of space. With less than six square feet per person, the density in Hinche Prison is five times the Red Cross’ maximum recommended level—a level that is intended only for emergency situations. One detainee described the conditions as “torture,” comparable to a “slave ship.”

### A detainee’s plight

At Hinche, located in the Central Plateau region, I interviewed Manasse Ouvens (not his real name). Ouvens is 38 years old and was one of 3,840 detainees in the National Penitentiary awaiting trial. Like many detainees, he does not even know the charge against him. During the earthquake, the ceiling of his cell collapsed, killing five fellow inmates. Ouvens escaped and returned to his demolished neighborhood. He searched for his wife but found only rubble where their house once stood and assumed that she had died. Ouvens eventually turned himself in, but because the National Penitentiary was so severely damaged he was





Samantha Diamond (2)

*Above:* Second-year M.P.H. student Samantha Diamond interviews the relative of a detainee for an advocacy report that she is preparing on the social costs of pretrial detention. Since his relative's arrest, the young man has been unable to afford school fees and supports himself and his sister by selling snacks at bus stops.

*Opposite:* Hinche Prison is the most overcrowded prison in rural Haiti. In one 20- by 20-foot cell, 67 men take turns sitting on buckets, while the others stand shoulder to shoulder.

transferred to Hinche, the country's most overcrowded rural prison.

During one of our legal-medical mobile clinics in Hinche, I also met Ouvens' wife, who had survived the earthquake. She had fled the capital on January 12 and been unable to contact her husband. Before being jailed, Ouvens worked at the U.N. Mission for Stabilization in Haiti, supported his wife and paid the school fees for his niece and nephew, all of whom were now left with nothing.

On top of this, a doctor from Partners in Health determined that Ouvens had a multidrug-resistant strain of tuberculosis. Though the doctors could treat his tuberculosis, Ouvens could not get enough food, water, ventilation or rest in prison to fully recover.

Hinche was burned to the ground during a 2004 coup. Partially rebuilt, it is now a makeshift four-room building where 143 men (six of whom are minors) and four women are held. A year after the coup, the prison director advocated for a new prison with separate cells for detainees, minors and women. Construction started, but a hurricane struck in the West and money was reallocated. Thus, a nearly finished, modern, 16-cell prison stands next to the hovel that serves as a prison.

As frustrating as it was to see this half-finished prison only a few feet away from Ouvens and the other detainees in Hinche, I also knew that a new prison alone would not

be enough to improve conditions. Haiti lacks not only the necessary infrastructure but also a sustainable network of prison health care and a functioning judicial system. Without meaningful judicial reform, even a bigger prison will soon be filled with the poorest of Haiti's poor.

In *Ayiti*, the Creole word for Haiti meaning "land of high mountains," overcoming one challenge often means coming up against another. The international community and the Haitian government are working to provide an immediate solution to the hunger, injuries and homelessness of the internally displaced earthquake victims. Yet sustainable solutions for Haiti's vulnerability to natural disasters, disease prevalence and volatile political situation require a longer-term investment of time, money and planning to enable the Haitian government to improve its basic services.

Public health students may not be able to reconstruct buildings, but our work can improve coordination between relief and development, law and medicine and governments and aid organizations. Our work can help to ensure that the right to health care for the most vulnerable is achieved, even in the wake of a major disaster. **YPH**

*Samantha Diamond is an M.P.H. student and Downs Fellow at YSPH.*

## Students

### A dietary advocate



**A student's research makes headlines and is recognized by Yale for its capacity to "transform" nutritional policy.**

**By Denise Meyer**

Christina Roberto traces her interest in nutrition to an extracurricular activity that she enjoyed as an undergraduate 10 years ago. While competing in cross-country, she noticed that many runners struggled with eating issues.

Roberto became increasingly aware that eating disorders were widespread among athletes. "Like figure skating and gymnastics, track is one of those sports that emphasize being trim," she said. "Pressure to remain lean can be both subtle and overt."

Intrigued by this intersection of health and psychology, Roberto landed a position as a research assistant at the Columbia Center for Eating Disorders after graduating.

Today, she is close to completing joint doctoral degrees at Yale (one in public health and the other in clinical psychology); her research has received the attention of the national media (ABC and NBC News, among other outlets) and has been cited as evidence during hearings in the U.S. Congress and in New York state; and she was recently named the inaugural recipient of the Yale Graduate School's Public Scholar Award. The honor recognizes a student whose research has the capacity to transform social policy and aid the community at large.

"Christina's work is evidence of the strong ties we have between psychology and public health at Yale and the value of multidisciplinary training. She knows the science underlying what people should eat from her training in public health, and she also knows how to change eating behaviors. We need both of these disciplines to impact the adverse nutrition landscape we have currently in the United States and other countries," said her advisor, Susan T. Mayne, Ph.D., head of the division of Chronic Disease Epidemiology.

A native of Smithtown, Long Island, Roberto is close to finishing her education at Yale. She will have completed two sets of qualifying exams, the requirements for a clinical license in counseling, as well as a dissertation—expanded to meet the requirements of both academic disciplines.

Her research comprises a series of studies designed to elucidate both the subtleties of menu and food labeling to better inform federal regulators responsible for setting standards and how marketing strategies (such as the use of popular cartoon characters) influence the food choices of children and adults.

Most recently, Roberto's research found that children believe that foods whose packages advertise cartoon characters such as Shrek and Scooby Doo taste better. The health implications are obvious. Children do not understand the intent behind advertisements, she said, making them very vulnerable to them. Removing such characters from packaging could level the playing field for parents to make the choices they want to make in the supermarket.

Roberto also works closely with her advisor in psychology, Kelly D. Brownell, Ph.D., director of the Rudd Center for Food Policy and Obesity at Yale. With Brownell's backing, Roberto's study resulted in menu labeling provisions in the recently passed health care act. The law requires restaurants with 20 or more locations not only to list calories but also to include an anchor statement with the recommended daily caloric intake.

"The law flew under the radar in the midst of the health care reform debate," Roberto said, but given the rising number of local governments enacting similar regulations, the restaurant industry did not fight a federal law that would establish just one set of requirements. "I think this legislation includes the key components for a strong menu labeling law."

Happy in research, Roberto said she intends to continue after graduation to use her results to influence food policy as it relates to obesity and eating disorders. "In psychology," she said, "students are taught to think about the mechanisms explaining how things work. In public health, students are encouraged to do research that has important implications for the real world. The two disciplines work together well in addressing eating disorders and food policy."

"Right now, labeling is a hot policy issue," she said. "I will try to have my research keep pace with the latest policies being considered by the public and food policymakers." **YPH**



## One vegetable at a time

### An M.P.H. student works with schoolchildren to see if healthy eating habits can be instilled early in life.

By Elizabeth Claydon

As a native of West Virginia—now ranked second in the nation for its obesity rate—I witnessed firsthand adults and children struggling with their weight. Indeed, not that long ago, I was one of them.

As a child, my own weight was a constant problem, and it was not until early adulthood that I finally succeeded in shedding excess pounds. This personal experience drew me to public health, and obesity has thus become the focus of my studies here at Yale.

Beyond my home state, the trends are just as troubling. In the last 40 years, childhood obesity has tripled and now affects an astonishing 26 percent of children between 2 and 5 years old. The demographics of obesity have also changed. Increasingly, it is the poor who are at heightened risk because of limited access to nutritious foods. Among families facing food insecurity—including 44 percent of low-income children—obesity poses a greater threat than malnutrition.

I realize now how critical it is to intervene before children become overweight and that it is much easier to raise children with healthy lifestyles than to change behaviors in adulthood.

Toward this goal, I spent the spring and summer interning at the Rudd Center for Food Policy and Obesity to test the effectiveness of one such dietary intervention. Our study gauged whether young children—in this case between 3 and 5 years of age—would consume more fruits and vegetables if the presentation of food was altered slightly.

The study took place in a Head Start preschool in nearby Meriden—which serves children whose families are at or below the national poverty level—and consisted of daily visits to the classroom for four weeks. During the second week, we served fruits and vegetables as a “first-course” appetizer to nearly 90 student participants. In the third week, we raised the “visibility” of the appetizer—the fruits and vegetables were simply kept on the table throughout the meal—while extra portions of calorie-rich foods (such as meats and starches) were removed. Our hypothesis was that this two-pronged intervention (which is easy to implement and



“I realize now how critical it is to intervene before children become overweight and that it is much easier to raise children with healthy lifestyles than to change ingrained behaviors in adulthood.”

— Elizabeth Claydon

essentially cost-free) would encourage the students to consume more fruits and vegetables simply because their visibility had been changed.

Tactics such as limiting certain foods cannot be used in school settings, because it is controversial to restrict food intake when there is concern about whether children will have enough to eat. Marlene B. Schwartz, Ph.D., the Rudd Center’s deputy director, and Kathryn Henderson, Ph.D., the center’s director of School and Community Initiatives, were aware of such issues and designed a study that instead altered the way in which food was presented.

Although this research project might appear straightforward, its execution was anything but. My fellow research assistants and I were each responsible for weighing the meals of 10 students, including additional servings, leftovers and spills from both their lunches and snacks. This meant mopping up spilt milk with napkins and scraping various foodstuffs off the floor to be weighed on a digital scale. All this was in pursuit of a precise measurement of what the children consumed during the course of the intervention. We measured the original servings and the leftovers down to the fraction of an ounce.

Our goal is to see if fruit and vegetable consumption changed during the two interventions and, if so, by exactly how much. The results are still being analyzed, but I believe that the combination of our first-course offering and visibility strategy will prove to be successful.

If this is the case, it will illustrate how a simple change in presentation can alter behavior. This could contribute to new guidelines and recommendations for preschools, allowing a theory to be translated into a healthy practice. **YPH**

*Elizabeth Claydon is a second-year M.P.H. student at Yale.*

Students

# A summer's work

As classes come to an end each spring, scores of Yale School of Public Health students fan out around the globe for their internship project. Usually lasting 10 to 12 weeks, the internship is a defining experience for most students, exposing them to real-world challenges and giving them a chance to directly apply what they have learned in the classroom. It is, in the words of Dean Paul D. Cleary, a chance “to make a difference in the lives of people.”

A slideshow of internships can be viewed at [medicine.yale.edu/ysph/news/slideshows/internships/index.aspx](http://medicine.yale.edu/ysph/news/slideshows/internships/index.aspx).

## South Africa



**Jonathan Smith** takes a break from filming a documentary to teach soccer skills to a boy outside Pretoria, South Africa. Smith spent the summer researching tuberculosis and HIV coinfection in migrant laborers. The documentary that he is directing—*They Go to Die*—focuses on the lives of gold mine workers coinfecting with HIV and tuberculosis. Smith hopes that the documentary will make the scholarship more relevant and accessible to the public.



## Romania



**Elyssa Gelmann** tours a defunct mine in Baia de Aries, Romania. Gelmann investigated the effects of arsenic exposure from drinking water on reproductive outcomes. Her research included interviewing women who recently had children in both high- and low-exposure areas and analyzing the arsenic metabolites in their urine to determine whether their methylation (metabolic) efficiency affected their children's birthweight.

**Karen Payne** prepares an enzyme-linked immunosorbent assay during her internship in Cali, Colombia. Her research project sought to develop a rapid and sensitive serological test for the detection of cutaneous leishmaniasis. Spread by the bite of the sand fly, the disease continues to be a major public health problem in Colombia and many other areas of the world.



## Colombia

## Tanzania



Two research assistants interview a woman in Iringa, Tanzania. **Jeremy Steglitz** (not pictured here) assessed whether patients' religiosity/spirituality influences both the way they cope with being HIV-positive and the expression of certain mental health outcomes, including depression and emotional distress. The findings could have implications for ways to positively influence coping strategies of HIV-positive individuals.

**Nevada Griffin** worked with UNICEF in Panama City, Panama, to develop a survey to collect data on how the private sector impacts the health and development of children (like the young boy here) for use in the Americas and the Caribbean. Griffin also developed a proposal for a regional partnership between UNICEF and the Inter-American Development Bank.



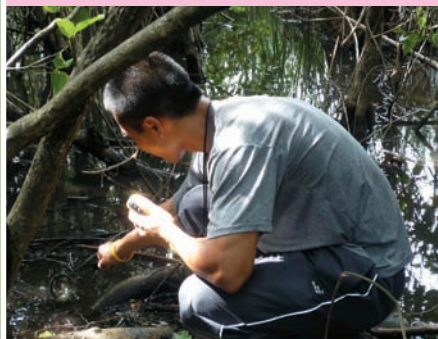
## Panama City

## Honduras



Working in the kitchen of a Honduran home, **Margo Klar** calibrates a pump that is attached to a photometric device for measuring particulate matter and an electrochemical carbon monoxide monitor. The setup estimates the amount of suspended particulate matter that a woman is exposed to while cooking. In the background is a traditional stove known as a *hornilla*.

**Andrew Chan** scoops a sample of swamp water on the island of Dominica to check for mosquito larvae before setting a trap. Chan mapped the spatial distribution of dengue fever cases in relation to the composition of mosquito species on the island.



## Dominica

# A Bhutanese journey

Dechen Wangmo has trekked above 12,000 feet to bring public health to the most remote areas of her native country.

By Cathy Shufro

When Dechen Wangmo finished her M.P.H. in 2007, her post-Yale plan was typical for a new graduate in international health: she'd find work in a developing country.

It happens that her native country, Bhutan, has the kind of public health issues that engage people dedicated to the field—a fairly high infant mortality rate (44 per 1,000 live births), a third of women giving birth without a skilled attendant and a population in which half the adults cannot read. Furthermore, only a handful of Bhutanese have formal public health training.

And yet for all the ways that Bhutan is typical of developing countries, it is distinctive. This small country, wedged between Tibet and India, has progressive public policies, spectacular natural beauty, universal free health care and a culture of gentleness and compassion that, together, make Bhutan something of a paradise.

Consider a public health survey that Dechen Wangmo conducted for Bhutan's Ministry of Education and UNICEF during the spring and summer of 2009. Dechen Wangmo (like most Bhutanese, she does not have a family name) visited all 250 primary and secondary schools in Bhutan to collect data on their water and sanitation facilities. The job required not only a good head for biostatistics and epidemiology but also strong quadriceps, because many of the remote schools are not on roads. "Sometimes I'd have to walk for one or two days to reach the community school," she recalls. When she surveyed the eastern part of the country, she was gone for six weeks from her home

in the capital, Thimphu. She spent one or two days of each week just hiking, at altitudes of up to 12,500 feet (twice the elevation of New Hampshire's Mount Washington). During the rainy season she risked torrential storms.

The paradise aspect? Dechen Wangmo's travels took her to alpine meadows in the Himalayas. She often passed white-washed *chortens* (Buddhist shrines) with streams flowing through them, turning brightly painted prayer wheels. In March, the towering rhododendrons produced huge fiery red blossoms. At high-altitude passes, hundreds of multicolored prayer flags would snap in the breeze as she caught her breath and scanned the snow-covered peaks on the horizon. When she arrived at a school, she'd be greeted by children in traditional dress: for girls, woven fabric wrapped to form an ankle-length dress and worn with a short, colorful jacket; for boys, knee-length robes with cloth belts and knee socks. At every school, she says, "there would be a feast waiting for me." The meal often included







Yeshey Dorji

Dechen Wangmo visits with children at a nunnery in the capital of Thimphu, where Buddhist tradition is taught.

her favorite dishes, dumplings called *momos*, stuffed with cheese, cabbage and carrots or minced meat, and a food that she describes as a daily requirement, *ema datsi*—a stew of scorching chili peppers and cheese.

The biggest health problems facing Bhutan's 670,000 citizens, says Dechen Wangmo, are infectious diseases—diarrhea, tuberculosis and, on the hot plains along the Indian border, malaria. Chronic diseases are becoming more prevalent, as political and cultural changes in Bhutan have opened the way for hypertension and diabetes.

While Western-style pressures may be building, Bhutan retains a distinctive and traditional mode of health care, a system of herbal medicine that runs parallel to allopathic, or Western, medicine. Each of the nation's 20 districts has a free indigenous hospital or clinic, and the Institute of Traditional Medicine Services in Thimphu offers a five-year degree in herbal medicine. "It's a very holistic approach to health compared with allopathic medicine, where you are just focused on a specific disease or a specific organ," she says. "If you go to an indigenous healer, they look at you in a very holistic way. They don't say, 'You have trouble with your heart.'" To focus on a single organ or illness, she says, is "very reductionist."

Dechen Wangmo relies on traditional medicine for allergies and colds. "If you go to the [Western-style] hospital, it's mostly steroid-based," she says. In the herbal system, "even a simple medicine for a cold would have a minimum of 37 kinds of herbs and minerals. All of the herbs and medicinal plants are locally collected, so you can actually know what's in the medicine you are eating."

She considered becoming a doctor while an undergraduate at Northeastern University (which she attended with a scholarship from a private foundation), but she realized that she didn't want to spend every day in the same clinic—"whereas I love traveling, and there is a huge shortage of public health workers in Bhutan. I've been very happy, making a contribution to building this country."

Since graduating, she has done a series of projects for international aid agencies, nongovernmental organizations and the government. Currently, she is providing technical assistance for the national HIV/AIDS program. [See sidebar.] Working as a consultant suits her. "You have a project which is time-bound. You complete it, and you have the flexibility to spend time with your family and friends."

She lives with her husband, Sonam D. Dorjee, who runs a tour company called Nirvana Expeditions. Their apartment is part of a larger house they share with Dechen Wangmo's father, her brother and his wife and their two daughters. "We are a very close family. My father is the glue that holds everyone together. It is good to have that social support system."

She spends her free time cooking, choosing new recipes daily to avoid boredom, and getting in shape to join her husband on an extended bicycle trip. She also volunteers for a foundation supporting Buddhist nuns and is forming a nonprofit for people living with HIV.

Dechen Wangmo said she learned at Yale how to see both commonality and difference in approaches to public health problems worldwide. "I'm from Bhutan, yes, but at the same time what I learned at Yale would be the global aspect—how I can take something that has worked in other countries and make it work here." **YPH**

*Cathy Shufro is a freelance writer in Woodbridge, Conn.*

### Slowing the spread of HIV/AIDS in Bhutan

It helps to have a queen—and a king—on your side when establishing an open climate about HIV/AIDS.

Dechen Wangmo, M.P.H. '07, says that making people aware of the disease is much easier in Bhutan because a Bhutanese queen has made it one of her causes. Wherever Queen Sangay Choden Wangchuck travels, she brings along educators, whose methods include skits on condom use, to teach about AIDS prevention. Although Bhutan is now a democracy, Bhutan's royal family still holds considerable moral authority.

As Bhutan begins to profile the disease, Dechen Wangmo has consulted with the government on how to monitor and evaluate data on HIV/AIDS. Her current project is to provide technical assistance to Bhutan's National HIV/AIDS program.

*continued on page 49*

### Alumni explore how public health professionals can help to stem the “ingrained” violence in American society.

By Denise Meyer

Setting aside “remember when?” stories and the strains of “from the tables down at Mory’s,” Yale School of Public Health alumni spent much of their annual reunion in a provocative discussion of violence as a public health issue.

Deborah Prothrow-Stith, M.D., the event’s keynote speaker, recalled her formative days at Boston City Hospital attending to victims of violence. “We stitched them up and sent them out.” Without protocols, hospital staff ignored the very real threats of retribution by the victims who were eager to exact revenge against their assailants.

“Most violence is not random, but happens in the context of people you know,” explained Prothrow-Stith, a consultant with the Spencer Stuart firm, an adjunct professor at Harvard School of Public Health and former commissioner of public health for Massachusetts.

The law only reacts to violence – investigating crimes and punishing perpetrators. Public health practice, with its successful track record on initiatives against smoking and drunk driving and promoting seat belt use, has an important role to play in preventing violence, she said.

#### A history of violence

“Violence is ingrained in America’s social history,” Prothrow-Stith said to the gathering at the New Haven Lawn Club in June. She cited as a recent example a 15-year-old murderer who said, “I’m the monster this society made.” In fact, the boy is the latest in a long line of violent men going back to the country’s founding. They all were driven to violence by circumstance and the desire for respect, she said.

The means to resolve conflicts, then as now, was the gun. The annual homicide rate in Philadelphia in 1850 was about the same as it is today – 18 deaths per 100,000 people. The gentlemanly protocols of dueling were codified; fights were public spectacles and men enhanced their reputations through their prowess with a gun.

Even Alexander Hamilton, before his death in 1804 at the hand of Vice President Aaron Burr in a famous duel on the banks of the Hudson River, acknowledged that dueling was illegal but chose to participate because otherwise it would cost him politically. “If Alexander Hamilton

could not resist those societal pressures, how do we expect random kids in our society to?” Prothrow-Stith asked. The fact that formal dueling is no longer an acceptable means to settle differences, however, provides Prothrow-Stith with optimism about society’s ability to change.

Prothrow-Stith called for greater attention to the needs in the middle of the violence spectrum – “in the thick,” as she called it – where prevention has failed but where intervention workers may still have a chance at changing behaviors before a crime is committed. This requires collaboration, interdisciplinary initiative and research. “The silos of public health organizations are a bit of a problem. We forget the intersections,” she said.

#### In the trenches

A panel of local experts further probed the issue in a forum titled “Violence: Community Responses to a Public Health Epidemic.” Moderated by David Dan of Resources for Human Development and Friends of the Children, the panel included Erika Tindill, executive director of the Connecticut Coalition Against Domestic Violence; Barbara Tinney, executive director of the New Haven Family Alliance; and Shafiq Abdussabur, a New Haven police officer.

“To not feel a sense of urgency,” Dan said in his opening remarks, “is cultural heart disease.”

Tinney, who has headed a youth intervention initiative since 2006, when gun violence spiked in New Haven, said that the notion that violence is an accepted part of the culture of a poor neighborhood is false. “It is not accepted, but there is a sense of hopelessness. The young people involved know the difference between right and wrong. They are not morally bankrupt. But they see violence as one of the few alternatives they have,” she said.

Addressing the issue of domestic violence, Tindill said she is working to shift the focus from treating victims to preventing violence in the first place, an approach similar to that of Mothers Against Drunk Driving. “We need criminal justice, clergy, neighbors and employers to all have a role,” she said.

At the intersection of criminal justice and intervention is Abdussabur, whose organization, the CTRIBAT Institute



# “The silos of public health organizations are a bit of a problem. We forget the intersections.”

— Deborah Prothrow-Stith

for Social Development, grew out of the relationships he fostered with kids as a patrol officer in New Haven. He and his partner found themselves placing children into social services, mediating between groups of kids and providing safe activities. “We had to pick up the burden,” he said.

Responding to the frustration expressed by more than one attendee, Curtis L. Patton, Ph.D., professor emeritus at the School of Public Health, told a story from his childhood growing up in an African-American neighborhood in Alabama. One day, two Caucasian police officers knocked at the door of his family’s home and one officer aimed his gun at the dog as he started asking questions. His partner interrupted, saying, “There are flowers in the yard. I think we have the wrong house.” Suggesting a paradigm shift in the approach of public health professionals, Patton pointed out that as much can be gained by cultivating what is working in a community as by looking at the problems.

H. Dean Hosgood, M.P.H. ’05, Ph.D. ’08, a fellow at the National Cancer Institute, received this year’s Eric W. Mood New Professional Award. Alumni Public Service Honor Roll inductees were Olga M. Brown-Vanderpool, M.P.H. ’74, and Audrey S. Weiner, M.P.H. ’75.

At the awards luncheon, the Distinguished Alumni Award winner, Steven Jonas, M.D., M.P.H. ’67, implored his colleagues to look at how guns contribute to violence. “The National Rifle Association is the 800-pound gorilla in the room,” he said. A primary difference between the United States and other countries is the widespread availability of guns. “In order to win this battle, we have to go on the offense,” he said. **YPH**

*Top:* Keynote speaker Deborah Prothrow-Stith.

*Middle:* Alumna Deborah Rose (left), professor emeritus Curtis Patton (second from left) and Susan Mayne (right), professor and head of the division of Chronic Disease Epidemiology, join H. Dean Hosgood, who received this year’s Eric W. Mood New Professional Award.

*Bottom:* Alumnae Renee Coleman-Mitchell (left) and Ashika Brinkley.



A slideshow of Alumni Day 2010 can be viewed at [medicine.yale.edu/ysph/news/slideshows/alumni2010.aspx](http://medicine.yale.edu/ysph/news/slideshows/alumni2010.aspx).

## Alumni News



Lisa Rosenfeld



Matthew Cartter



Edward Rafalski



Andrea Humphrey Schmidt



Tammy Lynn Yahner

### 1970s

**Lisa A. Rosenfeld**, M.P.H. '79, the pandemic influenza coordinator and H1N1 Planning Unit chief for the Palm Beach County Health Department in Florida, was recognized in May for her agency's efforts to combat the flu. The health department received the nation's top Overall Season Activities Immunization Excellence Award for its comprehensive and coordinated seasonal and H1N1 influenza prevention, vaccination and response campaign at the AMA/CDC-sponsored National Influenza Vaccine Summit.

### 1980s

**Matthew L. Cartter**, M.P.H. '85, earned the Pump Handle Award, the top national recognition from the Council of State and Territorial Epidemiologists, for his contributions to the field of applied epidemiology and outstanding professional achievements on the local, state, national and international levels. The award is the most prestigious award for applied epidemiology in the country. Matthew has been with the Connecticut Department of Public Health for 25 years.

**Judy E. Garber**, M.D. '81, M.P.H. '81, is the president-elect of the American Association for Cancer Research (AACR). She will serve as president-elect for a year before becoming president. Judy directs the Dana-Farber Cancer Institute's Cancer Risk and Prevention Program. She's also a practicing physician at Brigham and Women's Hospital in Boston and an associate professor at Harvard Medical School. Her research has focused on breast cancer risk assessment and risk reduction.

**Patti R. Rose**, M.P.H. '85, a visiting assistant professor at the University of Miami, has written a new book, *Cultural Competency for Health Administration and Public Health*, published earlier this year. The book is an introduction to the topics and tools necessary for the application of cultural competency processes in various health care settings. It explains the process of assessment and its relevance to health administration and public health and the process of achieving cultural competence.

**Nathan D. Wong**, M.P.H. '85, Ph.D. '87, was named president of the American Society for Preventive Cardiology. The group is a national educational organization dedicated to the prevention of cardiovascular disease. Nathan is a professor and the director of the Heart Disease Prevention Program in the Division of Cardiology at the University of California, Irvine, School of Medicine.

### 1990s

**Linda C. Degutis**, M.S.N. '82, Dr.P.H. '94. See article on page 49.

**Edward Rafalski**, M.P.H. '90, has been named senior vice president of planning and marketing at Methodist Le Bonheur Healthcare in Memphis, Tenn. Previously, he was vice president of marketing at Alexian Brothers Health System in Arlington Heights, Ill. He also held positions at Sinai Health System in Chicago.

### 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](mailto:ysph.alumni@yale.edu).

### 2000s

**Debjani Bhaumik**, M.P.H. '07, married Sandeep Prakash Rao in May. A Hindu priest officiated at the Angel Orensanz Foundation, an arts and events space in Manhattan. The bride and bridegroom met as freshmen at Cornell. Debjani is a senior consultant for pricing and market access in Manhattan for IMS Health, a firm that compiles prescription information.

**Andrea Humphrey Schmidt**, M.P.H. '05, and Jonathan T. Schmidt, J.D. '06, welcomed a son, Thaddeus Humphrey Schmidt, in February. Shortly after his son's birth, Jonathan, a community activist and attorney, passed away after a courageous 18-month battle with a rare and aggressive type of cancer. Andrea and Jonathan met while studying for their graduate degrees at Yale and were married in 2007. Although their time together as a family was brief and often uncertain, it was filled with joy. Jonathan's love of life lives on in Thaddeus, who inherited his father's sweet temperament and huge smile.

**Tammy Lynn Yahner**, M.P.H. '08, and David Lawrence Snyder were married in March at the Carolina Inn in Chapel Hill, N.C. Tammy is an assistant administrator for the radiation oncology department at Johns Hopkins Hospital in Baltimore. The bridegroom is a test engineer in Stratford, Conn., for Sikorsky Aircraft. He develops and manages procedures for testing experimental and production parts for the Black Hawk helicopter and commercial aircraft.



## Commencement 2010

### Graduates are encouraged to grapple with the details of public health.

Among other things, public health initiatives during the last century such as vaccinations and nutritional programs have dramatically increased life spans in many parts of the world.

“Public health has a way of inserting itself into every aspect of our lives,” said Margaret A. Hamburg, M.D., commissioner of the Food and Drug Administration, in her remarks at the Yale School of Public Health Commencement ceremony in May. “The benefits are truly felt.”

Hamburg noted how perceptions of the field have changed over the last decade, including the perception of world leaders. “Clinton,” Hamburg’s former boss, “understands the importance of public health.” Paraphrasing the former president’s

Class Day challenge to graduates at Yale (delivered the day before Commencement) to grapple with issues and implement the details of health reform, Hamburg added, “You are right where you need to be. All around you are pioneers.”

Hamburg went on to relate the recently published paper, “Achieving Large Ends With Limited Means: Grand Strategy in Global Health” (authored by faculty members Leslie A. Curry, M.P.H., Ph.D., Elizabeth H. Bradley, Ph.D. ’96, and others), to building a career in public health. She encouraged graduates to identify a goal or idea that will propel them into the first stage of their careers.

“Dream big and think small. Make everyday tactical decisions with science in mind,” she said. This approach can lead to success, as it did in the eradication of smallpox and in Hamburg’s own landmark campaign to contain New York City’s tuberculosis outbreak in the 1990s.



Margaret Hamburg, commissioner of the Food and Drug Administration, gave the keynote address to the graduating class.



Thu-Trang Thach (left) and Elaine Lee listen to the Commencement speakers during the ceremony inside Battell Chapel.

Harold Shapiro (2)

“Immerse yourself in details. You have the tools, and you are in a position to make a difference when the country and the world need you most,” she said to the gathering in Yale’s Battell Chapel.

In his student address, Artem Kopelev, an M.P.H. recipient, thanked his own parents and all of the other parents and family members present, saying, “Our achievements are extensions of your love and support.”

Inspired by a folk tale from his native Ukraine, Kopelev asked his classmates to join him as warriors who fight for truth, justice and health. “Social well-being is the essence of public health. We are the Marines, guarding and improving on the health of others,” he said. Kopelev did his internship in Ethiopia, working on a project for the William J. Clinton Foundation. He was also named a Weinerman Fellow for his commitment to social justice, awareness of community needs and ongoing involvement in social causes.

Durland Fish, Ph.D., professor in the division of Epidemiology of Microbial

Diseases, was recognized as the YSPH Mentor of the Year. Expressing his appreciation to the students, he said, “Advising students on their research is one of the great pleasures of academic life.”

Teacher of the Year Ingrid M. Nembhard, Ph.D., used her remarks to teach one last lesson to the Class of 2010. Following the theme of her popular class, “Leadership and Organization Behavior,” she emphasized that leadership is first and foremost “how you lead yourself.” Nembhard is an assistant professor in the division of Health Policy and Administration.

In other Commencement events, public health and the school’s role in global health were evident. President Clinton’s Class Day speech made note of his foundation’s involvement with the School of Public Health’s initiatives in Liberia and Ethiopia. Also, President Ellen Johnson Sirleaf of Liberia, a key partner in some of those initiatives, returned to campus to receive an honorary doctorate.

*Denise Meyer*

“Class of 2010,” said Dean Paul D. Cleary in his final send-off to the 108 graduates of the M.P.H. program, “you are amazing – for what you have achieved and for what you will go on to achieve.”



Harold Shapiro (3)





*Top:* Celestine Ezeani receives his diploma from Dean Paul Cleary.

*Opposite:* Olanrewaju "Lanre" Akintujoye (right) and fellow graduates prepare to receive their diplomas after two years of intensive coursework.

*Above:* Students, family and friends gather outside Battell Chapel after the diplomas are presented.

## The following student awards and fellowships were presented during the 2010 Yale School of Public Health Commencement:

### Dean's Prize for Outstanding M.P.H. Thesis

Bryan Bassig  
Ryan Carney  
William Murk  
Lesley Park  
Yang Zhou

### Henry J. (Sam) Chauncey Jr. Inspiration Award

Carolyn Rooke

### Cortlandt Van Rensselaer Creed Award

Otis Pitts

### Lowell Levin Award for Excellence in Global Health

Molly Rosenberg

### Eduardo Braniff Fellowship

Pooja Sripad

### Wilbur G. Downs International Health Student Travel Fellowship

Javier Cepeda  
Tyler Griswold  
Sarah Guagliardo  
Leah Hoffman  
Breanna Jedrzejewski  
Derek McCleaf  
Lesley Park  
Molly Rosenberg  
Akriti Singh

### Global Health Initiative Fellowship

Alexandra Grizas

### Curtis D. Heaney Fellowship

Sarah Bowman

### Overlook International Foundation Scholarship

Nicole Betenia  
Lisa Martinez  
Pooja Sripad  
Tara Streich-Tilles

### William Prusoff Fellowship for the Prevention of Global Infectious Diseases

Dustin Charles  
Chandresh Ladva  
Megan McLaughlin

### Jan A.J. Stolwijk Fellowship

Sarah Guagliardo  
Thu-Trang Thach

### John D. Thompson Student Research Award

Jessica Stephens  
Tara Streich-Tilles

### E. Richard Weinerman Fellowship

Sara Bodnar  
Aaron Cook  
Van Duong  
Melody Hwang  
Ashley Jaksu  
Priyanka Karnik  
Artem Kopelev  
Varnee Murugan  
Catherine Nichols  
Rachel Sam

# Yale SCHOOL OF PUBLIC HEALTH

## The hard work of good health care

### An international conference reconvenes at Yale to “create solutions” for better health.

Delegates from four African nations returned to Yale University over the summer to continue work begun last year on ambitious health plans that could fundamentally improve the quality of care received by millions of people.

The Global Health Leadership Institute (GHLI) hosted senior health professionals from Ghana, Rwanda, Ethiopia and Liberia in a weeklong, collaborative effort to build sustainable solutions to some of their most pressing health care problems.

At last year’s inaugural gathering and again this year, the GHLI hosted countries that have made substantial progress in solving health problems (such as equipment shortages, a lack of trained personnel and financial restraints). During the first conference, delegates learned the GHLI approach to strategic problem solving and leadership and devised strategies to overcome health problems in their countries.

Building on that effort, this year’s delegates continued to work on their implementation plans and to refine the leadership skills that will be needed to see the plans through to completion.

Juliet Mbabazi, a delegate from Rwanda and CEO of King Faisal Hospital in the capital of Kigali, updated the larger group on her country’s efforts to develop a cadre of skilled and professional health care workers to meet the pressing needs of a country with nearly 11 million people. Progress, she admitted, has been slow, hampered by equipment shortages and intense competition for limited government funds. Still, Mbabazi told the gathering in the Greenberg Conference Center, she is optimistic that a workable plan will be developed and implemented.

“Our country is starting from zero, but we are getting there,” she said, referring to a sustained period of conflict in the 1990s. Since peace was restored, Rwanda has made impressive progress in a number of areas, including health care.

The conference is designed to allow countries to share experiences and knowledge with each other, while also providing each delegation with a tailored approach that focuses on key strategies and plans to make measurable progress, said Elizabeth H. Bradley, Ph.D. ’96, faculty director of GHLI, director of the Yale Global Health Initiative and a professor at the School of Public Health.

“Our hope is that, through this process, delegations will create solutions that will have a significant impact on the everyday lives of people” Bradley said.

Delegates participated in a variety of discussions led by health care experts in government and academia and worked together in closed-door sessions with GHLI personnel to fine-tune their specific initiatives. Country projects include the following:

- Ethiopia—A more efficient management structure is a health priority. The delegation evaluated strategies to strengthen management throughout the health delivery system, particularly in hospitals.

- Ghana—Serious human resource problems, including poor distribution of staff and attrition, have resulted in a brain drain of health professionals. Delegates focused on ways to evaluate and improve the performance of district health directors.

- Liberia—The country’s maternal and neonatal mortality rates are among the highest in the world. The delegates crafted a policy to train health workers in safe obstetric and newborn care.

- Rwanda—The numbers of skilled health workers is inadequate to meet the health care delivery needs. The delegation worked to identify specific strategies to build the capacity of its medical schools and teaching hospitals.

Tedros Adhanom Ghebreyesus, Ph.D., Ethiopia’s Minister of Health, described how his country continues to grapple with shortcomings in its health care system and also its commitment to find solutions. The GHLI is one such solution.

“I hope that what Yale started will continue to grow,” he said. “We have learned a lot from all of you.”

And, to the laughter of everyone, he gave a plug to the delegates from Ghana. Their country’s soccer team was still alive in the World Cup and playing very well.

*Michael Greenwood*



Medhin Tsehai, chief of staff of Ethiopia’s Ministry of Health, poses a question during the Global Health Leadership Institute conference in June.



## Nanotechnology is here, but is it really safe?

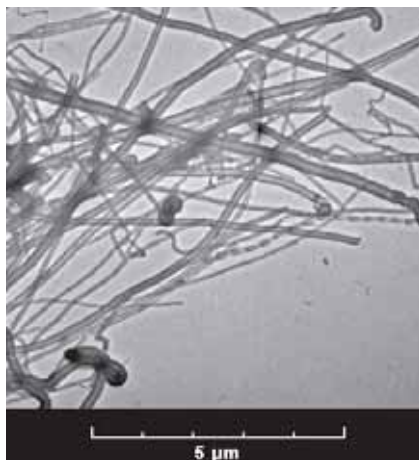
Nanotechnology is a rapidly growing field that harnesses the novel properties of smallness — structures measured in billionths of a meter, tiny next to the bulk of a human cell — and it could usher in a range of potentially groundbreaking applications in medicine, consumer goods and technology.

But the industry is also saddled with uncertainty over possible toxicity and other health consequences of nanoparticles, which are much too small to be viewed with the naked eye. Some governments (primarily European) have already taken steps to regulate and restrict nanomaterials to protect workers, consumers and the environment. The United States, meanwhile, is in the process of assessing the safety of the material.

“Are we dealing with asbestos all over again?” asked John Howard, M.D., during a lecture at LEPH in early April on the potential health risks posed by nanotechnology. Howard is the director of the National Institute for Occupational Safety and Health and studies nanoparticle safety.

Nanotechnology already appears in diverse applications. It is used to protect fabrics against stains and wrinkles, in dental adhesives and as light sensors in solar panels. Many believe it also has far-reaching potential in medical imaging, optical and electronic devices and as security sensors.

With the material already in use, researchers are playing catch-up to evaluate any potential health implications. Howard’s organization is studying a variety of nanoparticle factors, including their composition, impurities, charge and shape. It is unknown, for example, whether structures such as carbon nanotubes (tiny cylinders that are remarkably strong and have a host of useful electrical properties) will accumulate in the lungs over time and cause health problems similar to those caused by exposure to asbestos.



Measured in billionths of a meter, nanoparticles are coming under scrutiny regarding safety.

Howard recommended that students searching for a thesis topic consider the public health aspect of nanotechnology. “It’s an exciting field,” he said. “Nanoparticles are clearly the future, and the [nanotechnology] train has already left the station.”  
M.G.

## Global health is vital to policy, but obstacles persist

Ambassador John D. Negroponte has served as a diplomat in several countries — Mexico, Honduras, the Philippines and, most recently, Iraq — and has witnessed firsthand how poor health care and health threats contribute to political destabilization.

“You don’t want failed states,” said Negroponte, who visited LEPH in April and spoke to a gathering of students. “We have an interest ... to help countries be able to govern and administer health properly. [Health] is an important factor.”

Negroponte cited the foreign policy implications associated with the rise of HIV/AIDS, maternal mortality and ozone depletion and, more broadly, the challenges posed by environmental change.

Indeed, global health is closely tied to international security and it needs to be an important component of American foreign

policy. Beyond the moral obligation to help those in need, the United States has a practical interest in alleviating suffering and promoting better health around the world.

While global health is, and should remain, a pillar of American foreign policy, there are also limits to what the nation can do. The United States has numerous other obligations around the world that aren’t directly related to health but are also critically important, he said.

“How many pillars [of foreign policy] are there?” he asked. “There are limits to how far you can go.”

On the issue of clean and potable water, Negroponte said that it was “criminal” that so many people in the world have to live with tainted water. The issue has been addressed by the United States, the World Bank and others. Progress has been made, yet the problem persists.

Internal corruption is just one factor that can stymie aid programs. It helps to build in safeguards and a system of checks and balances to prevent it. “But corruption is not an easy thing to unearth,” he said. In some cases, the problem will remain until a government emerges that is responsible and accountable to its people.

M.G.



John Negroponte, former U.S. ambassador to Iraq, spoke with students about the importance and challenges of global health.



Ingrid Nembhard



Durland Fish

### YSPH names its 2010 teacher, mentor of the year

Ingrid Nembhard's ability to connect with large numbers of students and make the course "Leadership and Organization Behavior" engaging and relevant did not go unnoticed by the Class of 2010.

Nembhard, Ph.D., was named Teacher of the Year by Yale School of Public Health's Class of 2010, an honor that allowed her to address the graduates at Commencement.

"Dr. Nembhard was praised for her use of creative teaching tools like group activities and computer-based training exercises to encourage active participation and to ground theoretical frameworks in practical settings," said Dean Paul D. Cleary.

Indeed, Cleary noted, one student described her as "an amazing leader and role model" who is "consistently able to engage each student with her remarkable energy and passion for the course material."

Nembhard, an assistant professor in the division of Health Policy and Administration, was nominated by students and then selected for the annual award by students in an online vote.

"This means a lot coming from students. I really do feel honored by it," said

Nembhard, who joined the public health faculty in 2007 and also has an appointment at the School of Management.

Durland Fish, Ph.D., received the 2010 Distinguished Student Mentor award, an honor that was established last year to recognize excellence in student mentoring among faculty.

The award affirms the recipient as a leader in shaping the next generation of public health professionals, serving as a role model for students while encouraging them to grow and achieve their full potential. Fish was nominated by graduating students and selected by a student/faculty subcommittee of the Education Committee.

"Durland is cited as an exceptional mentor, not only in individual academic and thesis advising but also in his course 'Studies in Evolutionary Medicine,'" Cleary said.

Fish, a professor in the division of Epidemiology of Microbial Diseases, specializes in the ecology and prevention of vector-borne infectious diseases and is a widely recognized expert on Lyme disease.

"Durland has always treated [me] and other students with fairness and respect and has encouraged me to grow and achieve my full academic potential," a student wrote in nominating Fish.

Fish said he was honored by the award. "This is the most important award that I have received in 30 years of academics," he said.

*Michael Greenwood*

### Insurance alone cannot solve health disparities

In a broad review of studies on health disparities, Barbara Wolfe in her Dean's Lecture in April said that the newly passed health care reform legislation will halve the number of uninsured Americans, from 50 million to 23 million, by 2019.

However, studies in Canada, Australia and many European countries—which already have universal health coverage—

have shown that insurance alone does not eliminate disparities. Also necessary are measures that improve the quality of life, disease prevention and access to care.

As an example, Wolfe cited how an individual's health at age 65 can be affected by the nutrition he or she received in utero, not to mention the accumulation of a lifetime of experiences and exposures.

Many "under-the-radar" items in the 900-page law will attempt to address these disparities, said Wolfe, Ph.D., a professor of economics, public affairs and population health sciences at the University of Wisconsin-Madison and a faculty affiliate at the Institute for Research on Poverty. The Patient Protection and Affordable Care Act, for example, includes a program for home visits to teen parents in an attempt to reduce the incidence of child abuse, improve parenting skills and develop nutritional understanding and the ability to navigate the health care system.

Other provisions include community-based care networks in low-income populations that provide transportation and after-hours care; programs to address the special needs and health issues of American Indians; and incentives for doctors to work with underserved populations.

*Denise Meyer*



Barbara Wolfe



## Researcher calls for intervention against soda

Rates of obesity are increasing in the United States (and other countries) year after year, and one of the culprits is believed to be the sugar-sweetened drinks that many people consume by the gallon. This, in turn, is contributing to other public health problems, such as rapidly increasing rates of diabetes.

The question for public health professionals, said Kelly D. Brownell, Ph.D., director of the Rudd Center for Food Policy and Obesity at Yale, is how to slow, and eventually reverse, these troubling trends.

During a lecture at LEPH in April, Brownell said that even a massive and well-funded effort to educate people about the health consequences of heavy soda consumption would likely have only a marginal effect. Research shows that such approaches just don't work on a large scale.

What is needed instead, Brownell argued, is greater government involvement to counter the "guerilla, viral and stealth" marketing campaigns used by the large corporations that produce soft drinks and other unhealthy foods. He cited government action against the tobacco industry in the form of increased taxes as a model that can be used effectively against soda.

Brownell advocates a tax of 1 cent per ounce on soft drinks. Such a tax would likely curtail soda consumption, reduce health care costs and raise substantial amounts of revenue, some of which could be used for obesity education.

"It would be a public health home run," he told the gathering of students and faculty.

Many states currently have "tiny" taxes in place on soft drinks, but these are not enough to seriously curtail consumption. And while a tax of 1 cent per ounce would not, by itself, eliminate obesity, Brownell said, it would be an important first step.

M.G.



Kelly Brownell

## Mayne reappointed to national nutrition policy board

The Institute of Medicine has reappointed Susan T. Mayne to another three-year term on its influential Food and Nutrition Board.

Established more than 60 years ago, the board advises on issues of the safety and adequacy of the nation's food supply. It also establishes guidelines for dietary intake and reviews the relationships among food intake, nutrition and health. Three major focus areas include evaluating emerging knowledge of nutrition requirements and relationships between diet and the reduction of risk of common chronic diseases; assessing how nutritional quality, safety and security of food are affected by technology and food science; and addressing problems related to food and nutrition on the international scene.

Mayne, Ph.D., a professor and head of the division of Chronic Disease Epidemiology, was first appointed to the 14-member board in 2007. Her current term will expire in June 2013.

"This board helps to prioritize and organize U.S. policies of greatest importance to food and nutrition. Under the guidance of this board, the institute pulls together

the expertise to issue national guidelines for many priority areas, including recent topics such as child obesity prevention, dietary advice regarding vitamin D and calcium, food safety, food labeling and use of dietary supplements," she said.

M.G.

## Students launch global health film festival at Yale

The School of Public Health's inaugural film festival debuted in March with eight documentaries featuring strong global health themes.

The festival was created to provoke thought, discussion and action on some of today's pressing global public health issues, said Debbie S. Wang, an M.P.H. student who organized the event with other public health students.

"Our hope is that the film festival will promote awareness and action, that it will impassion viewers to find out more about the world they live in and the issues of public health that connect us all," she said.

The films selected for the festival addressed issues as diverse as reproductive rights, HIV/AIDS, health care policy and occupational and environmental health. Films were handpicked for their quality and to reflect the interests of the diverse student body at YSPH.

This year's screenings included *Not Yet Rain*, *Vessel*, *Salud!*, *The English Surgeon*, *Where the Water Meets the Sky*, *Thing With No Name*, *The Blood of YingZhou District* and *Shipbreakers*.

M.G.



Lia Tadesse (right) was among the Jimma University graduates who received a hospital and health care administration degree. With her is Salen Fisseha of the Clinton Health Access Initiative.

### Yale's Ethiopia program achieves milestone

The first and only hospital and health care administration master's degree program in Africa graduated its first class at Jimma University in Ethiopia in June, a milestone made possible by the Yale School of Public Health.

The school's Master in Hospital and Healthcare Administration (MHA) program is a partnership between the Global Health Leadership Institute (GHLI) at Yale University, Jimma University, the Clinton Health Access Initiative and the Ethiopian Ministry of Health.

The program at Jimma was launched in 2008 and combines academic preparation, practical application in the hospital setting and mentoring by Yale faculty and staff. Faculty members Elizabeth H. Bradley, Ph.D. '96, Mayur M. Desai, M.P.H. '94, Ph.D. '97, and others have traveled regularly to Ethiopia and worked closely with their Jimma counterparts to develop course curricula and assist in classroom instruction. Dean Paul D. Cleary traveled to Ethiopia to attend the graduation ceremony.

The goal is to produce a network of professional chief executive officers committed to improving hospital quality in Ethiopia. With the graduation of the first

class, nearly one-quarter of all Ethiopian hospitals will have a highly trained CEO. In addition, individual hospitals with CEOs in the program have already reported substantial improvements, including a reduction in the average length of hospital stays (from 10 to 7 days) and in postsurgical infection rates (from 10 percent to 2 percent).

"Management is often overlooked when you are trying to improve access and the quality of care," said Bradley, faculty director of the GHLI and the Yale Global Health Initiative. "But it can be the key to unlocking the capacity of the health system to deliver high-quality care and services."

The two-year, executive-style program is being expanded to another university in the capital of Addis Ababa to meet demand.

"The MHA program is an important step forward in improving the quality of health care for the Ethiopian people," said Tedros Adhanom Ghebreyesus, Ph.D., Ethiopia's Minister of Health. "This groundbreaking program is a model for improving managerial and executive skills throughout our health system in general and hospital services in particular."

*Michael Greenwood*

### HIV infections among gay men prompt "call to action"

While the rate of new HIV infections among heterosexuals and injection drug users has been declining, the rate among gay and bisexual men is steadily rising, a trend that is alarming public health officials in Connecticut and beyond.

In a "call to action" to stem the tide of infections, the Center for Interdisciplinary Research on AIDS at Yale (a research group within YSPH) partnered with the Connecticut Department of Public Health to sponsor a daylong HIV prevention and educational conference in early June. Nearly 200 HIV counselors, educators, outreach workers, researchers and others came together to learn about the current infection trends, innovative strategies to reach the gay community and some of the interventions that are being used to prevent the spread of the infection.

Men who have sex with men are now 44 times more likely than others to become infected with the virus nationwide, and the rate of new infections is particularly pronounced among young, gay black males, said Edward White, M.P.H., Ph.D., an associate research scientist at the School of Public Health. Current projections show that 59 percent of gay black males in the United States could become infected by the time they reach age 40, he said. This would be higher than the rate in sub-Saharan Africa.

Many of these infections could be prevented through effective and sustained intervention programs, White told the gathering at the Crowne Plaza Hotel in Cromwell. "Outreach is vital," he said.

Much of the conference was devoted to presentations of the various outreach projects that are currently under way in Connecticut and other states.

A program known as the MPowerment Project has been in place for the past year in Waterbury to educate gay males



between the ages of 18 and 29. It is run by gay men who go to locations frequented by other gay men to discuss safer sex, distribute condoms and information on HIV reduction and host group discussions to improve communication skills.

"It's effective," said Samuel F. Bowens III of the Waterbury Health Department. "Changed behaviors are evident."

M.G.

## China's health is the focus of Yale conference in June



Yale's Tongzhang Zheng (left) and Brian Leaderer (right) meet with Ping Zhao, director of the China National Cancer Institute.

It required a grueling 48-hour trip, but a delegation of Chinese health officials, political leaders and executives arrived at Yale University in early June for a conference on controlling China's rapidly increasing cancer rates and other serious public health problems.

Yale School of Public Health researchers are working closely with the International Prevention Research Institute (iPRI) and Chinese officials to establish the Comprehensive Cancer Center in Daqing, China. One of the many projects being planned in Daqing is a landmark longitudinal study that will follow 300,000 people to assess the association between diseases such as cancer and the many environmental and lifestyle risks faced by modern China.

"We paid a big price for economic growth in terms of people and land," Tongzhang Zheng, D.Sc., professor and head of the division of Environmental Health Sciences, said in his opening remarks on the public health challenges faced by his native country. To illustrate the stunning rate of change in China, he showed a photograph of monkeys in a tree gazing at the sunset. This was followed by a photograph of the same location taken 20 years later, showing the Chinese National Theatre, a dome of titanium and glass, reflected in a man-made lake.

Peter Boyle, president of iPRI, noted that 40 years ago cancer was believed to be a disease of industrialized countries—which did not include China. "Today one quarter of cancer distribution is found in China," he said. In fact, there are now more deaths from cancer in China than from tuberculosis, AIDS and malaria combined.

Since 2004, China has laid a framework to address this growing epidemic. More than 100 cancer registries have been formed; interventions, early diagnosis and treatment programs have been ramped up; and mass screenings have reached 300,000 people. In the next 20 years the goal is to save 1 million cancer patients' lives, said Ping Zhao, director of the China National Cancer Institute.

Denise Meyer

## Student research paper on asthma earns top honor

A recent study on childhood asthma by School of Public Health graduate Elizabeth M. Kang won an award for outstanding research by the American College of Obstetricians and Gynecologists.

The winning paper, *Prenatal Exposure to Acetaminophen and Asthma in Children*, was published in 2009 and suggests that acetaminophen use during pregnancy does not increase the risk of asthma in offspring.

Given that acetaminophen is the drug of choice for pain relief in pregnant women, the study provides reassurance that the use of acetaminophen is safe.

The \$5,000 Roy M. Pitkin Award recognizes outstanding research published in the journal *Obstetrics & Gynecology*. Each year, a panel of the journal's former editorial board selects the top four articles of the year.

Kang graduated with an M.P.H. degree in May 2009 and is a former student of Michael B. Bracken, M.P.H. '70, Ph.D. '74, the Susan Dwight Bliss Professor of Epidemiology. The research formed Kang's thesis work, which was awarded the Dean's Prize by YSPH. The study focused on a large cohort of women, with data collected and housed at the Yale Center for Perinatal, Pediatric and Environmental Epidemiology. The women were followed throughout their pregnancies and their children were followed for six years, in an effort to elucidate the genetic and environmental risk factors for childhood asthma.

Kang now works at the Food and Drug Administration.

M.G.



Elizabeth Kang

### Genetic origins of brain tumor to be studied with grant

A new \$5 million study will seek to identify the genes associated with meningioma, now the most frequently reported primary intracranial tumor in the United States.

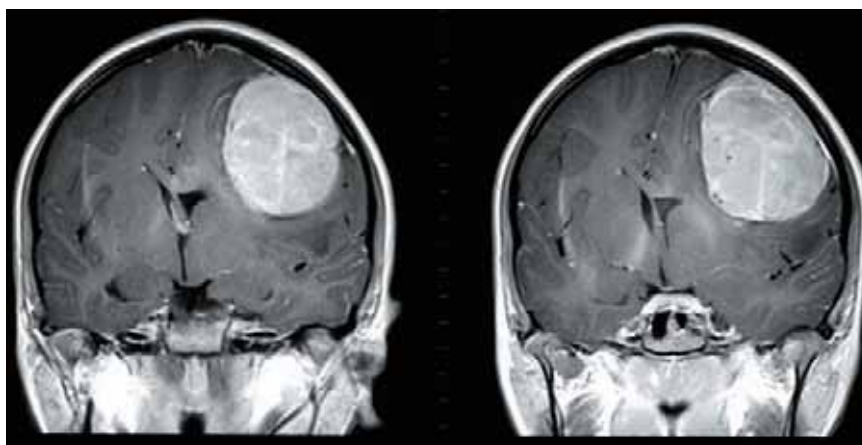
Under the leadership of Elizabeth B. Claus, Ph.D. '88, M.D. '94, a professor in the division of Biostatistics and an attending neurosurgeon at Brigham and Women's Hospital in Boston, the Genome-wide Association Study of Meningioma will enroll thousands of people in an attempt to pinpoint the genetic origins of the disease.

"This is the first effort to perform a genomewide association study of meningioma," said Claus. "As these studies require extremely large numbers of persons to achieve statistical power, we will be opening our enrollment to patients beyond our ongoing population-based meningioma studies, allowing us to include meningioma patients worldwide."

Meningioma tumors afflict thousands of people in just the United States each year. They form in the meninges, the tissue that covers the brain and spinal cord, and can grow to a very large size, causing seizures, loss of vision or weakness in an arm or leg.

The genomewide study will include approximately 2,000 people diagnosed with meningioma and another 6,000 control subjects, many of whom will be drawn from Yale University; Brigham and Women's Hospital; MD Anderson Cancer Center; the University of California, San Francisco; and Duke University. Funding is being provided by the National Institutes of Health.

Claus is also the principal investigator of the Meningioma Consortium Study, which seeks to identify genetic and environmental risk factors associated with the development of meningioma and to determine how the tumors affect quality of



Meningiomas are the most prevalent type of intracranial tumor in the United States.

life. The study will examine whether exposure to radiation and hormones, among other factors, contributes to the onset of the tumors.

*Michael Greenwood*

### \$1.3 million awarded to diversify HIV/AIDS scholarship

Current HIV demographics show a disproportionate rate of infection and transmission among racially and economically disadvantaged groups. Yet there are relatively few research scientists from the groups and communities that are most impacted by the disease.

A \$1.3 million grant awarded to the recently created Research Education Institute for Diverse Scholars (REIDS) will tackle this shortage. Developed by a consortium that includes Yale's Center for Interdisciplinary Research on AIDS (CIRA), the Yale School of Nursing, the Institute for Community Research (ICR) and the University of Connecticut's Center for Health, Intervention, and Prevention, the REIDS program aims to equip scholars from underrepresented groups with the skills and experience needed to become successful HIV researchers.

Its goal is to create a pipeline of scientists with an interest in community-based research and an emphasis on addressing HIV inequities in underrepresented communities. Scholars will benefit from a combination of sustained mentorship, a summer institute and an opportunity to design and conduct pilot projects. Four scholars will be recruited annually. The REIDS program, funded with a grant by the National Institute of Mental Health, will be housed at CIRA, a center within the School of Public Health.

"This new institute demonstrates our commitment to developing an outstanding and diverse cadre of HIV scientists – and a School of Public Health that better reflects the communities most impacted by HIV and other health disparities that are the focus of our research," said Paul D. Cleary, CIRA's director and dean of the School of Public Health.

The program's principal investigators are Barbara J. Guthrie, Ph.D., associate professor and associate dean at the School of Nursing; Jean J. Schensul, Ph.D., senior scientist and ICR's founding director; and Merrill Singer, Ph.D., professor of anthropology and public health at the University of Connecticut.

*M.G.*



## Public health summer camp debuts at YSPH

Students in the United States continue to lag behind their international peers in math and science.

This ongoing and troubling trend inspired Carolyn W. Slayman, Yale's deputy dean for Academic and Scientific Affairs, to challenge the Yale community to help improve the performance of area high school students in these subjects.

The School of Public Health responded with the Yale Young Scholars Program. The inaugural two-week academic camp was launched this summer by high school science teachers working with statistical scientists at the new Yale Center for Analytical Sciences (YCAS), a research group within the School of Public Health.

"It was these high school educators who helped us understand what was needed. We simply listened," said William King, executive director of YCAS. Four New Haven-area students were selected for the program, which will be expanded next summer.

The students participated in an intensive introduction to biostatistics, sitting side-by-side and working with Yale faculty. They also learned a statistical modeling program—known as R—in the computer lab and received overviews and tours of different public health fields. During each



Area high school students participating in the inaugural Yale Young Scholars Program were introduced to biostatistics.

tour, Ph.D. students shared their experiences and research and talked about how they "found" science. Topics included everything from tracking infectious diseases to conducting childhood asthma studies.

The students' response was promising. "You know, when you take a statistics class in high school, you sort of wonder what's the point, why does this matter? This program changed all that. I get it," said Anthony, one of the participants.

Many people at the School of Public Health contributed to the success of the pilot program, including John W. Emerson, an associate professor of statistics at Yale; YSPH Dean Paul D. Cleary; James Dziura and Peter N. Peduzzi, both of YCAS; Melanie Elliot, coordinator of graduate student affairs at YSPH; and 10 Ph.D. candidates.

M.G.

## Degutis selected for injury prevention post at CDC

The Centers for Disease Control and Prevention has named Yale researcher Linda C. Degutis as director of its National Center for Injury Prevention and Control.

Degutis, M.S.N. '82, Dr.P.H. '94, who takes up her new post in November, has been serving as research director for the Department of Emergency Medicine at Yale School of Medicine and director of the Yale Center for Public Health Preparedness at YSPH.

The CDC Injury Center, as it is known, serves as the focal point for a public health approach to preventing injuries and violence and reducing the consequences of injuries that do occur.

"This position allows me to bring together my past experience and education in order to increase awareness of injury as a public health issue and to grow the field of injury prevention," she said.

M.G.

## Slowing the spread of HIV/AIDS in Bhutan

*continued from page 35*

The former king also helped to establish the country's forthright attitude toward HIV, says Dechen Wangmo. "When we detected the first case, His Majesty the King issued a decree to provide support for HIV patients. It goes back to the vision of our king," she says. Free health care is part of the project initiated by the Bhutanese royal family and the government to maximize "gross national happiness" as a central goal of Bhutanese society.

Bhutan so far has only 200 reported cases of HIV/AIDS in a nation of 670,000. But, says Dechen Wangmo, "without any epidemiological data, at this point it is hard to say what the numbers will be."

There also have not been any studies on stigmatization of people with HIV, but Dechen Wangmo has observed that those with the disease generally receive support—something she would expect in Bhutan's Buddhist society. "The very idea of karmic action—that if you do something good in this life, you might have a better life in the next life—this is part of our culture, our religious belief. That contributes toward how we behave."

Bhutan's current king has spoken out for prevention and compassion, declaring: "I believe that the goodness of a person is at its purest in the young. And this is the root from which all hope and optimism about the future springs. ... HIV/AIDS is no exception. The youth will use their strength of character to reject undesirable activities, their compassion to aid those afflicted and their will to prevent its spread."

One singular aspect of Bhutanese culture lends itself to a message about HIV: the Bhutanese commonly paint phalluses on their houses to ward off evil. Dechen Wangmo describes an AIDS awareness poster that says: "The phallus protects your house. The condom protects the phallus. So use condoms." **YPH**



**Janet B. Kapish**, M.P.H. '87, died on April 4 at the age of 77 at the home of her dear friend, Sandy Sandusky. Janet lived in Wallingford, was a graduate of Albertus Magnus College and also attended Quinnipiac College before earning her master's degree at Yale. She retired after a career that spanned more than 35 years with the Connecticut Department of Public Health, where she served as the director of environmental chemistry. Janet was an avid University of Connecticut basketball fan and was a communicant of Most Holy Trinity Church in Wallingford. She is survived by a sister, Judy Reddington, and her husband, James, of Florida.

**Russell F. Martin**, M.P.H. '70, died peacefully on May 21. He graduated from Hartford High School and received a D.D.S. degree from Howard University College of Dentistry. He served in the Dental Corps at Fort Knox, Ky., and opened his own dentistry practice in Hartford. He was also a staff dentist at the University of Connecticut Health Center. He later became an assistant professor in residence in the Department of Prosthodontics at the University of Connecticut School of Dental Medicine. Russell was known for his compassion in serving the dental needs of his patients and had a passion for educating and teaching in the field of dentistry. He had a love of classical and jazz music and his hobby was cooking. Russell is survived by his wife, Jean Procope Martin, and a son, Russelljohn P. Martin, and his wife, Carole, of Boston.

**Francis "Frank" R. Porter**, M.P.H. '00, died on May 17 in Callicoon Center, N.Y., at the age of 44. Frank attended Gannon University in Erie for his pre-med studies and then went on to study medicine in Munich, Germany. He also received a scholarship from Yale University for his public health degree. He is survived by his mother, Erika Porter, of San Diego, and two brothers, Thomas Porter of Bumpass, Va., and Joseph Porter of Rancho Cordova, Calif. His father, Alvin R. Porter, and sister, Cindy Marie Porter, predeceased him.

**Miriam R. Rohde**, M.P.H. '43, of St. Petersburg, Fla., died on April 17 at the age of 94. Miriam was a public health administrator for the state of Connecticut and was a member of Pilgrim Congregational United Church of Christ. She moved to Florida in 1973 from her native New Haven. Survivors include her daughter, Roberta Albertson; a sister, Shirley Koznar; two granddaughters, Anastasia Hackett and Heidi Crock; and six great-grandchildren.

**Jerald Page Stowell**, M.P.H. '62, died on April 25 at the Hunterdon Care Center in Raritan Township, N.J., at the age of 82. Formerly of Delaware, he was a 1935 graduate of the Western Michigan University College of Education and was a registered occupational therapist who worked in hospitals and rehabilitation centers in New Haven, New York and Philadelphia. Jerald had a special gift for treating children with bone and muscle developmental problems by incorporating art therapy and small-plant husbandry into his therapy program.

He taught occupational therapy at Harcum College in Bryn Mawr, Pa. He was also a nationally known bonsai expert. For many years, Jerald was a director of the National Bonsai Foundation in Washington, D.C. He received the 1997 American Bonsai Society Distinguished Achievement Award. Jerald was predeceased by his partner of more than 40 years, Warren P. Cooper, and his brothers, Armand Jay Stowell and Harold Delmar Stowell. He is survived by nephews and nieces in Michigan.

**Oscar Sussman**, M.P.H. '47, died on March 25 in Chapel Hill, N.C., at the age of 92. Oscar was born in New York City of first-generation parents and received his veterinary degree from Michigan State University in 1940. During World War II he was a major in the U.S. Army and served as a food inspector and veterinarian for injured guard dogs. He met his wife, Jane Krupnick, a Navy officer, in Washington, D.C. After the war, he earned an M.P.H. and a law degree. He had a colorful career in public health with the state of New Jersey. He believed in the public's right to know and the government's role in protecting the public. He was described as "controversial, forceful, learned, articulate" and as a "champion of the underdog." Oscar is survived by three children, Nancy Siverd, Margaret Poppe and O. Timothy Sussman; their spouses; four grandchildren; and five great-grandchildren.

Send obituary notices to  
[ysph.alumni@yale.edu](mailto:ysph.alumni@yale.edu).



## In Memoriam: Robert W. McCollum, M.D. 1925–2010

Robert W. McCollum, M.D., a former chair of the Department of Epidemiology and Public Health at Yale, died on September 13 at his home in Etna, N.H., at the age of 85.

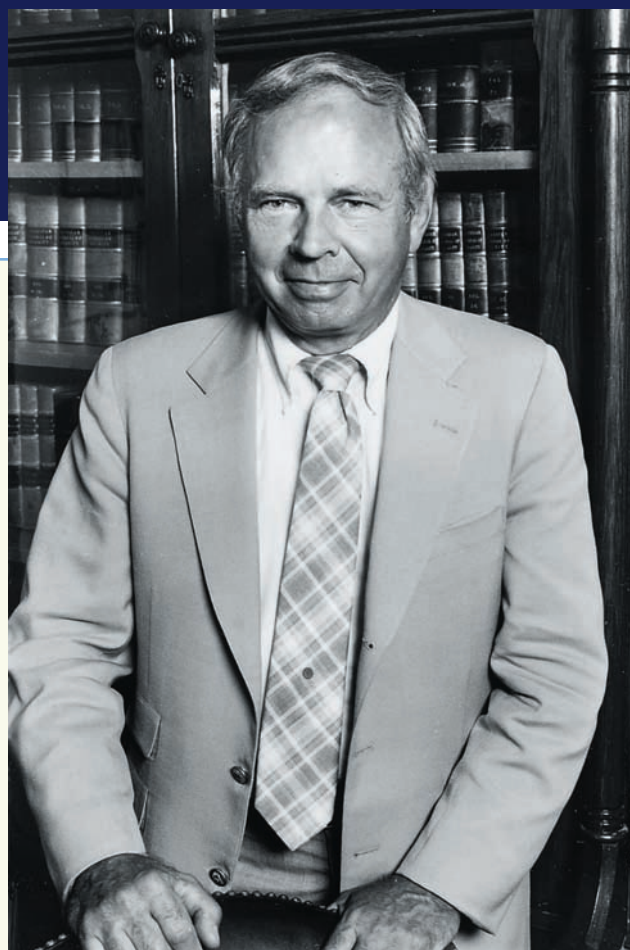
Robert was a prominent infectious disease researcher, involved in the development and field trials of several vaccines, including polio and hepatitis B. He wrote and researched tirelessly about the causes and epidemiology of viral diseases – particularly hepatitis, on which he led study groups for the World Health Organization and the National Academy of Sciences.

He conducted research and taught at Yale for nearly 30 years and served as chair of the department, also now known as the Yale School of Public Health, from 1969 to 1981. As chair, he oversaw the creation of the Microbiology Division. He had an appreciation for the role of infectious diseases in public health and believed it was important for students to appreciate and understand the basic principles of microbiology.

“Bob had an enormous influence on the personal and career development of many junior faculty, graduate students, professional students and others with whom he came in contact. His intelligence, breadth of interests, integrity and high standards served as a model for many people,” said Jennifer Kelsey M.P.H. ’66, Ph.D. ’69, a former student of his, who went on to become a junior faculty member at the department during his tenure.

After his career at Yale, Robert became dean of Dartmouth Medical School in 1982 and played a key role in the creation of the Dartmouth-Hitchcock Medical Center in Lebanon, N.H. He continued to teach and be active in medical school affairs for many years.

Robert was born in Waco, Texas, in 1925 and graduated from Baylor University there in 1945. He earned his medical degree at Johns Hopkins University in 1948 and 10 years later added a doctorate in public health from the London School of Hygiene and Tropical Medicine.



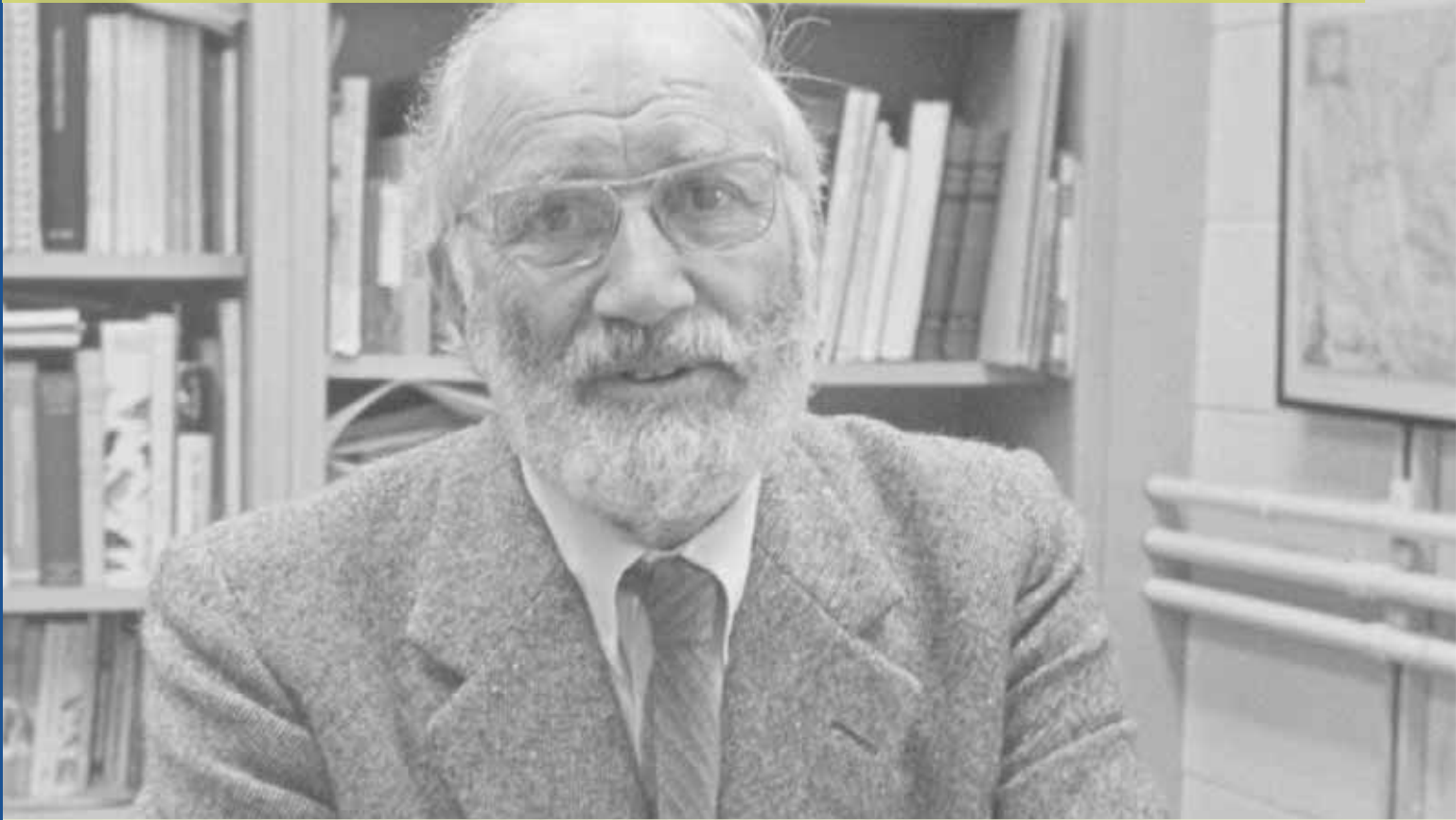
Courtesy of Dartmouth Medical School

Between his M.D. and D.P.H. studies, he completed internships in pathology at New York’s Presbyterian Hospital and internal medicine at Vanderbilt University Hospital, a residency in internal medicine at Yale-New Haven Medical Center and a year as a research assistant in preventive medicine at the Yale School of Medicine.

In addition to teaching and maintaining some of his research interests after his retirement as dean, Robert turned his energies toward social and environmental causes. He also honed his skills as a photographer, shooting a wide range of subjects for books and articles that his wife was writing.

He was the husband of psychotherapist and author Audrey McCollum, father of Cindy and Doug and grandfather of Justin and Zach.

A scholarship fund at the Yale School of Public Health was recently established in Robert’s name (and also in the name of George L. LeBouvier) by Charles Jeffrey, an alumnus of the school. The fund aims to ease the financial burdens faced by many students. Donations may be made to the LeBouvier-McCollum Scholarship Fund, c/o Martin Klein, Yale School of Public Health, P.O. Box 7611, New Haven, CT 06519-0611.



## A renowned researcher's legacy lives on at Yale

Wilbur G. Downs keenly understood the importance of travel for students.

A renowned globe-trotter himself, Downs was known to counsel students to get outside the classroom and away from home and to travel to where pressing public health and medical problems existed.

Downs (1913-1991), M.D., M.P.H., a professor of epidemiology and public health at Yale, became the inspiration for the Downs International Health Student Travel Fellowship, more familiarly known as the Downs Fellowship. Since 1966, scores of students (from the schools of public health, medicine and nursing) have traveled the globe on challenging research projects. Downs, undoubtedly, would be interested in the results.

"He'd be right here in the second row, curious about your work, your findings," Curtis L. Patton, Ph.D., professor emeritus of epidemiology and public health, told a recent gathering of returning Downs Fellows.

Downs' own career was marked by wide-ranging accomplishments. After serving in World War II (during which he worked with malaria and communicable diseases), Downs directed a malaria control program in Mexico, established a program in Trinidad to investigate arthropod-borne viruses, directed the Yale Arbovirus Research Unit and worked to isolate and characterize viruses in general, including the deadly Lassa fever virus.

"Dr. Downs wanted students to get out of their comfort zone and stretch themselves academically and existentially," said Kaveh Khoshnood, M.P.H. '89, Ph.D. '95, assistant professor in the division of Epidemiology of Microbial Diseases and chair of the Downs Fellowship Committee.

*Michael Greenwood*



Today



## A peaceful refuge for women escaping prostitution

Far from the drugs, violence and degrading sex that mark the lives of young women in Poland forced into prostitution awaits a sanctuary. It is a place on the outskirts of an unidentified city where women fleeing domestic violence or the sex trade can dwell in peace as they heal their bodies and souls and work to rebuild their lives.

Yale School of Public Health graduate Breanna Y. Jedrzejewski, M.P.H. '10, was allowed unprecedented access to the shelter (she lived there for three months) as part of a Downs Fellowship research project that examined the health effects and HIV risks associated with prostitution, particularly among women who are trafficked.

Jedrzejewski's Polish heritage and all-girl Catholic education helped her to navigate life in the shelter (which is also a convent), but it did not prepare her for the horrific stories that many of the women shared. As Jedrzejewski learned about the pain and suffering endured by the women all around her, the shelter's value as a safe space became even more apparent and she was moved to capture its soothing qualities on film. The nuns gave their blessing to the photography project.

"Gradually, I began to appreciate the importance of the space which surrounded me," she said. "The convent served not only as a sanctuary from violence and exploitation but also as a place to process the darkness of their experiences and to emerge more hopeful and confident in their capabilities to lead new lives."

*Michael Greenwood*

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