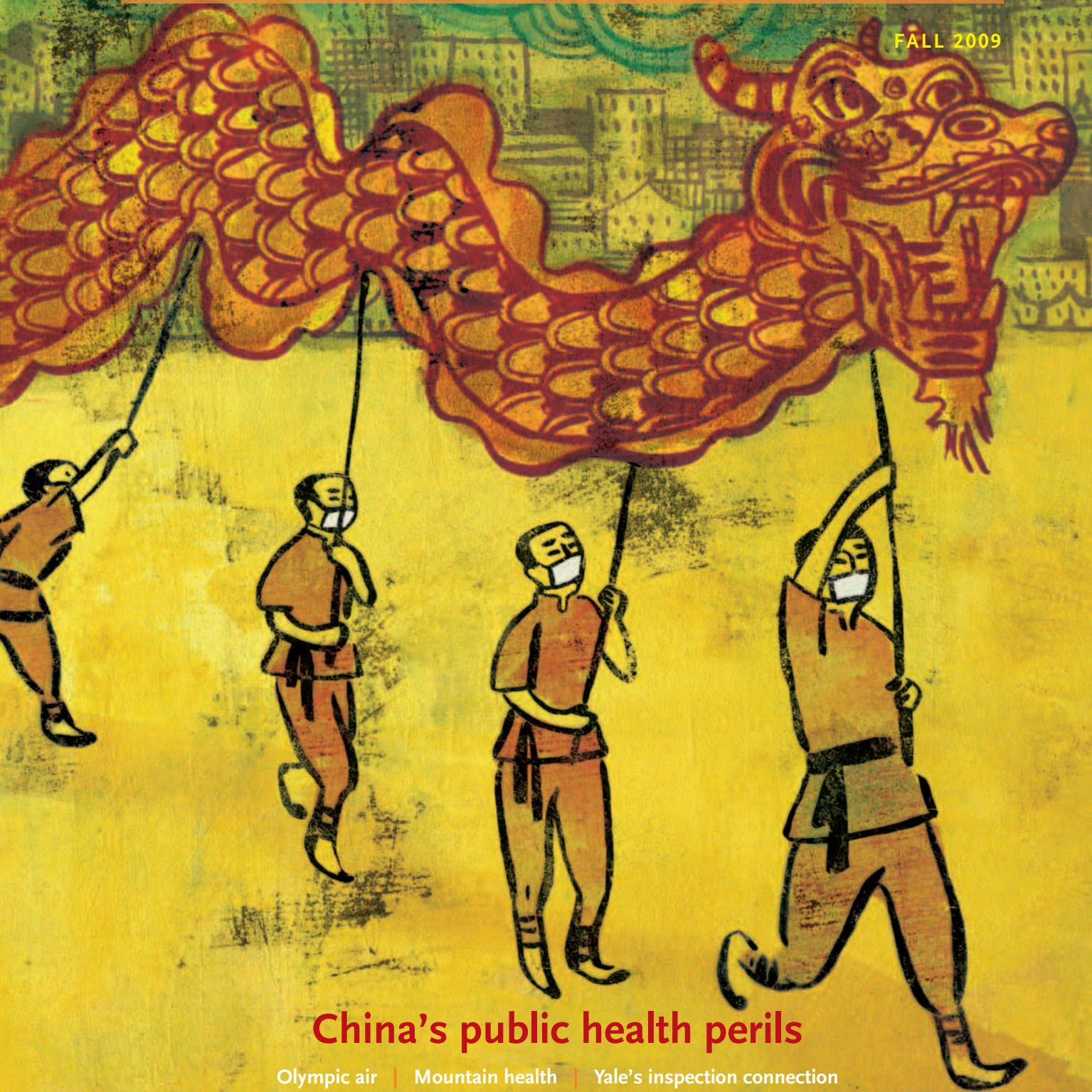


Yale Public Health

FALL 2009



China's public health perils

Olympic air | Mountain health | Yale's inspection connection
First job | Charting swine flu

Yale SCHOOL OF PUBLIC HEALTH



Yale Public Health

FALL 2009

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A man flies a kite at Tiananmen Square in Beijing as heavy pollution covers the city. The air quality on this day in December 2007 reached level five, the highest rating.

Yale SCHOOL OF PUBLIC HEALTH



Dean's Message

YSPH and China: A growing partnership

Since 1915, when the Yale School of Public Health was founded, members of our faculty have conducted innovative and important research and policy analysis and have trained numerous scientists, practitioners and educators who have had a positive impact on health worldwide. In less than a century, perinatal mortality rates have fallen dramatically, life expectancies in developing countries have risen, smallpox has been essentially eradicated and we have made substantial progress in the prevention and treatment of many life-threatening diseases.

Our work is a continuing challenge, however, as the world's economic, political and environmental systems affect each community's development and ability to flourish. More than half a million women still die annually in childbirth, and more than 1.5 million people perish from tuberculosis. HIV continues to exact a horrible toll, and thousands of infants die unnecessarily every day. Further, health problems that we used to think of as affecting mainly developed countries – such as cancer, cardiovascular disease, obesity and asthma – are growing problems in low- and medium-resource countries.

Thus, it is critical that we continue studying the ways in which biological, behavioral, social and environmental factors in different contexts and cultures affect our health. We also need to learn more about how to apply that knowledge to prevent or treat current illnesses and address as-yet-unknown diseases that will inevitably emerge.

In recent years, we have redoubled our efforts to establish partnerships in different countries so that we can better address major global health

issues and translate scientific advances into better health for all people. This issue of *Yale Public Health* highlights our faculty and student commitments toward achieving that goal, with an emphasis on some of the Yale School of Public Health initiatives under way in China.

Our faculty members are conducting and planning research in collaboration with numerous Chinese institutes and organizations to address issues such as increasing cancer rates; rural health care financing; health delivery system development; HIV/AIDS prevention; and treatment and infection control in hospitals. A new collaborative study on the effects of air pollution and a longitudinal study of Chinese physicians and nurses will be the first ever of their kind to be conducted in China, and they are the largest studies ever undertaken anywhere.

We are working to formalize and expand these strong collaborations with partners in China to facilitate long-term, sustainable and collaborative research and teaching to address global public health challenges today and in the future. The following pages highlight some of our pioneering research projects and initiatives in China and elsewhere. I hope that you find them as inspiring and reassuring as I do.

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

“We are working to formalize and expand these strong collaborations with partners in China to facilitate long-term, sustainable and collaborative research and teaching.”

Letters to the Editor

Meningioma article led to my mother's surgery

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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

Copy Editor

Anne Sommer

Design

AH Design
Angie Hurlbut and Nilou Moochhala

Address correspondence to

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

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

Abbreviations frequently used in *Yale Public Health* include YSPH for Yale School of Public Health and LEPH for Laboratory of Epidemiology and Public Health.

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I want to thank *Yale Public Health*, which I receive as a result of my graduation from Yale EPH in 1996. I currently live in Honolulu, where I work as a public health consultant for a private firm. I read the cover article on meningiomas [“The Tumor Connection,” Spring 2009]. It caught my eye, because my Yale biostatistics professor for BIS505A, Dr. Elizabeth Claus, was featured in the article.

My mother had been experiencing long-term memory loss and personality changes and had trouble sleeping. We considered her “fragile” but did not know what was wrong. Doctors told us she was depressed. The memory loss did not make sense to the degree my Dad and I noticed it in the last three months. The article mentioned head and neck radiation and hormone replacement therapy as risks for brain tumors. My Mom had radiation treatments for acne in the mid-1950s and for thyroid cancer in 1980. “Bingo!” I thought.

Dr. Claus operated on July 2 and removed a 6-cm glioma (a form of tumor that normally has a more devastating

prognosis than a meningioma) from her right temporal lobe. My family has benefited from my Mom’s extended life expectancy and the top-notch care she received from Dr. Claus. It is a great relief to have some explanation for the changes we saw in my Mom. Brain tumors are very tricky, and the symptoms and treatment depend on the location of the tumor. This morning, July 6, Mom played Debussy on the piano and remembered who Theodore Kaczynski, the Unabomber, was, but she no longer remembered how to make coffee.

When we brought my Mom home from the hospital in Boston, we felt somewhat like people must feel when they bring home triplets. What now? Chemotherapy, radiation, pills and all the things that Mom used to do for herself are now on us. But we are learning day by day, and thanks to this Yale alumni publication, we have precious moments to enjoy together.

My plan is to study neuropsychology. I chose this specialty because of my experiences serving in Iraq and Afghanistan and seeing traumatic brain injuries and because of the journey I am currently experiencing with my Mom. I will begin a Ph.D. program in the field in the fall of 2009.

To the faculty and staff of Yale: Thank you for producing this publication and for making it so readable that it changed my life! Thank you also for supporting the research and training of Dr. Elizabeth Claus and others who are working to improve prevention and treatment of brain tumors, cancers and other diseases.

*Deborah Alexandria “Alex” Niewijk,
M.P.H. ’96
Honolulu, Hawaii*



Selcuk Demirel (3)

Attitudes affect support for obesity policies

With obesity becoming a growing public health concern in the United States, new research has found that an individual's personal beliefs about the causes of weight problems are a reliable indicator of whether he or she will support public policies designed to combat what some regard as an epidemic.

The YSPH research found that people who view growing rates of obesity as primarily due to poor individual choices are less likely to back a range of public health responses, such as changing school lunch programs, food labeling or imposing taxes on junk food. Conversely, those who see growing rates of obesity as the consequence of external factors such as public manipulation by the food and beverage industry or the lack of healthy, affordable food in certain neighborhoods are more likely to back government intervention in the form of new health policies and programs. The research also found that a person's political ideology was not the dominant predictor of their support for government intervention

to combat obesity (with the exception of tax-based policies).

"Our results suggest that viewing obesity as a matter of personal responsibility lowers public tolerance for government regulation, while emphasizing the social and environmental causes of obesity has the potential to drive up public support," said Colleen L. Barry, Ph.D., an associate professor in the division of Health Policy and Administration and the study's lead author.

The study surveyed 1,009 people on their views about the causes of obesity and their level of support for 16 policy responses, taking demographics, health characteristics and political attitudes into account.

Michael Greenwood

Climate, ticks and Lyme disease severity

In a finding that suggests how global warming might exacerbate the spread of infectious diseases, researchers at YSPH have produced evidence that regional climates impact the severity of Lyme disease in humans by influencing the feeding patterns of deer ticks that carry it.

Deer ticks live for two years and have three stages of life: larval, nymphal and adult. They require one blood meal during each stage. If the source of the first meal is infected with the bacterium that causes Lyme disease, the tick also becomes infected and passes it on to its next meal source — either other wildlife or a human.

The research demonstrates that it is the seasonal cycle of feeding for

each life stage that determines the severity of infection in a given region. The researchers found that climate heavily influences this cycle.

In the moderate climate of the northeastern United States, larval deer ticks feed in the late summer, long after the spring feeding of infected nymphs. This long gap between feeding times directly correlates with an increased number of cases of Lyme disease in the region. In the Midwest, by comparison, where temperatures are more extreme, there is a shorter window of opportunity for tick feeding and, therefore, a shorter gap between nymphal and larval meals. Consequently, Midwestern wildlife and ticks are infected with less-persistent strains, perhaps explaining why fewer cases of Lyme disease are reported in the Midwest.

"Our model can be used by the public, physicians and public health agencies to better target Lyme disease prevention and control efforts," said Maria A. Diuk-Wasser, Ph.D., an assistant professor in the division of Epidemiology of Microbial Diseases and the paper's senior author.

M.G.

New strategy could reduce HIV infections

The risk of HIV infection in high-risk populations may be substantially reduced by a prophylactic antiretroviral drug treatment currently being tested in clinical trials.

The YSPH study examined the costs and benefits of using antiretroviral drug regimens in high-risk

populations in order to protect them from HIV infection, a prevention strategy known as pre-exposure prophylaxis (PrEP). Investigators created a mathematical model that focused on homosexual men with a mean age of 34. They estimated that PrEP would reduce lifetime HIV infection risk in this population from 44 percent to 25 percent, while increasing overall life expectancy from 39.9 to 40.7 years.

Conservative assumptions – that PrEP is only 50 percent effective and that it costs \$9,000 annually – were built into the team’s model.

A. David Paltiel, Ph.D. ’92, a professor in the division of Health Policy and Administration and the study’s lead author, said the model is the first to establish performance benchmarks of the clinical, epidemiologic and economic potential of PrEP. The drug regimen is being formally tested in several ongoing clinical trials.

“In light of the many disappointments of HIV prevention efforts in recent years, our results strongly support further development of PrEP-based approaches to controlling the epidemic,” Paltiel said.

At a cost of \$9,000 a year, the treatment is not currently cost-effective by U.S. standards. However, Paltiel’s model also predicts that if a cheaper therapy were given to a younger population or those with a higher annual risk of HIV infection, PrEP would be as cost-effective as other widely recommended public health and medical interventions.

M.G.

Views of elderly as omens of one’s own health

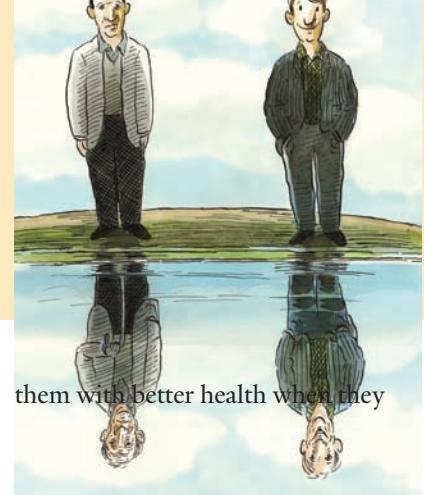
Younger people who harbor strong negative stereotypes about the elderly are more likely to experience strokes, heart attacks and other heart problems as they advance in age.

The YSPH research is the first study that shows a link between a younger person’s stereotypes and his or her state of health in later years.

At the start of the study, 440 participants, ages 18 to 49, were surveyed about their stereotypes toward the elderly. Thirty years later, 25 percent of those with more negative age stereotypes had suffered a heart problem or stroke, while only 13 percent of those with more positive age stereotypes had experienced a heart problem or stroke. A younger group of 225 individuals, ranging in age from 18 to 39, who had their first heart problem or stroke after their 60th birthday, was also studied. Participants with more negative age stereotypes were also significantly more likely to have heart problems or strokes than those with more positive age stereotypes.

“We found that the age stereotypes, which tend to be acquired in childhood and young adulthood, and carried over into old age, seem to have far-reaching effects,” said Becca R. Levy, Ph.D., an associate professor in the division of Chronic Disease Epidemiology and the study’s lead author.

Among the negative age stereotypes reported were that elderly people were “feeble” or “helpless.” “The findings suggest that efforts to reduce the negative age stereotypes of younger individuals could provide



them with better health when they

reach the age of those they had been previously targeting with these stereotypes,” she said.

M.G.

Health crises and windows of opportunity

Older adults with poor health habits appear to be much more likely to quit smoking or lose weight following a serious health diagnosis. This “window of opportunity” into a healthier lifestyle was found to exist for adults recently diagnosed with a stroke, cancer, lung and heart diseases or diabetes.

This group was 3.2 times more likely to quit smoking than their healthier peers, and overweight or obese individuals diagnosed with lung disease, heart disease or diabetes lost 2 or 3 pounds more, on average, than their peers. Participants with multiple diagnoses exhibited even greater willingness to change their lifestyle than those who received no new diagnoses.

And there is substantial potential for even further health behavior changes within this group if the health care system could provide timely information, support and counseling that many people need to make such a lifestyle change, said Patricia S. Keenan, M.H.S., Ph.D., an assistant professor in the division of Health Policy and Administration and the study’s lead author.

“A serious diagnosis can serve as a trigger to motivate older adults to

make difficult health behavior changes,” said Keenan. “As the population ages, taking advantage of this window of opportunity should be a priority for the health care system and policy makers.”

The research used data from the National Institute on Aging’s Health and Retirement Study, a survey of middle-aged and older adults. A total of 20,221 overweight or obese individuals younger than 75 years and 7,764 smokers participated in the study and were surveyed at least twice.

Michael Greenwood

“Mini-strokes” take higher toll on men than women

Elderly women who suffer a first “mini-stroke” are less likely than men of the same age to be readmitted to a hospital, new research led by Yale School of Public Health has found.

Transient ischemic attack (TIA) is known as a mini-stroke because it produces strokelike symptoms but does not result in lasting damage. However, TIA is considered a harbinger of more serious health problems, including full-fledged strokes, coronary artery disease and even death. Nearly 10 percent of TIA patients are readmitted to the hospital within a month after the initial event, and half are readmitted within a year.

Thirty days after a TIA, women were 30 percent less likely to have a stroke, 14 percent less likely to have heart-related problems and 26 percent less likely to die than their male counterparts.

While additional research is needed to better understand the reasons for

the gender-related difference in health outcomes, the findings could help to improve care and outcomes for both men and women, said Judith H. Lichtman, M.P.H. ’88, Ph.D. ’96, an associate professor in the division of Chronic Disease Epidemiology and the study’s lead author.

M.G.

Drinking wine may improve cancer survival odds

Wine drinkers have one more reason to enjoy the fruit of the vine.

Longtime wine drinkers with non-Hodgkin lymphoma had a better chance of surviving cancer than teetotalers and those who drank beer or hard liquor, research by Xuesong Han, a Ph.D. student studying cancer epidemiology at YSPH and the study’s lead author, has found.

Han examined whether environmental exposures, lifestyles and genetic features influenced the survival rates for women with non-Hodgkin lymphoma.

“I looked at quite a lot of factors, and this wine effect was one of the most surprising and interesting effects I discovered,” she said. Han and her colleagues did not differentiate between red and white wine.

Wine drinkers who had at least 12 glasses of wine a year had a better survival rate and were more apt to be cancer-free five years after becoming sick than those who avoided wine.

The analysis found that drinking wine was especially helpful to those with diffuse large B-cell lymphoma (DLBCL). Among the DLBCL patients who were longtime wine

drinkers, 76 percent were disease-free five years later and had reduced their chances of dying by 70 percent.

The study findings suggest that becoming a wine drinker before age 25 made a difference in non-Hodgkin lymphoma patients, especially those with DLBCL, Han said.

Han believes that additional studies conducted with a different population would shed more light on the relationship between drinking wine and cancer survival. The paper was coauthored by three YSPH faculty members, including Han’s advisor, Yawei Zhang, M.D., M.P.H. ’03, Ph.D. ’04, an assistant professor in the division of Environmental Health Sciences.

Theresa Sullivan Barger



Michael Sloan

A rapidly changing, modernizing China is grappling with a host of public health challenges.

By Hong Wang

China is the world's third-largest country and its most populous. Within the past 30 years, it has experienced dramatic transformation, leading to massive and hasty social changes. Along with a new material prosperity, living conditions for the Chinese people – measured in terms of food, shelter and sanitation – have steadily improved. Health-related products, as well as health services, are more available in rural and urban China than ever before. However, this dramatic progress has come with a price, bringing new, challenging and even pervasive public health problems. These problems all stem from the tremendous forces of industrialization and motorization; globalization and urbanization; demographic changes; and market-oriented and health system reforms that are under way.

China's rapidly growing markets are creating distinct classes of rich and poor. These classes, in turn, have vastly different access to basic public health services and care. In an effort to earn better pay, many people are seeking work in dangerous jobs where they are exposed to unhealthy materials. Industrialization and motorization are also worsening the quality of air and water for all. About 90 percent of cities suffer from varying degrees of air pollution, and 70 percent of lakes have at least some contamination.

Food consumption is also contributing to China's unfolding public health dilemma. The traditional Chinese diet – low in fat and vegetable-based – is giving way to a diet that is increasingly high in fat and meat-based. On top of these changing habits, China also has become the world's largest tobacco producer and now has a third of all the smokers in the world. Today, nearly 70 percent of Chinese men smoke. Additionally, 23 percent of Chinese are classified as overweight, between 20 million and 40 million people have diabetes and some 160 million have hypertension.

“China recognizes all of these challenges and has proposed a ‘harmonized-society’ approach to future development.”

– Hong Wang

Urban development, meanwhile, continues to draw rural poor seeking better pay. It is estimated that between 100 million and 140 million people have left the countryside for a new life in the cities. With no insurance coverage and limited access to community health services, the migrant workers and their families are not being fully integrated. Thus isolated, casual and commercial sex is becoming prevalent in this population, whose members are at high risk for STDs and HIV/AIDS and serve as a “bridge population” to others in their hometowns. These trends are contributing to chronic “Western-style” disease patterns.

Meanwhile, with birth and mortality rates declining and life expectancy

increasing, the aging of the population has accompanied economic reforms. The percentage of people over 65 increased from 4.9 percent in 1982 to 8.3 percent in 2008. It is expected that chronic diseases as well as disability will become more prevalent in the population. The demands for preventive, curative and rehabilitative services for these diseases will increase remarkably.

China's health system reforms, designed to improve service, availability and efficiency, have also encountered problems. One example of this is pharmaceutical production and supply, a very profitable industry with more than 5,000 pharmaceutical manufacturers and over 12,000 distributors. However, both the central and local governments lack the capacity to effectively monitor this industry or to enforce the laws. As a result, drug quality and safety have become a great public health concern.

Although China has made remarkable social and economic progress, its public health issues are becoming increasingly critical. China has seen the emergence of new infectious diseases, increasing rates of chronic diseases, problems with food and drug safety and poor access to public health services among the poor. China recognizes all of these challenges and has proposed a “harmonized-society” approach to future development. But for this to be successful, safeguarding public health will have to be an important part of the planning process.

Hong Wang, M.D., Ph.D., is a principal associate and senior health economist at Abt Associates in Bethesda, Md. He is also an associate clinical professor at YSPH.

At the crossroads

of health and development

Dramatic growth and higher living standards have come with a heavy price for many Chinese, who are suffering from unprecedented rates of cancer, diabetes and other diseases. Yale School of Public Health faculty are working with Asia's giant to secure a healthier future.

By Christina Larson

China's astonishing economic development over the last 30 years has fundamentally transformed the way much of its population eats, the air they breathe, the water they drink and even the roofs over their heads—all with enormous public health implications, many of which are still not fully understood.

The same factories that have brought jobs and raised incomes and living standards—and also provided the inexpensive goods demanded by foreign markets—have polluted China's water and air, increasing the risk of cancer and other diseases. Growing incomes and access to modern conveniences such as supermarkets, automobiles and packaged foods have brought a range of new health concerns traditionally thought of as “Western,” from obesity and hypertension to traffic fatalities and emerging mental health problems. Globalization has brought greater wealth and business opportunities, as well as exposure to such infectious diseases as SARS and swine flu.

In some respects, people are living healthier—and longer—lives in modern China; but in other ways the health of China's public is in crisis. And across China, people live in staggeringly varied circumstances: from Shanghai's air-conditioned high-rises to Inner Mongolia's coal-heated yurts. As Liming Lee, M.D., M.P.H., of China's Center for Disease Control and Prevention succinctly puts it: “Contemporary public health workers are confronted with greater challenges than our predecessors.”

The Chinese government has begun collaborating with scientists and policy experts, including a growing number

from the Yale School of Public Health, who are seeking solutions even as rapid public health transformations continue in a nation that is home to a fifth of the world's population. In China, economic growth has not only transformed the physical terrain and the social and cultural landscape, it has also made greater technical and financial resources available—one reason for future optimism, even in the face of dire statistics about the current state of public health in China.

“The issues are enormous,” says Theodore R. Holford, Ph.D. '73, head of the division of Biostatistics at YSPH and the Susan Dwight Bliss Professor of Epidemiology and Public Health, who is involved in several research initiatives in China. “They are trying to turn around the economy of their country rapidly. The health effects have not been something that they have worried about. But they can't ignore them any longer.”

Modern currents

It can be difficult to reconcile the contrasting images of contemporary China. On the one hand, the country impressed the world as the grand and efficient host of last year's Olympic Games held in Beijing; on the other, China raises international concern as a seemingly unruly and under-regulated exporter of contaminated milk powder and toys coated with lead paint. China is home to trendy Beijing fashionistas and to subsistence Tibetan herders. The nation is at once poor and developing, with vast segments of the population still facing food and energy shortages, and

a country with affluent and ultramodern urban pockets, where residents increasingly face problems of plenty, not scarcity. “In a country that’s this diverse,” says Jennifer Holdaway, program director of the Social Science Research Council’s China Environment and Health Initiative in Beijing, “it’s important to be careful about generalizations.”

In the realm of public health, as in other arenas, this diversity means that the nation’s leaders face an extremely complex set of challenges. Not only do they have to manage an enormous population that is spread over an immense and varied landscape, but they must account for people living in radically different conditions, at different income levels and with dramatically different access to health services. To tackle any single health issue on the scale of the Middle Kingdom represents a significant undertaking; to manage many simultaneously is an almost unimaginable challenge.

Development’s most fundamental result has been rapid urbanization, with just under 40 percent of China’s population now residing in urban areas. That is close to half a billion people – considerably more than the entire U.S. population of approximately 300 million. Modern China has more than 170 cities with populations exceeding 1 million people; England, by contrast, has just one: London.

For ordinary people, this relocation from the countryside to the city means a vastly altered work environment, diet and lifestyle. A growing proportion of Chinese people now toil in factories and offices, not farm fields. The familiar rattle of bicycles through Beijing’s *hutongs* (narrow streets) is declining, while the number of cars crowding freeways is on the rise. On many streets, right next to traditional noodle shops and fruit stalls, Kentucky Fried Chicken and McDonald’s have sprouted, as well as the ubiquitous Hi-24 convenience stores, which peddle ice cream, shrimp-flavored potato chips and sugary drinks at all hours of the day and night.

As Sarah Barber, director of the health policy and systems program at the World Health Organization (WHO) in Beijing, explains: “Mass urbanization goes hand in hand with changes in exercise and diet. People become sedentary. People tend to eat more. And their diets tend to have a much higher proportion of animal fat, and also increased salt intake.” These changing daily habits are contributing to increased rates of hypertension, diabetes, cardiovascular disease and even obesity in China. According to the WHO,





opposite: Young women relax with cigarettes during the outdoor Midi Music Festival at the Haidian Park in Beijing. China has become the world's biggest tobacco consumer.

below: A cyclist is sandwiched between cars at a busy intersection in Beijing. China, once known as the "kingdom of bicycles," now contends with increasing numbers of automobiles on its streets.

“There are two main ways that China has changed in the last 30 years. First, the world around you has changed – the environment, the place you live, the food you can eat. And second, your internal world has changed – the society has changed, and with it the way people think about work, family, culture. In short, everything has changed, all with dramatic public health implications.”

Tongzhang Zheng

“China’s overall disease profile now resembles that of a developed country – with more than 80 percent of deaths due to noncommunicable diseases and injuries.” Currently 160 million people suffer from hypertension, and nearly a quarter of the population is classified as overweight.

Widespread tobacco use is another looming health challenge throughout China. Cigarettes have been promoted by various government bodies since the 1940s, and today tobacco sales are a primary source of tax revenue in many rural counties. As in much of Asia, from India to China to Indonesia, smoking has historically been a primarily male-bonding activity. Today, according to the Chinese health ministry, more women are lighting up and teenagers are picking up the habit at an earlier age. According to the World Bank, in 2002 tobacco-related illness resulted in just under a million premature deaths. Today, China is the world’s greatest producer – and consumer – of cigarettes. Even those who don’t smoke face risks – an estimated 53 percent of Chinese children suffer adverse health effects from secondhand smoke.

Automobiles and buses, meanwhile, offer obvious advantages in navigating China’s sprawling megacities, but they also pose their own risks. In addition to contributing to air pollution and more sedentary lifestyles, cars crash. China’s National Bureau of Statistics in 1998 determined traffic injuries to be among the top five causes of death among people aged 15 to 44 years and the leading cause of accident-related death for men aged 15 to 34 years. In addition, factory accidents and collapsing mines, for which there are no statistical data, are well-known causes of early death. Myriad newspaper accounts have chronicled rusted equipment and unregulated working environments.

China’s government is taking steps to address these problems. Some bars in Beijing and Shanghai have banned smoking. Near Beijing’s Houhai lake district, the local government has installed shiny new outdoor exercise equipment, including manual step machines and ping-pong tables. However, curbing tobacco sales in rural areas is much trickier. As WHO research material delicately summarizes the situation: “Some sectors, such as the state-owned monopoly for cigarettes – the China National Tobacco Corporation – try to expand tobacco consumption, while the Ministry of Health has taken steps to improve awareness of smoking risks.”



Cetty Images (2)



Environmental woes

The same factories that churn out textiles, plastic toys and computer parts to keep the Chinese economy humming have also turned the skies greyer and the rivers darker. Air pollution contributes to an estimated 400,000 premature deaths each year, and large segments of the population currently lack access to safe drinking water. As Wen Bo, the Beijing-based China program co-director for Pacific Environment, puts it: “China’s immediate environmental problems have clear impacts on people’s health.”

China is facing these grave environmental challenges in both the city and the countryside. City dwellers are forced to inhale an unhealthy brew of automobile exhaust and industrial pollution. Only 42 percent of urban sewage is properly treated. The countryside, meanwhile, has also been affected. Residents of tiny villages endure pollution generated by rural China’s ubiquitous small industrial plants, including paper mills and meat-processing facilities. The use of chemical fertilizers and pesticides has increased fivefold in the last 25 years; rampant overuse and adulterated mixes contaminate soil, groundwater and adjacent rivers. And “indoor air pollution,” the smoke from coal- or wood-burning stoves – still widely used in many homes – blackens lungs.

Each year there are some 1.6 million new cancer cases diagnosed in China. The disease profile varies widely: lung cancer is the leading cause of death among Chinese men, likely related to higher rates of smoking, while stomach cancer is highest among women. Differences between rural and urban populations are also evident: lung cancer contributes the most cancer deaths in cities, while liver cancer, related to contaminated drinking water, afflicts rural residents.

It is into this complex milieu that researchers from the Yale School of Public Health are wading. “When people talk of pollution in China, they only think of the city, but that is

not right,” says Tongzhang Zheng, Sc.M., Sc.D., professor and head of the division of Environmental Health Sciences. “Small factories in townships and villages contribute about 55 percent of China’s gross domestic product – and they cause tremendous environmental pollution in the countryside.” Villages located along many toxic rivers in rural China are routinely referred to as “cancer villages.”

Because of the growing public health threat, scientists from the divisions of Environmental Health Sciences and Biostatistics at YSPH are beginning to explore the effects of this pollution. Among them is Yawei Zhang, M.D., M.P.H. ’03, Ph.D. ’04, an assistant professor in the division of Environmental Health Sciences, who grew up in the city of Lanzhou. “When I go back home, I cannot recognize where my home is – everything has changed,” she says. The World Resources Institute once named her hometown, now a major petrochemical processing hub, the world’s most polluted city.

Zhang frequently visits Lanzhou to research the health effects of air pollution, with a particular focus on prenatal exposure. She is collecting information on expectant mothers’ exposure to certain pollutants in a range of cities across China to link with data on birth outcomes, as well as possible complications later in life. “In many Chinese cities, the incidence of low birth weights and preterm babies is increasing,” she says. “Is it related to air pollution?”

While the multiyear study is still in its early stages, Zhang suspects that the answer is yes. And there are other questions her research seeks to answer. Different cities in China experience smoggy skies for different reasons, from coal burning to chemical industries to automobiles; Zhang is investigating whether these varied kinds of air pollution have particular health impacts. Finally, she believes that prenatal exposure might play a role later in life, increasing the likelihood of developing cancer, particularly hormone-related cancers, such as breast cancer. “That link is one of my major hypotheses,” she says.

Doing these types of investigation in a rapidly growing country such as China presents unique challenges. “Each time we go back to Beijing, it is incredible how much has changed in just a year,” says Holford, one of Zhang’s research partners. The pace of change also makes it tricky to isolate variables and link cause and effect. “There are so many factors at work, all changing at once, that it’s hard to sort out causes,” he says. “Yet the net effect is clear. A combination of lifestyles changes and pollution is reshaping public health.”

The Yale researchers, meanwhile, are planning to expand their work into Inner Mongolia, China’s northern province. They will develop a cohort of 250,000 people to study factors related to cancer in one of the largest studies of its type ever undertaken.

Tomorrow’s issues

People are living longer in modern China. Life expectancy in 1949, when revolution swept the country and the People’s Republic was founded, was just 35 years; today it is 71 and still rising. Successful intervention programs have helped curb the spread of many infectious diseases. Infant mortality was halved between 1990 and 2000. Fewer people today die of starvation. Yet these public health successes, together with the impact of China’s one-child policy, have contributed to another dilemma: a quickly aging population. It is projected that almost a third of the population will be above age 60 by 2050.

Older people are more susceptible to a variety of ailments. As the WHO’s Barber explains: “Population aging is a major factor in public health. Longer life expectancy is a major contributor to the noncommunicable-disease burden.” Cancer, hypertension and cardiovascular disease are all more likely to occur later in life.

An aging population also raises questions about health care costs. “A demographic shift will have an enormous effect on how China is able to pay for health care and other needs,” says Holford. “For all aspects of medical care, the finances must come from people who have jobs and are working. The elderly are dependent on the working segment of society, which proportionately is shrinking.”

In addition to taking a physical toll, rapid changes in society and environment also have consequences for mental health in China. According to a study conducted by the Chinese Center for Disease Control and Prevention in 22 provinces, about 13 percent of Chinese adolescents exhibit mental and behavioral problems. Suicide rates among adults in China are higher than in most developing nations, particularly among rural women. In a paper describing these findings, Lee explains that in modern China, “adults usually take on different social roles, carrying the burden of important social and familial tasks. Intense social competition and familial responsibility create the feeling of two-sided pressure, as they greatly challenge one’s psychological tolerance.”

Meanwhile, changes in family structure that result when young people leave their villages and extended networks to find work in cities have eroded traditional support systems, placing a greater burden for care on the public health system.

“There are two main ways that China has changed in the last 30 years,” says Zheng. “First, the world around you has changed—the environment, the place you live, the food you can eat. And second, your internal world has changed—the society has changed, and with it the way people think about work, family, culture. In short, everything has changed, all with dramatic public health implications.” **YPH**

Christina Larson is a journalist focusing on international environmental issues.

A woman sits next to a fast-food icon in Shanghai. A shift away from traditional foods is leading to increased rates of obesity and diabetes.



Getty Images

Olympic Air

Severely polluted air is causing serious public health problems throughout China and attracting researchers from Yale.

By Steve Kemper

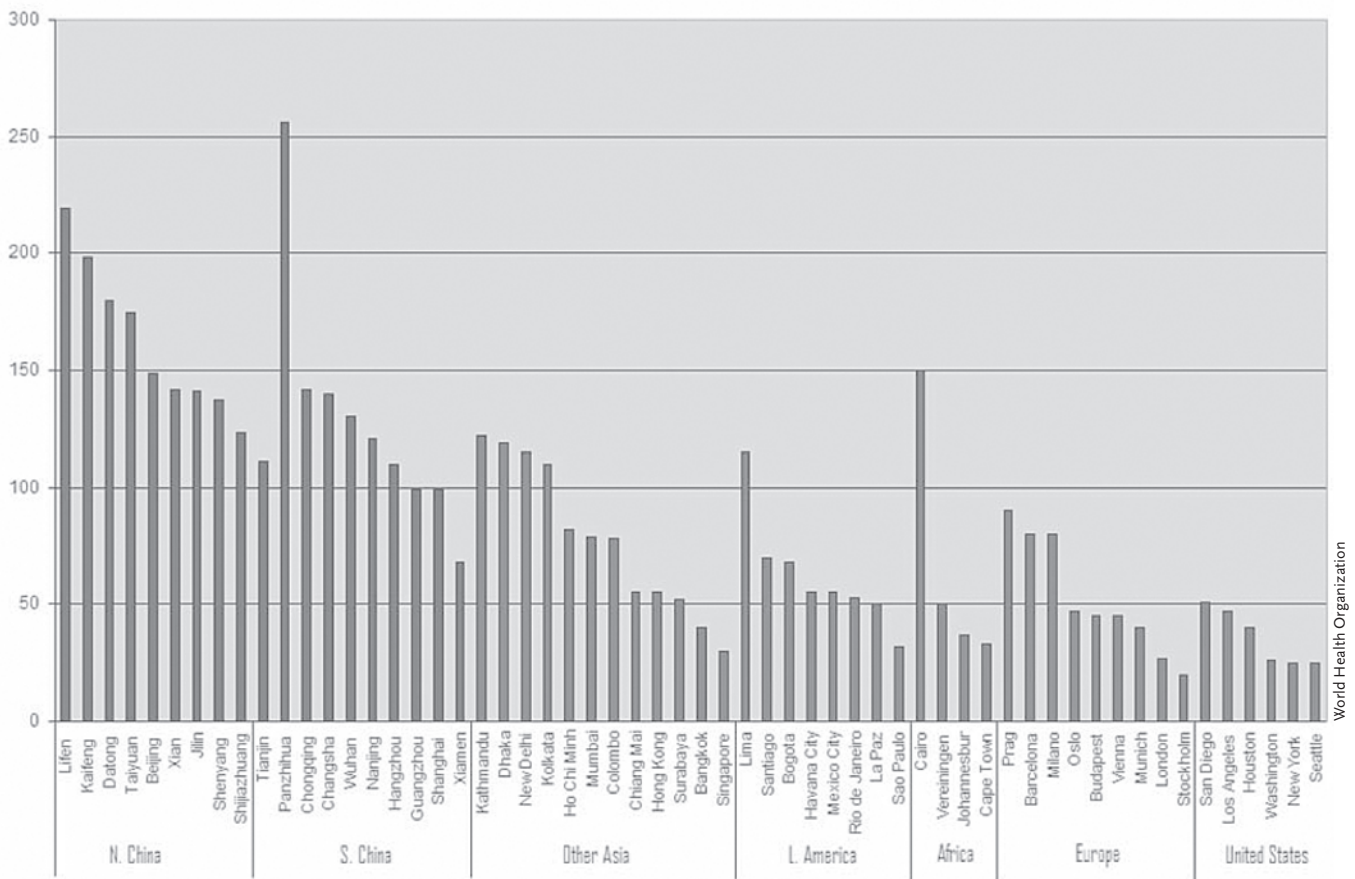
The athletes arriving in Beijing for the 2008 summer Olympics worried about one common opponent: the city's notorious air pollution. Beijing's coal-burning power plants, smokestack industries and 3.3 million vehicles belch out a thick haze of particulate matter, sulphur dioxide (SO₂) and nitrous oxides, the latter of which combines with hydrocarbons and sunlight to make ozone. Even

short-term exposure to these pollutants can irritate eyes and lungs and trigger asthma, allergies, coughing and breathing difficulties. Some Olympic coaches told their teams to wear masks or to stay inside when not competing.

To avoid an international black eye, the Chinese government spent billions of dollars to clean up the city's air. Two hundred factories were moved beyond the city and dozens



YSPH faculty are working with colleagues in China to conduct studies in eight cities—Lanzhou, Taiyuan, Guangzhou, Shenzhen, Wuhan, Harbin, Xiamen and Nanjing—to determine the health effects of air pollution on babies and children and on people with chronic cardiovascular and respiratory diseases.



Average particulate matter concentrations for selected major cities throughout the world in 2004 and 2005.

more were temporarily shut down. Hybrid buses and taxis replaced dirty diesels. Workers planted hundreds of trees. To reduce dust and fumes from heavy equipment, most construction ceased three weeks before the games began. More than a million cars were barred from the city while the Olympic torch was lit.

These actions, along with help from strong winds and cleansing rains, did improve Beijing’s air during the games. Yet subsequent reports have found that the air pollution levels were double those in Athens in 2004 and more than triple those in Sydney in 2000. The foreign athletes went home, but Beijing’s 17 million people are still breathing the air there, which remains unhealthy despite some improvement resulting from the Olympic measures.

Most of China’s other big cities, meanwhile, have been less fortunate. Of the world’s 20 most polluted cities, 16 are in China, a consequence of the country’s breakneck economic growth. The effects of air pollution on human health have been severe. A shocking 2007 report from the World Bank estimated that 400,000 Chinese die every year from the effects of outdoor air pollution, plus another 300,000 from indoor air pollution (chiefly cigarette smoke and the smoke from poorly vented coal and wood fires, which the majority of China’s 1.3 billion people still use for cooking and heating). The World Bank also estimates that the health consequences of pollution are costing China more than \$10 billion a year – nearly 6 percent of its gross domestic product.

These alarming numbers have spurred China’s leaders to tighten environmental regulations, but enforcement remains sporadic. The government has also turned its attention to the health consequences of air pollution, which have been thoroughly studied in Western countries but not in China.

Training scientists

Yale’s School of Public Health, with funding from the National Institutes of Health, is addressing this need through several collaborative projects with China. The first 12 Chinese health professionals have already visited Yale for training in environmental epidemiology. In the spring of 2009, YSPH faculty conducted a workshop in Suzhou on how to design and conduct epidemiological studies on the health effects of air pollution; nearly 100 Chinese health professionals from all over the country attended.

“We are training Chinese scientists to confront and battle against air pollution,” said Tongzhang Zheng, Sc.M., Sc.D., principal investigator of the project and a professor and head of the school’s division of Environmental Health Sciences. Zheng is also among the YSPH faculty joining forces with Chinese colleagues to conduct studies in eight cities – Taiyuan, Lanzhou, Guangzhou, Shenzhen, Wuhan, Harbin, Xiamen and Nanjing – to determine the health effects of air pollution on mortality, pregnancy outcomes (including fetal development, low birth weight and birth



A Chinese demonstrator wears a face mask with the Chinese character for “poison” written on it as she protests against bad air quality and pushes for the closing of a large garbage incinerator in her Beijing neighborhood in 2008.



Getty Images

China's National Stadium, known as the "Bird's Nest," as seen through the thick smog in July 2008 (left) and with a clear sky several days later (right). The government took dramatic steps before the Olympics to reduce Beijing's pollution.

defects), health of school children and the severity of chronic cardiovascular and respiratory diseases. Preliminary work has already begun on the studies, which will be among the largest of their kind, examining and tracking thousands of people across time and social strata.

Brian P. Leaderer, M.P.H. '71, Ph.D. '75, the Susan Dwight Bliss Professor of Public Health and deputy dean of YSPH, is also working on the projects. "China's leaders seem to understand the need to have trained professionals who can learn from the mistakes made by the West before we started paying attention to environmental issues," said Leaderer, whose research focuses on the health impacts of air pollution. He said he has never seen – or smelled or tasted – air pollution as bad as China's, and he expects the health consequences to reflect that. "The adverse health effects associated with air pollution that we see in the Western world, we'll probably see in China, but with a much greater impact," Leaderer said.

The links between poor health and air pollution, in both the short and long term, have been firmly established by studies in the developed world. For instance, when the air pollution index goes up, so does the number of emergency hospitalizations, outpatient visits and absences from school and work. The long-term effects of breathing bad air are especially pernicious: chronic bronchitis and other respiratory diseases, pulmonary and cardiovascular disease, cancer, miscarriages, birth defects, reduced motor skills and learning disabilities among children, diminished male fertility, elevated blood pressure and premature death. Given China's high levels of air pollution, these health consequences are likely to be severe and widespread there.

The groups most affected are the young, the old and those with chronic conditions. In January, China's National Population and Family Planning Commission reported that every 30 seconds a Chinese baby is born with birth defects caused by air pollution. "Fetuses and babies are the most sensitive," said Zheng. "That's why we want to study the relationship between air pollution, fetal development and

low birth outcomes. Many human diseases caused by environmental pollution also start in utero and show up later, such as breast cancer and testicular cancer."

Industrial boom

The main source of China's air pollution is clear: coal, which has fueled the country's industrial boom. China uses more coal than the United States, Japan and Britain combined. Much of it is low-grade and dirty, which fills the air with particulates, SO₂ and nitrogen oxides. In the last decade China has taken measures to cut down emissions of SO₂ and nitrogen oxides, which have fallen or held steady in some Chinese cities. But the amount of particulate matter in the air continues to increase, not only because of coal but because China's rapidly swelling urban middle class is buying cars at the fastest rate in the world. Dust from construction and unpaved roads also contributes to airborne particulate matter.

The World Health Organization (WHO) considers particulate matter the biggest risk factor for human health among pollutants and warns that even small increases have serious health consequences. Yet scientists may have been underestimating its toxicity. According to a recent study by the Health Effects Institute, particulate matter is twice as deadly as previously believed. Earlier studies found that when particulate matter levels rise, the risk of a deadly heart attack goes up 12 percent. The new study, based on an epidemiological analysis of 500,000 people in 116 U. S. cities, found that the risk actually increases by 24 percent.

In 2005, to reflect the growing scientific consensus that air pollution causes serious damage to human health, the WHO revised and stiffened its air quality guidelines. China has not adopted the WHO's recommendations. Bingheng Chen, M.D., M.P.H., spent a decade at the WHO and sits on the organization's six-member Steering Group on Air Quality Guidelines. She is now a professor at Fudan University's School of Public Health in Shanghai and has written many articles about air pollution and health.

“Quite a few Chinese scientists are recommending to the Chinese government that it revise and update the air quality standards, which were issued in 1996 and are out of date compared to the WHO guidelines,” Chen said. “We consider this urgent, based on the huge evidence, internationally and nationally, about the health problems caused by air pollution. It is very important to make a solid case to the government and to link the science and the politics.” The government, she adds, seems serious about understanding and controlling air pollution. “They are organizing quite a few research projects to get Chinese data.”

Health concerns

China is caught between its desire to keep stoking its economic engine and its wish to protect the health of its citizens and the environment. The government is acutely aware that the costs of dirty air are social and political as well as economic and medical. According to the government’s own statistics, in 2005 alone there were 51,000 protests throughout China because of pollution. Some turned violent, which led the director of the State Environmental Protection Administration (now the Ministry of Environmental Protection) to say, “The issue of pollution has become a ‘blasting fuse’ for social instability.”


Consequently, the government has set many ambitious targets to control or lower the levels of particulate matter, SO₂ and other airborne pollutants. Unfortunately, the targets are rarely hit. Goals established to increase energy efficiency and decrease air pollution are followed by announcements that energy consumption rose 70 percent between 2000 and 2005 and that coal production will increase 30 percent by 2015.

And yet there are bright spots. The government does seem committed to lessening air pollution. The country is investing billions in new wind and solar power. The government now tolerates thousands of Chinese environmental nongovernmental organizations that run campaigns against polluters, help sickened villagers file lawsuits and act as clearinghouses of environmental information. In fact, the government now provides some of this information by releasing many kinds of data, from reports about air and water quality to lists of polluters. A number of cities have set up “environmental protection courts” to hear cases, though it’s unclear whether the courts have any teeth. The Chinese people clearly want something done about dirty air, and the government is looking for ways to respond without slowing the economy.

Shanghai, for instance, is “a big construction site,” according to Chen, but is a much better place to live than it was only 20 years ago. Then, every family used a coal stove without a chimney and the indoor pollution was terrible; that has been eliminated by city gas, natural gas and electricity. The government also has moved most of the polluting industries to the suburbs. And though the number of cars is increasing, Shanghai is still building subways, which 3 million people use each day.

“I think all of these contribute to the control of air pollution and therefore contribute to health,” Chen said, adding, “But that is only in comparison to ourselves. Our air pollution level is still much higher than in cities in the developed countries.” **YPH**

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



“The adverse health effects associated with air pollution that we see in the Western world, we’ll probably see in China, but with a much greater impact.”

— Brian Leaderer

Mountain



Nyaya Health opened Bayalpata Hospital in June in an isolated area of western Nepal. It is the only medical facility in the region.



Mariko Jesse

Yale public health and medical students help to create a health clinic (and now a hospital) in one of the poorer and more inaccessible regions of Nepal.

By Cathy Shufro

It was the winter of 2006 when Sanjay Basu and Duncan Smith-Rohrberg Maru received a disturbing e-mail from a classmate. Jason Andrews wrote to his friends about the “harrowing situation” of people he encountered while volunteering for a group studying HIV prevalence in western Nepal. Although Andrews in fact was a fourth-year medical student at the time, word spread that he was a doctor. When he opened his bedroom door each morning he would find a dozen women waiting to see him. Most told him they had HIV, half were widows, children cradled in their arms.

Reading Andrews’ account would mark a turning point in the lives of Basu and Maru, who were then fellow medical students at Yale and also doctoral students at the School of Public Health. Andrews wrote: “I’m having trouble expressing myself without sounding too dramatic. One night I was sitting, having dinner in a room full of the women I had been providing my meager medical advice to, and it struck me that they would almost all be dead within five years.”

Those mothers had nowhere else to turn, Andrews, M.D. ’07, told his friends. The local government clinic was locked, and in any case, Andrews discovered that its “health worker” lacked medical training. The nearest hospital was 12 hours by car over harrowing mountain roads. For the people of western Nepal, health care generally meant buying drugs from private pharmacies run by people with scant medical knowledge, visiting traditional healers or finding the rare government health post that was actually open.

“Something desperately needs to be done,” Andrews wrote in that e-mail. He asked Basu, M.D. ’09, Ph.D. ’08, and Maru, M.D. ’09, Ph.D. ’08, if they thought a reputable group like Doctors Without Borders might be available to fill the void.

As it turned out, the young men never called on Doctors Without Borders, or any other agency for that matter. Instead, they formed their own organization and named it Nyaya Health. Nyaya, in Nepali, means justice.

After two years of planning and fundraising, in April 2008 Nyaya Health opened a five-room clinic in a converted granary in the village of Sanfe Bagar, a transit hub in Nepal’s remote Achham District. The group has managed to recruit a full-time doctor, difficult in such an isolated place, and hire 19 other staff, including midwives, health workers and technicians – all Nepali. Patients arrive on foot, most having walked for one to three hours. Some walk for eight hours or longer to receive medical attention.

For only \$130,000 in cash, the three students laid the foundation for a health care system in Achham: a clinic that provides free care for an average of 1,200 patients monthly. In April, Nyaya Health signed a contract with the Nepalese government to renovate an abandoned cluster of buildings in the town of Bayalpata, about a half-hour’s walk from the clinic. Nestled in the rolling mountains, Bayalpata Hospital opened in June, replacing the clinic and providing room for future expansion.

But the hospital represents only part of what Nyaya Health hopes to achieve. While patient care visits are important, they don’t necessarily translate into public health

Health



Since its creation in 2008, Nyaya Health has hired a full-time doctor and 19 other staff, including midwives, health workers (including the woman above) and technicians. The hospital serves some 1,200 people monthly.

outcomes. The young doctors want to address the big public health problems in the surrounding area rather than only maximize services in the clinic.

“The entire vision, and how we operate as an organization, comes from a public health perspective,” Maru said. “We have gotten away from a disease-focused model of health and built it up from a primary care base.” In treating HIV-positive patients, for instance, “We provide care for whatever people come in the door with, and then we layer on HIV services,” said Maru, now a resident in internal medicine and pediatrics at Harvard.

“We want to change the dynamics of illness, which really means changing the risks people are living with,” said Basu, a resident in internal medicine at the University of California, San Francisco.

Before opening the clinic, Andrews and Maru oversaw a survey to gauge those risks. Community health workers going door to door found that 60 percent of the children were malnourished. They estimated the maternal death rate at one in 125 births (compared to about one in 6,500 births in the United States). Per capita income is under \$1 per

day, and many Achham residents said they delayed seeking medical care for fear of the cost. The majority who did get care had to borrow money or sell land, livestock or jewelry.

To begin, Nyaya Health has settled on three community health goals: to persuade local people that women should give birth in the hospital rather than at home or in a cattle shed; to screen for and treat tuberculosis; and to reduce malnutrition. The four community health workers are providing prenatal screening, encouraging hospital births and distributing high-energy foods that will soon include a nutritious peanut butter paste called Plumpy’nut. They also plan to distribute cooking stoves that reduce indoor air pollution.

Although Basu, Andrews and Maru visit Achham when they can, getting there from the United States is expensive (volunteers pay their own way) and grueling. It includes a 14-hour flight to Delhi, six hours by train to the Nepalese border, a 12-hour Jeep ride and, finally, a steep climb on foot to the hospital that takes Nepalis used to the high altitude 45 minutes. For Westerners unaccustomed to hiking at 5,000 feet, it usually takes two hours.

Mostly, therefore, the collaboration between U.S. volunteers and the hospital staff is long-distance. One of the first and most expensive projects Nyaya undertook was to install satellite Internet. “Nyaya could not operate without the information technology we have today,” said Maru. The Internet allows hospital staff and about 25 U.S. volunteers to keep abreast of clinical data, budgets, expenditures and treatment protocols.

“Our data monitoring program is perhaps our best example of how we use new technologies to collaborate between our Nepal- and U.S.-based teams,” said Maru.

[Getting to the site] includes a 14-hour flight to Delhi, six hours by train to the Nepalese border, a 12-hour Jeep ride and, finally, a steep climb on foot to the hospital that takes Nepalis used to the high altitude 45 minutes. For Westerners unaccustomed to hiking at 5,000 feet, it usually takes two hours.

“Data has a short half-life that requires us to analyze it frequently, to detect errors and to use the data to drive our clinical practice.”

Each month, data manager Jennifer Garnett, M.P.H. ’08, a first-year medical student at Albert Einstein College of Medicine, analyzes the data from Nepal and looks for trends. Garnett’s summaries are listed on the group’s interactive website (*wiki.nyayahealth.org*), or wiki, which is viewable not only by Nyaya staff and volunteers but by anyone who wants to learn from Nyaya’s experience. The Nyaya blog (*blog.nyayahealth.org*) explains some of the decisions that have grown out of data analysis. For instance, data monitoring last fall made clear that the clinic was prescribing a lot of nonsteroidal pain relievers (NSAIDs) that ease discomfort such as back pain but fail to address its causes. The clinic revised protocols for treating backaches to include teaching proper lifting techniques and recommending treatments like massage and compresses. Expenditures for NSAIDs plummeted.

The Internet connection has also made possible a partnership between Yale physicians and the Nyaya staff, who use the only ultrasound machine in a region inhabited by a million people. Every Tuesday, Christopher L. Moore, M.D., assistant professor of emergency medicine, meets with residents and fellows at Yale-New Haven Hospital to evaluate the quality of the week’s ultrasound images and the accuracy of diagnoses. Their critique usually encompasses a dozen images sent over the Internet from Bayalpata Hospital.

Providing this kind of assistance to the staff in Nepal constitutes part of what Nyaya’s founders see as a core

mission: to redistribute resources – money, equipment, supplies and knowledge – to a place that has been deprived because of politics, war and exploitation. In offering advice, the group has enlisted strong support: its board of advisors includes Kaveh Khoshnood, M.P.H. ’89, Ph.D. ’95, assistant professor in the division of Epidemiology of Microbial Diseases; AIDS pioneer Gerald H. Friedland, M.D., professor of medicine and epidemiology at Yale; and Paul E. Farmer, M.D., Ph.D., Harvard professor and global health icon.

As for the clinic, residents of Sanfe Bagar petitioned the local government to keep it open using public funds. They succeeded.

The founders of Nyaya Health say their work has just begun. They have listed ambitious goals, in detail, on their wiki. In five years, for instance, they hope to employ 120 community health workers and at least one full-time female physician, to provide skilled attendants at 2,500 births annually and to bring in donations of \$1 million a year.

Maru said he speaks for most of the volunteers who make Nyaya run when he says, “Nyaya Health was not formed around charity work; in the long term we’ll all stay involved, in our continued effort to develop an effective and equitable health care system for our patients.” **YPH**

Cathy Shufro is a freelance writer in Woodbridge, Conn.

Photos courtesy of Nyaya Health

Most residents of Achham District live in the high hills and mountains of western Nepal and can reach the hospital only by foot.





Courtesy of Zunyou Wu

AIDS' Adversary

Zunyou Wu is at the helm of China's battle against a virus that, if mismanaged, poses an "unimaginable" epidemic.

Zunyou Wu, M.D., Ph.D., is director of the National Center for AIDS/STD Control and Prevention at the Chinese Center for Disease Control and Prevention in Beijing. He has been called the "Tony Fauci of China," for his work and contributions to battling AIDS in the world's most populous country. Wu has focused much of his efforts on groups that are at the highest risk: sex workers, drug users, homosexuals and migrants. Among other things, he initiated and evaluated needle exchange and methadone treatment programs in an attempt to reduce HIV infection among injection drug users. The controversial programs are starting to be widely adopted in China. As an epidemiologist, he also made valuable contributions to controlling the SARS outbreak in Beijing several years ago. Wu was a post-doctoral fellow at Yale in 2000, working closely with former Dean Michael H. Merson, M.D., and Kaveh Khoshnood, M.P.H. '89, Ph.D. '95, now an assistant professor in the division of Epidemiology of Microbial Diseases. Wu and Khoshnood continue to collaborate on AIDS-related research in China.

Can you describe the HIV/AIDS situation in China today?

zw: China's HIV epidemic currently remains one of low prevalence overall, but with pockets of higher rates of infection among specific subpopulations and in some localities. The characteristics of the epidemic in China are as follows: it continues to expand, but the rate is slowing; sexual transmission is now the main mode for the spread of HIV; geographic distribution is highly varied; and the epidemic continues to be driven by high-risk behavior within particular subpopulations. In high-prevalence locations there are apparent impacts on individuals and families affected by AIDS. Today, approximately 700,000 people in China are HIV-positive and there are about 85,000 known AIDS cases.

What do you see as the most significant trend in China?

zw: The most significant trend in China now is the rapid increase of HIV through sexual transmission, via both heterosexual contacts and male-to-male sexual contact. This change is understandable and there are a few factors that explain it. First, the number of people living with HIV continues to increase, because new infections occur every day. Also, people who are infected are living longer under our national antiretroviral program. The majority of infected individuals are also sexually active, and thus, there has been an increase in sexual transmission. Second, there has been a rapid spread of HIV among men who have sex with men, most of whom also have had sex with women.

What are the major forms of HIV/AIDS transmission in China today?

zw: Heterosexual sex counts for most of the newly reported HIV infections, followed by injection drug users, men who have sex with men and mother-to-child transmission.

Just a few years ago some public health specialists predicted that China had all of the elements for an AIDS epidemic of "unimaginable" proportions. While HIV/AIDS is a growing health concern in China, that hasn't happened. Why not? Could it still?

zw: China has responded vigorously since 2004. However, China still faces new challenges from the HIV epidemic with the rapid increase of sexual transmission. This is something that we are addressing now. We are trying to understand where the new HIV infections are coming from and focus our efforts to avoid new infections. We are confident that by scaling up effective prevention programs, China will be able to keep the HIV/AIDS epidemic at a low level.

China launched a voluntary counseling and testing (VCT) program a few years ago to get a better handle on the scope of the problem and how the virus was spreading. VCT has drawn criticism as sometimes being too invasive. What is your view? Has the program made a difference?

zw: VCT is an effective strategy that allows infected individuals to learn their status. It helped many infected

“Stigma is still a major problem in China for people living with HIV/AIDS. For instance, people are often refused health services, such as surgery, if their HIV status is disclosed.”

- Zunyou Wu

individuals get access to HIV services. I think that the program has made positive contributions in detecting many infections. For example, from 2007 to 2008 about 3,000 people with HIV who were infected in the 1990s were tested and reported through the VCT program.

The rate of HIV/AIDS in China is still relatively low compared with that in other countries. Do you see any factor or factors that could cause the incidence of new cases to rise sharply?

zw: Men who have sex with men are a group with rapidly increasing rates of HIV infection. This is an area that we are working on. In 2008, we organized a national survey of HIV among men who have sex with men in 61 cities and followed it with an intensive prevention campaign.

Several years ago Premier Wen Jiabao publicly greeted a man known to have AIDS. They were photographed together. Why was that so significant in China?

zw: The premier is a role model for the Chinese general public, and particularly for high government officials. His actions are closely watched, and that handshake meant that top Chinese leaders are concerned and care about people living with HIV/AIDS. The Chinese government is committed to protecting the health of the Chinese people and to mobilizing resources to fight against AIDS and the associated stigma and discrimination.

How has China evolved over the past decade in terms of how it views and handles the HIV/AIDS epidemic?

zw: China shifted its policies and strategies to more effectively respond to HIV/AIDS because of lessons learned from the SARS epidemic. Since 2004, more HIV testing services and primary prevention programs have been available, including methadone maintenance, needle exchange, condom promotion, free antiretroviral therapy and directly working with HIV-positive individuals.

What has China learned from other countries that are battling the AIDS epidemic?

zw: We have incorporated pragmatic and evidence-based policies and strategies used in other countries. Approaches used in Australia, the Netherlands and Britain targeting

female sex workers, drug users and men who have sex with men have been important sources of information and assistance. We appreciate the help we have received in policy advocacy and supported pilot programs.

Did China's experience with HIV/AIDS inform and improve its response to the recent SARS outbreak?

zw: It was just the opposite. Our experience with SARS in 2003 informed and improved our response to HIV/AIDS. The experience highlights the importance of science-guided policies and strategies for prevention and for ways to mobilize all of society to participate in the battle.

Intravenous drug users are a significant source of new infections in China. What is happening with efforts to deliver clean needles to drug users? Is needle exchange becoming more accepted?

zw: It is now the national policy of China to have a needle exchange program. Needle exchange was written into China's AIDS regulations in 2006 and in the second five-year action plan (2006 to 2010). We have a national budget for needle exchange. It is still controversial, but the government continues to support it. China now has some 900 needle exchange sites to provide services to about 40,000 injection drug users.

How are people in China with HIV/AIDS viewed and treated today by the larger population? Is it a heavily stigmatized population?

zw: Stigma is still a major problem in China for people living with HIV/AIDS. For instance, people are often refused health services, such as surgery, if their HIV status is disclosed. Other people still do not want to eat with them. This is another area that we are working to change. **YPH**

Michael Greenwood

The inspection connection



A new Yale program is helping to train the next generation of leaders in China's State Food and Drug Administration, where the latest international trends and regulations for monitoring food, drugs and medical devices are discussed.

By Valerie Finholm

It started with a meeting in midtown Manhattan at the Yale Club, included the services of two Chinese-English translators and entailed a lengthy (five-hour) discussion of Yale's capabilities and knowledge in the area of international regulation of food, drugs and medical devices.

The prospective client—the government of China—emerged from the session impressed; Yale was selected.

Since that 2007 meeting, 43 senior-level Chinese regulators from the State Food and Drug Administration (SFDA) have attended two training programs at the Yale School of Public Health, with more programs slated for this year, to learn about the latest trends and regulations regarding the approval/inspection of food, drugs and medical devices.

"It's really blossomed," Robert W. Makuch, Ph.D. '77, professor in the division of Biostatistics, said of the programs. Makuch oversees the training programs and met with Shuhui Qu, deputy commissioner of the SFDA, to discuss Yale's interest in working with the SFDA. Makuch also directs a Regulatory Affairs Program at Yale.

The partnership debuted in April 2008 when China sent a 22-member delegation of senior SFDA inspectors to Yale for 10 days. Participants included directors and association directors of provincial offices and the central Beijing SFDA. The delegates heard from internationally recognized experts, including Yale College graduate and former U.S. Food and Drug Administration chief counsel Peter Barton Hutt and both current and former U.S. FDA senior officials regarding regulation of foods, drugs and medical devices.

The experts described how these products are regulated in the United States and elsewhere; the different phases of studies that must be conducted to get new drugs and devices approved; processes to guarantee good clinical and manufacturing practices; the structure and functioning of U.S. FDA advisory committees; mechanisms for evaluating safety of these regulated products; and how safety problems are disseminated to the American public.

During visits, speakers and SFDA members engaged in lively discussions and raised numerous questions about

the ways in which the U.S. FDA and the SFDA attempt to ensure efficacy and safety of regulated products.

Because China's export/import markets have developed so quickly during the past 20 years, an acceleration that has quickened even further in recent years, SFDA senior leadership realized the importance of meeting worldwide regulatory standards for ensuring public health, said Echo Xu, director of international training for the Beijing-based company IMD Marketing and Consulting, which coordinates this training program.

The Chinese want to know about the U.S. system because they believe that the U.S. FDA has the most globally established and high-quality program in regulatory affairs, Makuch said. Thus, the success of the 2008 program led to meetings a few months later in Beijing between Makuch and Qu to plan future visits to Yale.

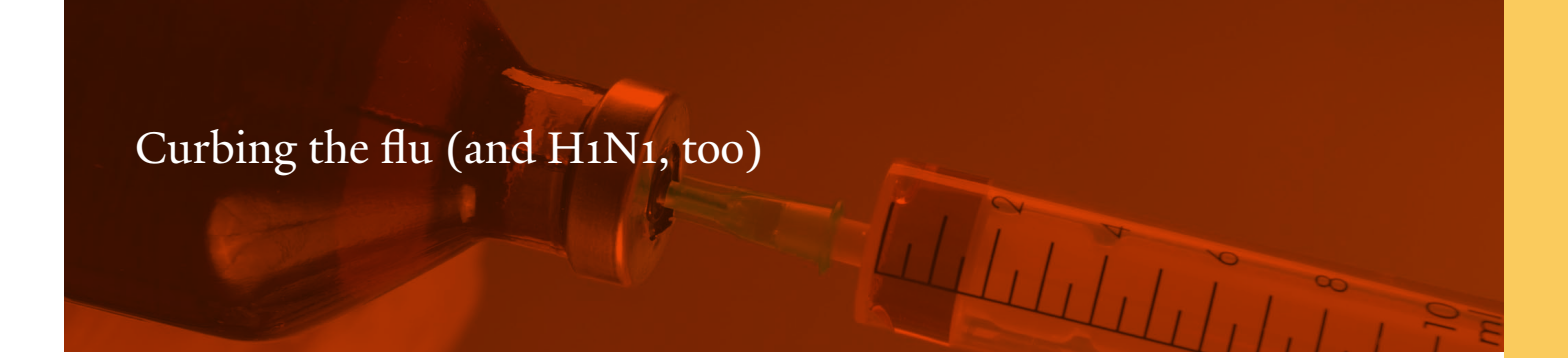
The prospective client—the government of China—emerged from the session impressed; Yale was selected.

That meeting led to a second SFDA visit to Yale in April 2009, with a 21-member senior delegation. Officials of the SFDA were provided with an intensive program in the regulation of medical devices, ranging from the sterilization of medical equipment to standards for MRI machines.

Xu credited Makuch and his extensive efforts, as well as Yale's reputation and long-standing and numerous collaborations with China, for the success of the SFDA training programs at the School of Public Health.

"Dr. Makuch spent so much time on every detail of the training," Xu said. "We gave him some general topics that the SFDA wanted to learn and then he created a wonderful program. ... We learned a lot from him." **YPH**

Valerie Finholm is a freelance writer in West Hartford, Conn.



Curbing the flu (and H1N1, too)

YSPH research concludes that it would be more effective to vaccinate school-age children and adults in their 30s; the findings differ significantly from current federal guidelines.

With the seasonal flu season approaching and a growing uncertainty over what will happen with the swine flu, new research by the Yale School of Public Health has found that more people are likely to avoid both illnesses if vaccines are given out first to those most likely to transmit them, rather than to those at highest risk for complications.

The findings differ significantly from current vaccination recommendations of the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP).

The ACIP currently recommends that groups at high risk for complications of swine flu (also known as novel influenza A or H1N1) be given priority for vaccination. The CDC recommends the same for seasonal flu vaccination. High-risk groups include children younger than 5 years; adults 65 years of age and older; pregnant women; and those suffering from pulmonary, cardiovascular and other disorders.

But the study by Alison P. Galvani, Ph.D., an associate professor in the division of Epidemiology of Microbial Diseases, suggests that vaccines targeted at groups more likely to transmit the viruses, rather than those at highest risk of complications, would result in fewer infections and improved survival rates.

Galvani used mathematical models to measure outcomes based on deaths, years of life lost and economic costs. Strikingly, these models found that schoolchildren, ranging in age from 5 to 19 years old, and their parents, generally in the age range of 30 to 39, are the best groups to vaccinate when even a modest amount of an effective vaccine is available, because schoolchildren are most responsible for transmission and their parents serve as bridges to the rest of the population. By targeting these two age groups, the study found, the remainder of the population is better protected and the spread of the virus is better controlled.

“Our results illustrate the importance of considering transmission when allocating vaccines,” said Galvani.

The paper was coauthored by Jan Medlock, Ph.D., an assistant professor of mathematics at Clemson University. The study appeared in the August 21 online issue of the journal *Science*.

The CDC expanded its seasonal flu vaccination recommendations in 2008 to include children up to 18 years old. Still, Galvani’s study determined that previous, and new, guidelines for both swine and seasonal flu performed substantially worse than the optimal strategies that she and her group identified.

For example, the ACIP’s new vaccination policies for the swine flu would result in 1.3 million infections, 2,600 deaths and \$2.8 billion in cost. In contrast, Galvani’s model resulted in 113,000 infections, 242 deaths and \$1.6 billion in cost.

“The optimal allocation of vaccines is paramount to minimizing mortality and morbidity in the population, particularly when there is a supply shortage.”

– Alison Galvani

The researchers used two major pandemics of the 20th century—the so-called Spanish flu of 1918 that killed as many as 100 million people and the less lethal 1957 Asian flu outbreak—in building their mathematical model.

Galvani said the CDC’s recommendations could be significantly improved by reducing CDC prioritization of children under age 5 and the elderly. “The optimal allocation of vaccines is paramount to minimizing mortality and morbidity in the population, particularly when there is a supply shortage,” she said. [YPH](#)

Michael Greenwood



Michael Marsland

International health professionals attending Yale's inaugural conference of the Global Health Leadership Institute gain new ideas, momentum for their homelands.

Improving health care is almost always complicated. There are entrenched interests, fiscal constraints and resources that are scarce or simply nonexistent.

Health professionals from five countries attending the inaugural conference of Yale's Global Health Leadership Institute in June grappled with these complex issues and others as they forged strategies to address some of the intransigent problems facing their homelands. They put in long days, but by week's end each of the delegations – from Ghana, Rwanda, Mexico, Liberia and Ethiopia – had a detailed blueprint targeting a specific health challenge.

“Leadership is about understanding roles within the group and creating synergies that lead to the success of the organization.”

– Elizabeth Bradley

Liberia's representatives, for instance, spent much of the weeklong conference at the university's new Greenberg Center working on a plan to reduce maternal mortality. Their peers from Ghana developed a protocol to better evaluate the performance of district health directors. Mexico's delegation focused on why the quality of health care hasn't improved despite the increasing amount of money being spent. Implementing their plans is the eventual goal of each group.

Countries chosen for this year's conference had already achieved notable health successes despite limited resources. The goal was to build upon that momentum by fostering ideas and dialogue and further developing in-country leadership skills, said Elizabeth H. Bradley, Ph.D. '96, professor in the division of Health Policy and Administration and director of Global Health Initiatives at Yale.

“There's a lot more to leadership than a checklist of qualities,” Bradley said during a group discussion on the role of leadership. “Leadership is about understanding roles within the group and creating synergies that lead to the success of the organization.”

Delegates also were exposed to concepts of grand strategy – how leaders accomplish great ends with modest means; worked closely with experts in health delivery and management; and fine-tuned their policy initiatives in daily sessions with their colleagues.

The groups also used the conference's daily panel discussions to explore the many complexities of health care, including retention of medical professionals and the dilemma of brain drain. Several acknowledged a strain between short- and long-term objectives, rooted in competing demands on government resources, and asked for guidance on harmonizing these efforts.

Richard Feachem, director of the Global Health Group at the University of California, San Francisco, picking up on the theme of leadership, cited the quality of boldness and the example of Microsoft founder Bill Gates. That characteristic, he said, even in the face of steep obstacles and lukewarm support, is critical if the health gap between the developed and developing world is to be narrowed. Gates recently set a goal of eradicating malaria, a scourge in many areas of the world. “Bold action [is] absolutely essential,” Feachem said.

He also noted that global leadership will be increasingly vital if current levels of international health are to be maintained, since in the 21st century disease outbreaks are no longer containable or isolated. The rapid spread of swine flu is the most recent example. Others, likely deadlier, will follow. “We all win or we all lose,” Feachem said.

Yale President Richard C. Levin, who has made the internationalization of Yale a priority – with global health an important cornerstone – praised the delegates and the Yale staff and faculty who made the conference possible.

“You honor us by your participation, and I hope that our relationship with each of you and your colleagues will continue to grow,” Levin said during closing remarks. The program was funded by Yale and the Glaser Progress Foundation of Seattle.

Many of the delegates, in turn, commented on how much they learned during the week and on their eagerness to bring their blueprints home for further review and, hopefully, successful implementation.

“Murakoze,” said Rwandan delegate Juliet Mbabazi, using her native word for *thank you*. **YPH**

Michael Greenwood and Melissa Pheterson

Students

First Job

With his M.P.H. diploma barely in hand, a 2009 graduate lands a job with the Obama administration to help implement America's down payment on health reform.

By Robert A. Nelb

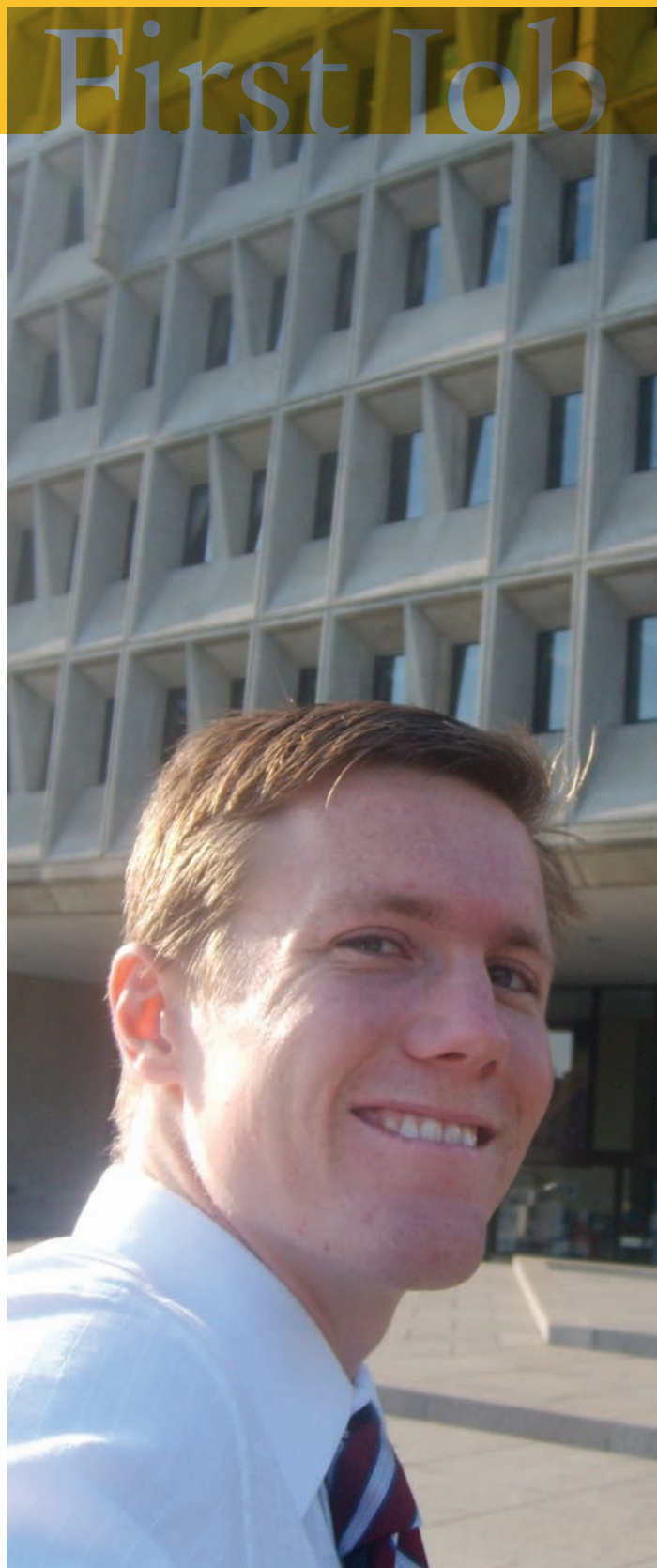
Not many kids grow up dreaming about working as a government bureaucrat. I know that I didn't.

But now that I have begun working for the Obama administration, I couldn't be happier. There's a new energy in Washington, and with my recently completed Yale education, I'm ready to help the administration make change a reality.

Like many students, I first came to Yale College unsure of what I wanted to do. Although I initially thought that I'd be a clinical physician, I soon learned that my true passion lies in the community. Through Yale's many student groups and community initiatives, I became involved in projects such as designing nutrition programs at the Hill Health Center, helping low-income families enroll in Connecticut's HUSKY program and organizing students to provide nutrition facts in Yale College dining halls, and I discovered that I loved the work of public health. This career isn't the easiest path, but it's where I felt I could make the biggest difference.

At the Yale School of Public Health, I became more interested in the policy side of the profession. As part of the new five-year B.A.-B.S./M.P.H. Select Program in Public Health, I was able to take a wide variety of courses in health policy and management across the university. Perhaps most importantly, my internship in the U.S. Senate in the summer of 2008 provided valuable firsthand exposure to the world of policymaking and opened my eyes to the important role that federal agencies play in implementing new policies. Community organizing is invaluable, but at the end of the day, some of the biggest changes are those that come from the government.

So when I started looking for a job last fall, before anyone knew who was going to win the approaching presidential election, I sent in my application to the Presidential Management Fellow (PMF) Program (formerly known as the PMI program), which offers the federal government's top fellowship for young people interested in public service. The process, like many things associated with the



Robert Nelb's first job after graduation is in Washington, D.C., where he is working to coordinate the Recovery Act's health initiatives.

Courtesy of Robert Nelb

federal government, was highly bureaucratic and time-consuming, but after nearly six months of waiting for my application to be processed, I finally received Notification Letter Vacancy ID 200699: “Congratulations: You have been selected as a finalist in the Presidential Management Fellow Program!” I was going to have an opportunity to interview with hundreds of different federal agencies and hopefully find the one that fit me best.

“[My] work as a civil servant has been more challenging and more rewarding than I ever expected. ... I feel like I’m doing what I’ve always done: organizing communities to improve the public’s health.”

– Robert Nelb



Harold Shapiro

Fortunately, it turned out that public health skills are sorely needed in the government and that a degree from the Yale School of Public Health is a valuable asset. Before I even arrived, I had numerous interview offers from a number of different agencies, and I was also able to get in touch with Beth Higa, M.P.H. ’05, a former PMF program participant. Although Yale doesn’t seem to encourage students to pursue careers in the government as much as it could, its career office provides many helpful resources for students who choose this path. I walked into my interviews with the confidence that I was well-prepared.

Like many things in life, however, my ultimate placement in the PMF program seemed to be a matter of luck as much as anything else. A week before my interview, the

Office of the Secretary of Health and Human Services (HHS) created a new division to help oversee the implementation of the American Recovery and Reinvestment Act of 2009 (ARRA), also known as the stimulus package, which is investing nearly \$800 billion to help improve the economy. This new office was looking for a committed staff to help coordinate the many different HHS programs, and so after I walked into my first interview for the day, I had a job!

My office is directly responsible for the coordination of the Recovery Act’s health initiatives, including \$48.8 billion to help encourage the adoption of electronic medical records and \$10 billion for scientific research, as well as funding for many more programs that President Obama has collectively called a “down payment” on health reform. We not only make sure that money is spent wisely, but we also make sure that it is spent responsibly, and we have been working on implementing the many accountability and transparency provisions of the bill (which can be followed at recovery.gov). As Congress battles over new legislation for comprehensive health reform, it may be easy to forget about the details of the Recovery Act, but in many ways, this bill is a reminder that what happens after a bill is passed is crucial to the success of any new policy.

If this sounds like a big task, it’s because it is. Indeed, my first week on the job was a whirlwind. After the first day of orientation paperwork and procedures, I was thrown into the thick of things – interpreting hundreds of pages of legal guidance, participating in high-level meetings with stakeholders and trying to find practical solutions to distribute needed money quickly and transparently.

However, in the large, essentially windowless Hubert H. Humphrey Building (which looks a lot like LEPH), it can be easy to forget why we’re doing what we’re doing. Millions and billions blur together on spreadsheets, and evaluation metrics can never seem to capture the human element of what we do. So after a long day of work, I often find myself thinking back to my time in New Haven, remembering that the Recovery Act money for Medicaid funding is helping people like the families I helped enroll in HUSKY; that the investments in community health centers are helping the sick who visit places like the Hill Health Center; and that funding for prevention and community service programs is spurring the kind of activism that I led at Yale.

Overall, work as a civil servant has been more challenging and more rewarding than I ever expected. I’m not pushing paper in a cubicle from 9 to 5, and I’m not rigidly implementing rules. Instead, I feel like I’m doing what I’ve always done: organizing communities to improve the public’s health. **YPH**

Robert Nelb is a 2009 graduate of Yale’s M.P.H. program and a 2008 graduate of Yale College.

A man named Parameswaran and my road to public health

An M.P.H. student spent several years organizing fundraisers to aid tsunami victims, children with cancer and others before deciding that a public health degree would allow her to help people even more.

By Ji Im

In the fall of 2006 I visited several sites along the battered coast of India dedicated to supporting the survivors of the 2004 tsunami. I had taken time off from my consulting job to witness firsthand how humanitarian aid is distributed in a public health emergency. Making my way through the town of Nagapattinam, on the eastern shore of Tamil Nadu, it was clear that recovery efforts had stagnated and that the hardship was far from over. Partially standing homes, torn billboards and scattered wire posts were what remained of the once-bustling port.

Having witnessed this deplorable situation, I returned home to Virginia determined to help. I had organized two previous fundraisers and quickly started work on my next effort, this time to raise money to install pipelines that would bring clean water to residents. In November 2006, more than 50 volunteers and 700 people attended the event. I was amazed by the crowd's energy and enthusiasm. But more importantly, the event's success showed what can happen when many people collaborate on a common goal.

Unfortunately, the pipeline project was cancelled shortly thereafter, due to political bureaucracy and religious issues in the region. The news shattered my naive belief that humanitarian aid is a universal, unconditional good.

As I wondered what to do with the money that we raised, I thought about other experiences I had in India and recalled my meeting with a remarkable, humble man named Parameswaran. The tidal wave arrived on his birthday, sweeping across his property and claiming three of his children and seven relatives. Tragic as the deaths were, Parameswaran and his wife, Choodamani, did something extraordinary. Understanding that the loss of their children was not any more tragic than the parentless, homeless children wandering in the nearby streets, the couple opened their home to 16 orphans, providing food, shelter and the beginnings of a new family. Despite their personal suffering, they began anew.



A growing crowd waits to attend a fundraiser run by Ji Im (white dress) in August 2008 at Cafe Asia in Rosslyn, Va. VitA (Visions into Action Charity) was raising money for Special Love, which provides children with cancer the chance to enjoy traditional camp activities and other opportunities. This fundraiser drew a larger-than-expected crowd: some 150 people waited to join the nearly 500 people already inside. The event raised almost \$13,000.

We ended up rerouting the money raised for the water project to procure health workers, supplies and clean water for Parameswaran's village. Supporting him was an easy decision, and the money from the fundraiser was well-used. I was deeply impressed with his respect for human life and his desire to build a better future. Today, he continues to share stories with me of the efforts to rebuild his village and his new family's life.

Even though things turned out well, I spent restless hours wondering about future projects and how to approach them. I was at a turning point—the desire to help those in need was now driving my professional career. Through fundraising I became passionate about promoting change, but were there better ways to do this?

Through my interaction with Parameswaran and my experiences with fundraising, I learned a lot about the human capacity for compassion and resilience. The unsuccessful pipeline project also taught me how much more I had to learn about working within unfamiliar cultures to achieve benevolent ends. It was this realization that brought me to the Yale School of Public Health.

My future may still involve fundraising, but it will also involve other forms of engagement and action, the protocol and demands of which I am now learning. I envision myself eventually working with health care providers to improve delivery systems, at home and abroad. My long-term plans are still open-ended, but I know that with each new experience here at Yale and afterward, I am becoming more prepared, aware and able to be an effective partner to Parameswaran and others like him. **YPH**

Ji Im is a second-year M.P.H. student at Yale in the Health Management Program within the division of Health Policy and Administration.

Courtesy of Ji Im

Charting swine flu and other threats



An alumnaus creates an online health map that tracks, and warns users of, disease outbreaks both mundane and exotic.

By Michael Greenwood

Weeks before swine flu first entered the public lexicon and riveted the world's attention last spring, the appearance of a "strange" virus in the small Mexican town of La Gloria was pinpointed and, with little fanfare, posted on HealthMap.

The next day, April 2, there was another posting on the same Web-based disease mapping system about a new case of the disease. A few days later another posting followed.

The first action by the World Health Organization in response to the disease came more than a week later. The Centers for Disease Control and Prevention confirmed the presence of the virus (also known as H1N1) on April 17, and the first reports of the unfamiliar virus started to appear in the English-language media a few days later.

Since the virus first surfaced, the HealthMap monitoring system has chronicled its spread from central Mexico to the United States and beyond. The outbreak showed the value of Internet-based disease mapping in alerting the public – and public health officials – about emerging threats, infection patterns and disease movement.

At the height of public anxiety over the outbreak, HealthMap was receiving some 150,000 hits daily – a 100-fold increase over the pre-swine flu figures. The volume so strained the system that its creators were forced to shut it down for a few hours to bolster its memory and reconfigure its settings. But other than a few technical glitches, the disease map performed remarkably well in a real-life epidemic.

"It was really nice to see that our system worked as it was supposed to," said John S. Brownstein, Ph.D. '04, who

co-created HealthMap with Clark C. Freifeld, a 2000 Yale College graduate who studied computer science and math. "The site really became a resource for a lot of people."

From an outbreak of West Nile virus in the Connecticut suburbs, to an Ebola epidemic in rural Africa or the appearance of a new virus such as swine flu, the ever-changing world of infectious disease is now at the fingertips of medical professionals and laypeople alike with an online surveillance system that provides users with an up-to-the-minute snapshot of global epidemiological events.

The HealthMap surveillance system is a multistream, real-time platform that uses a series of proprietary algorithms to mine 14 sources (representing some 20,000 Internet sites that include media outlets, government websites and online discussion forums) for breaking news about infectious disease outbreaks both mundane and exotic. In the case of swine flu, HealthMap picked up the news by monitoring stories in the Spanish-language media.

The result are filtered and checked for duplication, accuracy and relevance and then posted on a global map. Users can click on the color-coded icons to get further details about a *Salmonella* incident culled from a Google news story; an anthrax alert acquired from ProMED, a public health listserv; or a warning issued by the World Health Organization.

There is a "massive" amount of information available on the Internet pertaining to public health, but there was previously no effective way to sort or display it, said Brownstein. HealthMap seeks to synthesize this information in an easy-to-use and easy-to-understand format that is freely available to anyone interested in emerging health threats.

"It's an idea that we had been exploring for some time," said Brownstein, who studied disease mapping at Yale with Durland Fish, Ph.D., professor in the division of Epidemiology of Microbial Diseases. "We're trying to integrate, index



Patrick Bibbins



John Brownstein helped to create HealthMap in 2006 to provide health experts and laypeople alike with timely and accurate data on disease outbreaks.

At the height of public anxiety over the [swine flu] outbreak, HealthMap was receiving some 150,000 hits daily – a 100-fold increase over the pre-swine flu figures.

and map all of the world's information about emerging infectious diseases and attempting to predict risk."

Prior to the swine flu outbreak, the site on average received a few thousands hits daily, with users ranging from international tourists checking conditions at their vacation destinations to ministers of health of some countries seeking timely information on emerging threats. The site is updated continuously, sometimes displaying news of a nascent outbreak before it is tracked by government agencies (as was the case with swine flu).

HealthMap debuted in late 2006 and has since been expanded and enhanced. A new round of improvements is in the works, including an increase in the number of languages monitored in order to get a fuller picture of international outbreaks. The service plans to add Hindi, Arabic, Portuguese and certain African languages to the five languages used since its launch: English, Chinese, Spanish, Russian and French. HealthMap also used Twitter to message people immediately about major shifts in the swine flu epidemic, such as a death or a new location.

Brownstein, who is an assistant professor at Harvard Medical School and also a faculty member at the Children's Hospital Boston, acknowledges the need to consider the potential biases of the international news media in what HealthMap chooses to report (or not), as well as the incompleteness or inaccuracy of media reports. An evaluation of the data amassed by HealthMap found a wide variety of data, with 141 infectious diseases reported by Google News alone. The evaluation also found that the majority of reports come from countries with more media outlets and with better-developed electronic infrastructures. Relatively little news is generated, in contrast, from large parts of Africa, the very area where the risks posed by infectious diseases are most pronounced.

Brownstein and his colleagues are considering other data sources, such as text messaging, which have far greater use rates than the Internet and could allow important geographic gaps to be filled in. The idea is akin to that of citizen reporters, allowing laypeople to contribute information that could result in a more complete picture of what is unfolding on the ground.

Ideally, the early notification offered by a resource such as an online disease map could be used to quarantine an outbreak and stop the spread of a disease. This didn't happen with the swine flu, but HealthMap did provide people the world over with the latest information and allowed them to make more informed decisions about their health and that of their families. While HealthMap's impact on public health during the swine flu will never be fully known, Brownstein said it did make a difference and for that he is pleased. **Y P H**

HealthMap can be viewed at healthmap.org.



Courtesy of John Brownstein

A day for alumni

Health care reform debated, graduates honored during annual alumni gathering.

By Melissa Pheterson

When alumni of the Yale School of Public Health gathered in June for their annual reunion, big issues trumped small talk. The nearly 100 graduates reunited for Alumni Day segued from morning mingling to discussion of a matter critical to both their careers and, this year, the country: the pressing business of health care reform.

David U. Himmelstein, associate professor of medicine at Harvard Medical School and chief of the division of Social and Community Medicine at Cambridge Hospital, delivered a sobering keynote address. “Our health care system is very deeply troubled,” said Himmelstein, noting a sharp rise in the ranks of the uninsured—with a third of Americans inadequately covered—that contributes to over 18,000 deaths annually. “This is a middle-class problem of mainstream Americans fallen on hard times.”

Himmelstein, who co-founded Physicians for a National Health Program, attacked managed-care HMOs for maximizing profits at the expense of efficient health care delivery and for racking up high administrative



Evangeline Franklin was one of four alumni inducted into the Alumni Public Service Honor Roll at this year's ceremony. The other inductees were Vandine Or, Peter Orris and Romericus Stewart.

costs that strain funding. “We need to change the incentives in our system,” he said. Himmelstein pointed to Canada as a model, citing their system’s portability of benefits, not-for-profit status and universal coverage for all medically necessary procedures. Even Canadians who are poor, he said, fare better than the average U.S. citizen in many ways, including infant mortality rates.

“The little bit of pressure we’ve applied has created a little bit of movement,” said Himmelstein, who has testified before the U.S. Congress to advocate for a single-payer system.

A faculty-alumni panel titled “Health Care Reform: A Public Health Opportunity” followed the keynote. Moderated by Michael H. Owens, M.D. ’78, M.P.H. ’78, regional medical director of Molina Healthcare in San Diego, it also included Bradford A. Buxton, M.P.H. ’78, president of BTB Associates and a principal of HES Advisors in Northfield, Ill.; Mark W. Legnini, Dr.P.H. ’88, research director of the Engelberg Center for Health Care Reform at the Brookings Institution in Washington, D.C.; Robert V. Levine, M.P.H. ’80, president and chief executive officer of Peninsula

Hospital Center in Far Rockaway, N.Y.; and Mark J. Schlesinger, Ph.D., professor in the division of Health Policy and Administration at YSPH.

“No matter what we do, we are epidemiologists at heart and we need to get to the core of the problem,” said Buxton, seeking common ground in the panel’s divergent prescriptions for repairing the U.S. health care system.

Legnini expressed confidence that the prospect of reform at the federal level, whether sweeping or incremental, will improve health care. “I am sanguine about the Obama administration’s ability to provide coverage for the uninsured,” he said, adding that the key question at the Brookings Institution is: “How do we pay in a way that ‘incentivizes’ doctors and hospitals?”

Levine pointed out that universal health care would not only reduce the number of uninsured Americans, it would increase funding for hospitals treating Medicare and Medicaid patients. “I believe all the uninsured should get a Medicare or Medicaid card,” he said. “It would make my life easier, too.”

right: Dean Paul Cleary joins nearly 100 alumni and friends for the 2009 alumni luncheon and awards ceremony.

below: A packed house greets speakers for “Health Care Reform: A Public Health Opportunity.”

Schlesinger stressed his conviction that mandates must extend beyond creating a single-payer system. “Insurance reform alone is not sufficient to make our health care system work well, in terms of timely access to quality care at reasonable rates,” he said.

“Policymakers in the Beltway have lost sight of other problems” — in particular the pervasive, systemic issue of patients’ disconnection from the health care system. “Even within the insured population, tens of thousands do not fully access their health care,” Schlesinger said, describing them as uncertain of resources and fearful of catastrophic expenses. As a remedy, he proposes an infrastructure of health care connectedness — sometimes called a medical ombudsman system — that would include a telephone hotline, an advocacy network for those with chronic health issues and a program of patient support. “The right to health care needs to be complemented by the right of patients to understand the health care system,” he concluded.

At the alumni luncheon, James Jekel M.D., M.P.H. ’65, professor emeritus at YSPH, presented the Distinguished Service Award to David L. Katz, M.D., M.P.H. ’93, associate professor adjunct in Public Health

Practice. In his remarks, Katz reminded his colleagues that “no man is an island.”

“The public health crises we confront — their dangers and opportunities — loom vastly larger than any individual,” said Katz, highlighting the obesity epidemic and the threat it poses to cardiovascular health for increasingly younger patients.

“The challenge before us is to change our trajectory before angiogram takes its place alongside acne as an adolescent rite of passage,” he said. “Every policy, program and practice is a sandbag in the levy — corrective actions to turn the tide.”

To stimulate interest in public health, he insisted, practitioners “must part the veil of statistical anonymity,” revealing the faces of people afflicted with illness. “It is human interest stories that evoke our passion,” he said. “When we speak of ‘public health,’ the public is us.”

Melinda M. Pettigrew, Ph.D. ’99, an associate professor in the division of Epidemiology of Microbial Diseases, received this year’s Eric Mood New Professional Award. “Sitting in faculty meetings with the same professors I studied under is a very strange feeling,” quipped Pettigrew, who joined the YSPH faculty in 2002.



Alumni Public Service Honor Roll inductees were Evangeline Franklin M.D. ’82, M.P.H. ’82; Vandine Or, M.D., M.P.H. ’96; Peter Orris, M.P.H. ’70, M.D.; and Romericus J. Stewart, M.P.H. ’97.

“David Himmelstein’s analysis of health care must be listened to not only today, at Yale, but in our national policy debate,” said Orris, professor, School of Public Health, University of Illinois at Chicago, who traveled from the Windy City to attend the reunion.

At a champagne and dessert reception, alumni toasted each other’s achievements and caught up on each other’s lives. “Today was a great intellectual challenge — very, very stimulating,” said Marie Roberto, R.N., Dr.P.H. ’89. “Getting back into the spirit of Yale is always re-energizing for me.” **YPH**



Alumni News



Phil Hallen



Rev. Debra Haffner



Lise Luttgens



Heidi Boerstler



Maria Mojica

1950s

Phil Hallen, M.P.H. '58, retired as president of the Falk Foundation in Pittsburgh and was named president emeritus. On his retirement, the foundation established an endowed professorship – The Philip Hallen Chair in Community Health and Social Justice – at the Graduate School of Public Health at the University of Pittsburgh. During Phil's 40-year tenure, a number of Falk grants were awarded to Yale and the School of Public Health, including the Maurice Falk Professorship in Child Psychiatry, currently held by James P. Comer, M.D., M.P.H. Hallen continues consulting on foundation-related issues and is a senior advisor to the Council on Foundations in Arlington, Va.

1960s

Ed Francisco, M.P.H. '65, Ph.D. '71, and his wife, Anne, welcomed their third grandchild, Jack McCarroll Francisco, into the world in Denver, Colo., on May 11.

1970s

Gerard R. Goulet, M.P.H. '75, has been named a managing partner at Hinkley, Allen & Snyder, a law firm with offices in several New England states. In his new position, Gerard will have responsibility for the strategic direction, management and administration of the firm, while maintaining a practice in health care law. He previously served as chief of the division of medical care standards at the Rhode Island Department of Health.

Rev. Debra W. Haffner, M.P.H. '79, was awarded the Union Theological Seminary's Unitas Distinguished Alumni/ae Award in October. The Unitas awards, established in 1994, bear witness to the faith and perseverance of living Union alumni who exemplify the seminary's academic breadth;

its diversity and inclusiveness; and the range of vocations its graduates follow. Recipients represent all of the Union graduates who have distinguished themselves in the church, academy and society across the country and around the world. Debra is an author, Unitarian Universalist minister, leading American sexuality educator and the co-founder and director of the Religious Institute on Sexual Morality, Justice and Healing. She received YSPH's Distinguished Service Award in 2000.

Lise L. Luttgens, M.P.H. '79, serves as the CEO of the newly formed Girl Scouts of Greater Los Angeles, the largest girl-serving nonprofit agency in Los Angeles County. The six Girl Scout councils formerly serving Los Angeles County and parts of Kern and San Bernardino counties merged in December 2008 to form the new council, now one of the largest Girl Scout councils in the country. With an \$11 million operating budget and a staff of 140 people in seven regional offices and a headquarters in downtown Los Angeles, the new council serves 45,000 girls and young women in partnership with 22,000 adult volunteers.

1980s

Heidi Boerstler, M.P.H. '81, Dr.P.H. '87, a professor of transformational leadership and health law and ethics at the University of Colorado Denver, was recently named Female Athletic Legend by the Denver Athletic Club for a lifetime of excellence in athletics, including national ranking in masters swimming, dance fitness and, most recently, dance gymnastics. Heidi is also an expert in yoga and is a volunteer yoga teacher for the homeless and disabled in Denver.

Maria I. Mojica, M.P.H. '83, has been named vice president for programs at the Hartford Foundation for Public Giving, which serves 29 towns in the greater Hartford region. Maria previously worked as a consultant advising nonprofit organizations and as an executive at the William Caspar Graustein Memorial Fund in Hamden, Conn.

Marie Tsivitis, M.P.H. '86, is working with the N.Y. Department of Health in the Hospital-Acquired Infection Reporting program, covering Long Island, Queens and Staten Island. Marie started with 39 hospitals; this number has been reduced to 36 in just two years. The program recently issued its first public report, which included hospital names and infection rates, using the Centers for Disease Control and Prevention's National Health Safety Network and a cadre of regional program representatives to facilitate and validate the accuracy of this mandatory public reporting. Marie lives in St. James, N.Y., with her husband, Jim, and children, Alexandra and Christopher, both of whom are interested in aspects of public health.

1990s

Angela Colantonio, Ph.D. '90, is an associate professor in the faculty of medicine (tenured) at the University of Toronto and the Saunderson Family Chair in Acquired Brain Injury Research at the Toronto Rehabilitation Institute (Canada's largest adult rehabilitation hospital). This endowed chair has now been renewed for another five-year term. Angela's major research interest is the epidemiology of acquired brain injury and resulting disabilities.

Mayur M. Desai, M.P.H. '94, Ph.D. '97, was recently selected 2009 Teacher of the Year at the Yale School of Public Health.



Angela Colantonio



Mayur Desai



Stewart Smith



Jason Chu



Miki and Heidi Kapoor



Kim Le

Mayur was selected for this award in recognition of his dedication and excellence in teaching “Principles of Epidemiology II” and a data management course. “Mayur is consistently praised for his passionate commitment and mastery in teaching the practice of public health research; his genuine, nurturing mentorship; and his ability to make SAS entertaining,” said Dean Paul D. Cleary. Mayur is an assistant professor in the division of Chronic Disease Epidemiology and director of the Advanced Professional M.P.H. program at YSPH.

Stewart D. Smith, M.P.H. '96, founded Emergency Preparedness and Response International in November 2008, which offers customized expertise in all types of hazards and emphasizes collaborative partnerships and coordinated programs with federal, regional, state, local and international markets. Stewart is currently providing management consultative services directly to the Yale New Haven Center for Emergency Preparedness and Disaster Response and the United States Northern Command to develop a delivery model for health care emergency response planning that will support integrated civilian-military medical responses to domestic disasters.

2000S

Jason Chu, M.P.H. '01, married Pan Chen (Sunny Pan) in a civil ceremony in San Francisco on July 2. The ceremony took place while Sunny was in the United States on vacation so that Jason's grandmother and his best friends, Hando Kim and Kawai Yeung, could attend. A Chinese ceremony and reception will take place in Shanghai in late October, with friends and family joining from all over the globe. Sunny is a graduate of Jiao Tong University in Shanghai and holds a master's degree from Fudan University. She hosts travel,

lifestyle and educational shows that have been syndicated in China and several other countries. Jason retired from IBM at the end of May and is busy designing a new career as a professor of entrepreneurship at Jiao Tong University and as a consultant to venture capitalists and start-up companies. Jason will be traveling between Shanghai and San Francisco frequently and would love to hear from alums who are in the area.

David J. Dausey, M.Phil. '00, Ph.D. '03, became the senior director of Health Care Programs and Initiatives and a member of the faculty at the Heinz College at Carnegie Mellon University in September 2008. He also holds adjunct positions at the RAND Corporation and the University of Pittsburgh School of Medicine. An internationally respected health care and public health expert, David has worked closely with senior health officials both domestically and abroad.

Roberto Esteves, M.P.H. '09, has been offered a position at the Ministry of Health of Brazil. Roberto will be an advisor for international affairs to Francisco Campos, the Secretary of Labor and Education Management for Health, mediating the activities of this secretariat with the block of South American nations and the Community of Portuguese-Speaking Countries, among other tasks. Consequently, he and his wife have moved to the capital, Brasília, and are slowly settling in.

Miki Kapoor, M.P.H. '03, and **Heidi Johanns Kapoor**, M.P.H. '02, left for India for about 10 months in August. Miki recently left investment banking after being awarded a Fulbright fellowship to India; his work as a Fulbright fellow will focus on the promotion of public health initiatives through investment in Indian biotechnology companies. Heidi plans to take some

time off from her career as an attorney, learn some Hindi, do some public health work with local nongovernmental organizations and do a ton of traveling in South Asia with Miki. Drop them a line if you are in India: miki.kapoor@gmail.com.

Kim Le, M.P.H. '07, will be entering her third year of medical school at the University of Toronto. Kim's recent accomplishments include the Eye Foundation of Canada summer scholarship, the University of Toronto Ophthalmology Best Annual Student Research Paper and an international travel grant to present at the Association for Research in Vision and Ophthalmology annual meeting.

Lindsay Morton, Ph.D. '04, was appointed a tenure-track investigator at the National Cancer Institute in Rockville, Md. Lindsay's research focuses on the etiology of lymphomas and risk factors for multiple primary cancers, including late effects of radiotherapy and chemotherapy.

Bonnie Gould Rothberg, M.D. '94, M.P.H. '05, Ph.D. '09, had a very busy May! In addition to receiving her Ph.D., Bonnie and her husband, Jonathan, welcomed their fourth child, Gabriella Phoebe Rothberg, into their lives. For her Ph.D., Bonnie specialized in molecular cancer epidemiology. Her dissertation is titled *Molecular Prognostic Markers for Cutaneous Malignant Melanoma*. She plans to continue this research as a postdoctoral associate in the Department of Pathology at Yale.

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.

A new generation of public health professionals

Graduates celebrate achievements and prepare for the great challenges to come.

“Is this a glorious day, or what?” marveled Paul D. Cleary, dean of the Yale School of Public Health, as he greeted 79 graduates accepting their M.P.H. degrees in front of friends and family in Battell Chapel. The balmy spring weather wasn’t the only reason for his high spirits.

“Please accept our heartfelt congratulations for all you have done,” Cleary told the Class of 2009. “You’ve chosen a career that will lead to a better future for all of us.”

Mayur M. Desai, M.P.H. ’94, Ph.D. ’97, assistant professor in the division of Chronic Disease Epidemiology and director of the Advanced Professional M.P.H. Program, paused at the podium to jokingly

upgrade his Facebook status to “excited.” Honored as the Class of 2009’s Teacher of the Year, Desai expressed the “true joy of my ability to make a positive and statistically significant contribution to your experience,” praising the class for tackling public health issues locally (as when a team of YSPH students raised over \$1,700 for AIDS Walk New Haven) and around the world.

In delivering the student address, Robert A. Nelb invoked school founder C.-E.A. Winslow’s definition of public health as “the science and art of preventing disease, prolonging life and promoting health.” Each facet of public health, Nelb said, “gives us a set of tools to understand some of the world’s most pressing challenges.”

“After two years of learning how to ‘do’ public health, it is fitting to reflect on *why* we do it,” Nelb said. He noted that students have worked hard to help improve conditions in New Haven and beyond but also struggle endlessly with roadblocks and resistance. “Something deeper must pull

us in – something more than outcomes and evaluation metrics; something more than fame and fortune,” he said, suggesting instead a faith in humanity and an impulse to work for the common good.

In a world that sets great store on wealth and displays more greed than goodwill, “it is because the odds are so steep – and the challenge so great – that our work in public health is needed now more than ever,” Nelb concluded.

The slate of student awards included the inaugural Lowell Levin Award for Excellence in Global Health. Levin, M.P.H. ’60, Ed.D, and professor emeritus, was present at Battell to applaud this year’s recipient, Timothy Mercer. Mercer’s studies took him to Kenya for an inquiry into the plight of impoverished street children and possible relief efforts. Each year, the Levin Award will honor a student whose work demonstrates a commitment to health promotion and global health.

Melissa Pheterson



Harold Shapiro (6)



top: Zinzi Nandi Segura Blell celebrates her new job with NASA.

above: Teacher of the Year Mayur Desai jokingly upgrades his Facebook status to "excited" as he prepares to address the graduates.

opposite: Members of the graduating class inside Battell Chapel.

The following student awards and fellowships were presented during the 2009 Commencement:

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

Allison Gathany, *Relationship Between Interferon Regulatory Factor 4 (IRF4) Genetic Polymorphisms, Measures of Sun Sensitivity and Risk for Non-Hodgkin Lymphoma*
 Elizabeth Kang, *Association of Prenatal Exposure to Acetaminophen and Asthma in Children*
 Katherine Skene, *Modeling Nitrogen Dioxide Concentration in Connecticut*

Henry J. (Sam) Chauncey Jr. Inspiration Award

Benjamin Elkins

Cortlandt Van Rensselaer Creed Award

Mikhail Higgins

Lowell Levin Award for Excellence in Global Health

Timothy Mercer

Wilbur G. Downs International Health Student Travel Fellowship

Nicole Britten	Abdusebur Jemal
Heather Heldman	Timothy Mercer
Umo Iyanam	

Curtis D. Heaney Fellowship

Brian Seavey
 Virginia Senkomago

Overlook International Foundation Scholarship

Roberto Esteves
 Carly Stockdale

Jan A.J. Stolwijk Fellowship

Paul Opare-Addo
 Corey Ridings
 Katherine Skene

John D. Thompson Student Research Award

Roberto Esteves
 Khadija Gurnah

E. Richard Weinerman Fellowship

Roberto Esteves	Paul Opare-Addo
Khadija Gurnah	Michelle Rhee
Akshara Menon	Kristen Scott
Camellia Mortezaazadeh	Virginia Senkomago
Robert Nelb	



Harold Shapiro

Paul Farmer addresses the Class of 2009.

A practitioner's practitioner speaks to graduates

Paul Farmer: Public health is serious business, but also fun.

As Paul E. Farmer, the medical anthropologist, physician and humanitarian, prepared to deliver this year's Commencement address at YSPH, he was acknowledged for doing no less than helping the poor and changing the world.

Indeed, the graduates were told that if they could emulate his life in even a small way, they would be a success.

As a founding director of Partners in Health—a service, training, advocacy and research nonprofit organization working on behalf of the ill and impoverished—Farmer has challenged the claim that health care cannot be delivered in poor settings and has developed treatment strategies for AIDS and tuberculosis.

Farmer opened his remarks by defining public health as “a complex set of problems requiring no shortage of disciplines,” including statistics, sociology and basic science—a range evident, he added, in the Class of 2009's marked diversity.

“Public health has always been a serious business,” he said, from cholera outbreaks in the 19th century to swine flu this spring,

plus omnipresent threats like chronic disease and environmental toxicity—all exacerbated by current sociopolitical snarls.

A professor of social medicine at Harvard Medical School, Farmer worked in a squatter's settlement in Haiti in 1983, an experience he used “as the interpretive grid” for his M.D./Ph.D. studies. As a medical resident, he described the glaring dichotomy in his experiences treating AIDS patients in Boston and Haiti in the 1990s. Farmer's life and work are chronicled in the book *Mountains Beyond Mountains: The Quest of Dr. Paul Farmer, a Man Who Would Cure the World*.

Farmer urged the graduates not to base standards of care on income or to succumb to the pressure of making “false choices” under the specter of scarcity. “Better to have an honest assessment of the limitations of the resources available to us, and remember the importance of equity.” It is crucial to remain sensitized to gaps in basic needs: lack of clean water, food, vaccines and primary care, he said. “We have half a million women dying every year in childbirth,” he noted, and mothers often struggle to feed their families. “Mothers don't determine fair-trade policies with Africa. Mothers don't determine land tenure practices. Mothers don't cook up genocides. ... So limiting our interventions

to exhorting people who are poor to be smarter is not a sound strategy.”

“Your generation has not asked people living in poverty, victims of unfairness, to manage this by themselves,” he added. “Your generation understands the ties that bind us all.” In this spirit, he urged the graduates to patch and strengthen the “safety net” through robust programs to prevent disease and assuage unnecessary suffering.

“Go forth and build a science of delivery,” he instructed the graduates, bidding them courage in tackling their calling. “It's noble, inspiring and even—I hasten to add—fun.”

Melissa Pheterson

Kristof, Sachs address global health issues

If increasing school attendance in Kenya is the goal, is building new schools or deworming students the best approach?

Columnist Nicholas D. Kristof of *The New York Times* told a crowd of some 2,000 people attending a global health conference at Yale in April that only a randomized controlled study can provide a reliable answer. He argued that such studies are far too rare today.

The school attendance question, however, did receive such scrutiny. Researchers studied 30,000 Kenyan schoolchildren and found that medicating against intestinal helminthes such as hookworm reduced absenteeism by 25 percent and cost less than \$4 annually per child. Similar gains from building schools cost \$100 annually per child.

Kristof said that agencies may not learn much if they rate their own projects rather than using “arm's-length” evaluation. “They always conclude that their own work is wildly successful,” said Kristof. He also listed three priorities for global health: reducing the rate of maternal mortality,

which has increased in Africa in the past two decades; supplementing diets of undernourished people with micronutrients such as iodine; and supporting small-scale social entrepreneurship – that is, enterprises using entrepreneurial principles to promote social change.

Kristof was among 200 speakers and panelists at the two-day conference organized by Unite For Sight, an agency that seeks to improve eye health and prevent blindness.

Columbia University economist Jeffrey D. Sachs also spoke. Playing on the eyesight theme, he joked that Wall Street suffers from “20/20-trillion eyesight” in which “you only see in the Green span.” He offered Wall Street executives an “opportunity for redemption,” inviting them to contribute their bonuses to global health projects. “Just 0.1 percent of rich-world income would finance the scaling up of primary health care in the poorest countries,” he said.

Cathy Shufro

Infectious animal diseases focus of YSPH conference

Infectious disease experts, zoologists and biostatisticians from Cambridge to Kazakhstan convened at YSPH for an inaugural two-day conference in April on zoonoses, infectious diseases with the potential to spread from animals to humans. Rabies, Lyme disease, Ebola virus and avian flu were among the illnesses discussed through the lenses of both forecast modeling and surveillance and intervention.

Annie Gatewood, Ph.D. '08, talked about using climate modeling to predict the distribution of different genotypes of the bacterium that causes Lyme disease in humans. Gatewood underscored the importance of weather in gauging tick population and behavior, as well as subsequent risk of human infection.

Delegates from infectious disease centers in Kazakhstan and Mongolia reviewed their struggles with tracking outbreaks of plague and tick-borne zoonoses. Closer to home, Meg L. Flanagan, a researcher at the Defense Threat Reduction Agency at the Department of Defense, called for a multidisciplinary strategy of “predictive virus surveillance” in countering the threat of viruses – which are classified as weapons of mass destruction. “Emerging viruses may inflict harm upon humans, crops, livestock, economies and our stability,” she said.

Affirming the value of alliances, Peter M. Rabinowitz, M.P.H. '95, director of clinical services for the Yale School of Medicine's Occupational and Environmental Medicine program, invoked the urgent need to combine federal agency databanks that track illnesses in humans and animals, in order to forecast outbreaks of diseases such as avian flu.

Durland Fish, Ph.D., professor in the division of Epidemiology of Microbial Diseases, organized the spring conference to foster a cross-disciplinary approach to tracking and controlling zoonoses on a global scale. “We've put some planks in that bridge over these two days,” he said.

M.P.

Student awarded scholarship for women in biostatistics

Martha Skup, a second-year doctoral student at YSPH, has been awarded the American Statistical Association's Gertrude M. Cox Scholarship for women in graduate statistics programs.

As a trainee in the Research Training in Mental Health Epidemiology program with a concentration in biostatistics, Skup hopes to conduct research addressing the complexity of psychiatric data by using modern statistical methods. Other potential areas of focus include the study

of pediatric health and the application of neuroimaging to clinical populations. Skup also has an interest in research being conducted by her mentor, Heping Zhang, Ph.D., professor in the division of Biostatistics, concerning cognitive and behavioral development in children.

“The Cox Scholarship is a nationwide competition among all female Ph.D. candidates in statistics, and few awards – usually one or two – are given annually by the ASA,” Zhang said. “So this is quite an honor for Martha.”

Prior to coming to Yale, Skup participated in the National Institute of Mental Health's Postbaccalaureate Intramural Research Training Awards program, investigating pediatric bipolar disorder.

M.P.



Martha Skup



Mayur Desai



Trace Kershaw

YSPH names teacher, mentor of the year for 2009

Bringing data analysis to life is a valuable asset in a teacher—a fact not lost on YSPH’s graduating class when they chose Mayur M. Desai, M.P.H. ’94, Ph.D. ’97, assistant professor in the division of Chronic Disease Epidemiology, as the 2009 Teacher of the Year.

Desai received the award for his dedication and excellence in teaching “Principles of Epidemiology II” and “Approaches to Data Management and Analysis of Epidemiologic Data,” said Dean Paul D. Cleary.

“Mayur is consistently praised for his passionate commitment and mastery in teaching the practice of public health research; his genuine, nurturing mentorship; and his ability to make SAS [software] entertaining,” said Cleary.

“I’m deeply honored to have been selected for this award by the graduating class,” said Desai. “Teaching research methods and data analysis can be dry and difficult, but not here at YSPH. It’s such a pleasure to be in class with our highly talented and motivated students.”

Desai’s colleague, Trace Kershaw, Ph.D., associate professor in the division of Chronic Disease Epidemiology, received

YSPH’s inaugural 2009 Distinguished Student Mentor award, a new honor that recognizes excellence in student mentoring. 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.

Melissa Pheterson

Students bring health clinics to city’s neighborhoods

As a student at the Yale School of Public Health, it became increasingly apparent to Mikhail C.S.S. Higgins that a health divide existed between the university and many of the city’s poorer neighborhoods.

What better way, he thought, to bridge that separation than through free community health clinics?

And so the Yale Health Initiation Task Force was born. Higgins, M.P.H. ’09, and C. Brandon Ogbunugafor, an M.D./Ph.D. candidate at the Yale School of Medicine, organized the first clinic in February in the

Union Avenue neighborhood and held another in May at a local public school. “A health clinic is a great community builder,” said Higgins, who will continue to be involved in the program even after graduation. “It’s about having a window into these communities.”

The student-run clinics have three basic goals: to conduct screenings for common health problems such as diabetes, hypertension, obesity and various eye diseases; to provide education on nutrition and the management of various chronic illnesses; and to make advocacy and social service resources available.

Services run the gamut from checking blood pressure and weight to cautioning young people about the danger of flat-screen televisions that can tip and cause injury. The clinics are held in disadvantaged sections of the city and are open to all.

The students, from the schools of public health, medicine and nursing, have teamed up with New Haven’s Hill Health Center, which provides additional staff and support.

Michael Greenwood



Mikhail Higgins



Jennifer Prah Ruger

Ruger named to CDC's ethics subcommittee

The U.S. federal agency charged with maintaining public health on a national level has invited a Yale School of Public Health faculty member to serve on a subcommittee that provides counsel on public health ethics.

Jennifer Prah Ruger, M.Sc., Ph.D., an associate professor in the division of Health Policy and Administration, joined the Ethics Subcommittee of the Advisory Committee to the Director at the Centers for Disease Control and Prevention (CDC) on July 1.

During her four-year term, Ruger will help advise the CDC “on a broad range of public health ethics questions and issues arising from programs, scientists and practitioners.” Her fellow subcommittee members, characterized by the CDC as “academic and professional ethicists,” have expertise in ethical theory, public health ethics, research ethics, bioethics and related fields.

Ruger was invited to join the Ethics Subcommittee because of her research on the ethics and economics of health disparities and her interest in equity of access to health care systems – both important facets of public health ethics.

“I look forward to advising the CDC director on the ethical and economic implications of public health,” said Ruger, noting that this year the committee aims to address the ethics of health reform.

M.P.

Babesiosis to be studied with \$1 million grant

A Yale School of Public Health researcher has received more than \$1 million from a private foundation to study babesiosis, a worldwide vector-borne illness that is spread by the same tick that transmits Lyme disease.

Peter J. Krause, M.D., a senior research scientist in the division of Epidemiology of Microbial Diseases, will receive \$1,050,000 over three years to study the disease, which is endemic in the northeastern and northern midwestern United States. The grant will support work that will increase understanding of babesiosis and provide the basis for National Institutes of Health funding to further investigate the infection.

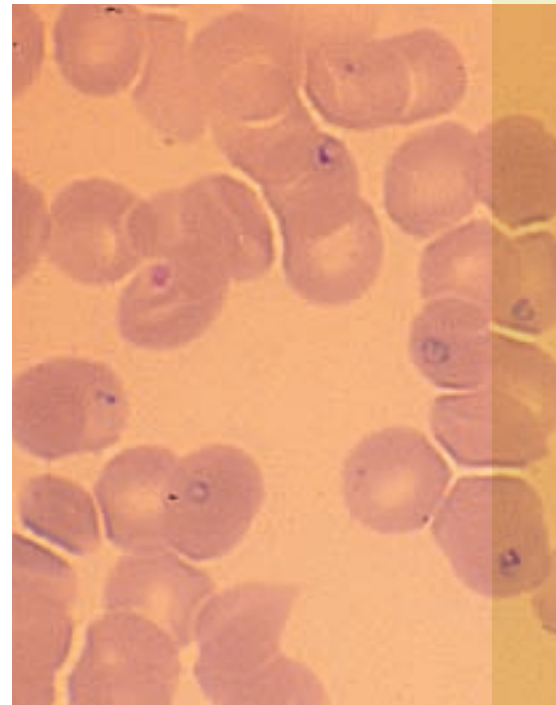
Cases of babesiosis range from asymptomatic to fatal, with a mortality rate of 5 percent to as high as 20 percent in those with compromised immune systems (e.g., those who lack a spleen or are suffering from malignancy or HIV infection). A parasite related to malaria, the *Babesia* organism thrives in red blood cells. The disease is usually transmitted by ticks, but it is also infrequently transmitted through blood transfusion.

Prior to his recent appointment at Yale, Krause was a professor of pediatrics and director of infectious disease at Connecticut Children’s Medical Center at the University of Connecticut. His research on babesiosis began when a colleague requested that he write a chapter for a textbook. From that initial prompt, babesiosis became his research focus.

As one of the few translational researchers who specialize in babesiosis, Krause fields calls and consults with patients from all over the world. For more than a decade, he has conducted longitudinal babesiosis studies in Connecticut and on nearby Block Island and Nantucket.

“Babesiosis has gotten little respect and very little funding,” said Krause, who is also an authority on Lyme disease. “It’s far more important than people realize.”

M.G.



Ring forms of *Babesia microti* within human red blood cells.

Opioid overdoses occur throughout Connecticut

More than 2,200 people have died in Connecticut from opioid overdoses in the past 11 years—more than one every other day—a survey of state medical records found.

The analysis by the Yale School of Public Health showed that even in an affluent state like Connecticut deaths from opioid overdoses are a widespread problem that are not limited to the inner cities.

The study of records at the Office of the Chief Medical Examiner found that only 22 of Connecticut's 169 towns did not have a reported overdose death during this period and that there was a surprisingly high prevalence of overdose deaths in parts of Litchfield, Middlesex and Windham counties as well as in the state's major urban centers and their surrounding communities, suggesting that the problem is truly statewide.

The study also found the following:

- Sixty-one percent of the overdoses involved heroin; the remaining cases involved pharmaceutical opioids, such as hydrocodone, oxycodone and methadone, or a combination of the opioids.

- Most of the deaths were among people 35 to 44 years old.

- There was an increasing trend of overdoses in older individuals, including some who are in their 50s and 60s.

“These data confirm the profound impact that drug misuse has on residents of almost all parts of Connecticut and remind us how important it is to implement effective prevention and treatment programs,” said Paul D. Cleary, YSPH dean and director of the Yale Center for Interdisciplinary Research on AIDS.

Robert Heimer, Ph.D. '88, a professor in the division of Epidemiology of Microbial Diseases and the study's lead investigator, said that the findings illustrate the



need for educational programs and active intervention to prevent and respond to opioid overdoses. “This includes training people who abuse opioids in overdose prevention and response as well as expanding evidence-based drug treatment to assist opioid abusers in reducing their risk of overdose,” he said.

Michael Greenwood

Record keeping improved at Ethiopian hospital

Complete medical records are critical to the quality of patient care. Poorly managed records result in time delays, frustration for doctors and, in a worst-case scenario, medical mistakes.

The Yale School of Public Health recently demonstrated that a hospital's record-keeping system can be dramatically

improved—even in a resource-poor setting—relatively quickly and inexpensively. The change resulted in better accessibility to patient information and greater physician satisfaction.

The study team introduced a new patient medical records system at a rural hospital in Ethiopia that lacked both the infrastructure and resources to host a fully electronic medical records management system. The hospital's existing system contributed to frequent incidences of missing or incomplete records; it was replaced in early 2009 with a combined paper- and computer-based system developed by the research team. The team also introduced standardized medical forms and processes and enhanced the hospital's management program.

The changes resulted in sharply improved rates for retrieving the records of returning patients—from 14 percent to 87 percent—while also reducing the time needed to locate medical records from 31 seconds to under 16 seconds. In addition, the percentage of medical records that were considered complete increased from 6.5 percent to almost 46 percent, and the hospital's physicians reported greater satisfaction.

“This case reflects what we hope to contribute to global health through the



Patient records at a rural Ethiopian hospital before (left) and after (right) the study.

Global Health Leadership Institute – where strategic problem solving and leadership can result in focused efforts to improve health care delivery,” said Elizabeth H. Bradley, Ph.D. ’96, professor in the division of Health Policy and Administration and director of Global Health Initiatives at Yale.

Rex Wong, M.P.H. ’00, a Yale-Clinton Foundation Senior Fellow, regional director of the Ethiopian Health Management Initiative and the study’s lead author, said that the same system can be used in other resource-scarce settings and would likely yield similar results.

M.G.

New Haven’s neighborhoods mapped for health

In an effort to battle chronic diseases in New Haven, six neighborhoods have been “mapped” to determine what is healthy – and unhealthy – in the Elm City.

The mapping project pinpointed healthy neighborhood resources – such as parks, certain food vendors, clinics and fitness centers – as well as unhealthy features: fast food restaurants, tobacco vendors and polluted sites. It was the first phase of a larger, long-term research project spearheaded locally by CARE: Community Alliance for Research and Engagement at Yale to reverse chronic-disease trends and promote a healthier city.

The New Haven neighborhoods mapped are Dixwell, West River/Dwight, Fair Haven, Hill North, Newhallville and West Rock. Participants from Youth@Work, which provides seasonal and year-round employment, created the interactive health map and a short film about the project.



A worker in the mapping project gathers information on a New Haven neighborhood eatery.

The second phase of the project will be to survey city residents in the same six neighborhoods about their existing health and health habits. This information will be coordinated with the map, and the data will be used to develop policy proposals and programs designed to curb obesity, smoking and other chronic-disease risk factors.

“I believe that knowledge is power. Policymakers and funders are often moved by evidence, and this project will provide compelling new information to support our call to improve the health of New Haven residents by addressing chronic-disease disparities,” said Jeanette R. Ickovics, Ph.D., a professor in the division of Chronic Disease Epidemiology and CARE’s director.

This New Haven project is part of a larger initiative known as Community Interventions for Health (CIH). CIH seeks to further scientific knowledge about the effectiveness of community interventions to reduce chronic diseases by identifying neighborhood assets; interviewing residents; and developing and implementing policies to improve health in neighborhoods, schools, work sites and health care centers. In addition to New Haven (the first U.S. city to participate in the program), cities in Mexico, India, China and the United Kingdom are participating in the initiative.

M.G.



Susan Mayne

Mayne named new head of CDE division

Susan T. Mayne, Ph.D., has been named the new head of the division of Chronic Disease Epidemiology.

“Over the years Susan has established an outstanding research program and done a wonderful job teaching, and I am confident that she will excel in divisional leadership as well,” said Dean Paul D. Cleary.

The division consists of more than 20 faculty members, in addition to those with secondary appointments and lecturers. Its mission is to advance public health by promoting a research-based approach to the prevention and management of chronic disease, with an emphasis on cancer, cardiovascular disease, perinatal and reproductive epidemiology, psychosocial epidemiology, HIV/AIDS, aging and genetic epidemiology.

“We are blessed to have world experts on physical activity, diet, racial disparities, genetics and behavior, and we partner with other YSPH faculty, such as those from environmental health and biostatistics, to comprehensively study the etiology and prevention of chronic diseases across the life span,” said Mayne. “Ongoing research ranges from studies of pregnant women and their newborns to studies of the elderly. It makes for a stimulating research and teaching environment for the faculty and for our students.”

Mayne arrived at Yale in 1988, having accepted a one-year postdoctoral fellowship in cancer epidemiology. Enjoying the Yale environment, she stayed on and rose through the ranks, becoming a full professor in 2004. Her research interests include the role of nutrition in cancer prevention.

Michael Greenwood

The incoming class by the numbers

The Class of 2011 convened for the first time at the end of August. Here is a profile of the class by the numbers:

125

Incoming M.P.H. students

64

Percent female

31

States represented

25

Average age

22-43

Age range of students

22

Students from other countries

20

Students with advanced degrees

13

Yale College graduates

12

Medical doctors

1

Dentist

Challenge Fund

PUBLIC HEALTH >> tomorrow

The Challenge Fund for Public Health at Yale is in its second year and nearly midway toward its goal of raising \$2.5 million for the Yale School of Public Health. The money will help to expand research, support students and develop new programs. With Challenge Fund donations, YSPH will be better positioned to meet the domestic and global health challenges of the 21st century and to provide the best education for future generations of public health leaders.

Donations to the Challenge Fund

- Qualify for a 1:1 match for gifts and gift intentions of \$50,000 to \$250,000 (payable over five years or less).
- Create individually named endowments in one of three areas selected by the donor: financial aid, summer internships or a Dean's resource fund. Individual endowments will bear the donor's name in perpetuity or can be anonymous.
- Receive matching support as long as funds are available, extending no later than April 2010. Planned gifts, such as charitable gift annuities, are also eligible to be matched.

Why do people give to the Challenge Fund? Here are the stories behind some recent contributions:

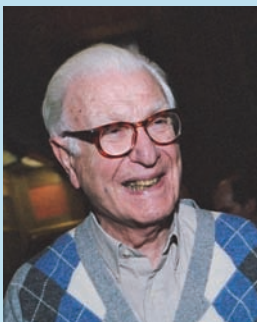


YSPH, and New Haven, benefit from alumna's gift

Even before Deborah Rose, M.P.H. '77, Ph.D. '89, enrolled at Yale in the late 1960s, she spent her first summer in New Haven working in the inner city neighborhoods of the Hill, Dixwell and Fair Haven. That gave her direct experience with the need for community development and health equity in New Haven.

More recently, Rose became interested in a new program started by Jeannette R. Ickovics, Ph.D., professor in the division of Chronic Disease Epidemiology and director of the Community Alliance for Research and Engagement (CARE), which seeks to build healthy communities by preventing chronic disease, and she chose to lend her support.

"Under the combined leadership of Yale President Richard Levin and New Haven Mayor John DeStefano, New Haven has become the livable place we always knew it could be in terms of housing and retail space," Rose said. "It is now time to post similar gains in health. I look forward to seeing what CARE creates."



Pioneering researcher gives back to Yale

William H. Prusoff, Ph.D., has been working at Yale University since the beginning of the Eisenhower administration. During his distinguished career, he synthesized the first antiviral compound approved by the Food and Drug Administration for use in humans and developed a breakthrough drug that slowed the advance of HIV. The drug was marketed in the 1990s to combat the epidemic.

Prusoff is grateful to Yale for a rewarding and fulfilling career. Now a professor emeritus of pharmacology and a senior research scientist, Prusoff is showing his appreciation.

Prusoff recently created the William H. Prusoff Fund for the Prevention of Global Infectious Diseases. The endowment will be used to support faculty research in global infectious diseases, student summer internships and doctoral student research.

"I want to support the students who go to foreign countries and do the research. I agree with the direction that [the school] is taking," Prusoff said. "I'm trying to return things to Yale."

More information on the Challenge Fund can be found at publichealth.yale.edu/challenge or by contacting Martin Klein, M.P.H. '86, Ph.D., associate dean for development at the Yale School of Public Health, at 203-436-8538 or m.klein@yale.edu.

Gordon R. Beem, M.P.H. '61, died on May 31 at the age of 82. A native of Niles, Ohio, he was a 25-year veteran of the U.S. Air Force. Gordon also had a 20-year career as a hospital executive in White Plains, N.Y., and Asheville, N.C., and served as CEO of Waveny Care Center, Hall-Brooke and Elmcrest psychiatric hospitals, all in Connecticut. He is survived by his wife, Jeanne Beem of Asheville, N.C.; two daughters, Andrea Beem and Mimi Herald; a son, Mark Beem; five grandchildren; a sister, Janet Frost; and a brother, Edgar Beem Jr. Memorial contributions may be made to Habitat for Humanity, 30 Meadow Rd., Asheville, NC 28803.

William A. Clermont, M.P.H. '57, died on December 22, 2008, at the Ft. Pierce Hospice House in Florida at the age of 92. William was a former hospital administrator at Alice Hyde Hospital in Malone, N.Y., and served as a medic in the U.S. Army for three years, stationed in England during World War II. He was a fellow of the Royal Society in England and of the American College of Hospital Administrators. He was also on the faculty at the University of Missouri. William was generous to charity and loved to entertain guests with his piano playing. He is survived by his wife, Anne L. Clermont; a stepson, Richard K. Nicholson; an uncle, Rev. John Clermont; and a nephew, Paul Clermont.

Abraham Cutcher, M.P.H. '53, died on January 24 in Amherst, N.Y., at the age of 83. Abraham lived his entire life in western New York and was a World War II veteran, serving in the chemical warfare division in Burma

and northern Africa during the war. His primary involvement was testing protective gear, and he bore several spots on his hands from mustard gas burns. He went on to teach high school science, driver's education and skiing at Amherst High School. After earning his master's from Yale University he worked in North Tonawanda, N.Y., as the assistant school superintendent until 1970. He was an advocate of teaching sex education in public school; after a clash with a parents' group, he lost his job. He left North Tonawanda for a job as vice principal of curriculum in the Hornell, N.Y., school system. In retirement, Abraham did community volunteer work at the Senior Center in Amherst, delivering Meals on Wheels and typing Braille books for the blind. He is survived by a daughter, Minda, and a brother, Harold.

Helen H. Davenport, M.P.H. '58, died on February 16 at Woodlands Retirement Center on Cape Cod at the age of 90. A lifelong resident of New Canaan, Conn., Helen was a first lieutenant in the U.S. Army Nurse Corps during World War II from 1944 to 1946. She was the director of the New Canaan Visiting Nurse Association for 40 years, a former director of the Lakeview Cemetery in New Canaan and a parishioner at First Congregational Church. She loved dogs and raised beagles for 60 years. Memorial donations may be made to the Salvation Army, 432 Fairfield Ave., Stamford, CT 06902, or Congregational Church, 23 Park St., New Canaan, CT 06840.

Catherine E. Denning, M.P.H. '47, of Steubenville, Ohio, died on March 21 at the age of 99. Catherine retired in 1975 from Seton Hall University, where she was a nursing professor, chair of the nursing department and acting dean of the College of Nursing. She also served as a nursing surveyor for the Joint Commission on hospital accreditation. She was a member of the Women's Club of Steubenville, Catholic Daughters of the Americas, Women's Club of Franciscan University of Steubenville, Yale University Alumni Association and the Western Reserve Alumni Club. She is survived by several nephews and cousins.

L. Carol Fernow, M.P.H. '68, Dr.P.H. '72, died at home in Westport, Conn., on March 15 at the age of 83. Carol was a charismatic woman with a probing intellect, compelling insights and an indomitable personality who lived with grace and style. She was the first non-M.D. to graduate with a Dr.P.H. from Yale School of Medicine. Known on two continents for her work in medical care analysis, Carol is survived by her daughter, Lesley M. Fernow, and her son, Todd D. Fernow; her grandchildren, Alexis, Dana, David, Melanie and Jarrod; and her great-grandchildren, Grady and Lily-Ann. She will be deeply missed by her friends and family.

Joanna A. Henry, M.P.H. '52, of Milton, Mass., died on June 28 at the age of 99. Joanna served in the U.S. Army Dietician Corps during World War II and was an administrator at Cambridge Homes for Aged People for over 20 years. She was active in many civic and cultural groups and

was a member of the Milton Democratic Town Committee. She also was a member of the Museum of Fine Arts in Boston and the Boston Symphony Orchestra. Joanna is survived by 11 grandnieces and grandnephews, 10 great-grandnieces and great-grandnephews and one great-great-grandniece.

Dennis G. Shrauger, M.P.H. '84, of Clearwater, Fla., died on December 8, 2008, at the age of 62. Dennis served in the U.S. Air Force Reserves during the Vietnam War and received dual master's degrees from Yale in public health and hospital administration. He is survived by two sons and daughters-in-law, Erick and Jen and Matt and Kate Shrauger; three grandsons, Casey, Quinn and Conner; his mother, Virginia; and a sister, Mary Catherine Shrauger.

John Van Herpen, M.P.H. '68, died in Chandler, Ariz., on April 2 at the age of 78. John immigrated to the United States from the Netherlands in 1947 and became a naturalized citizen in 1954. He proudly served 36 years in the U.S. Air Force, achieving the rank of full colonel and enjoying many stateside and foreign assignments to the Netherlands and Turkey and a tour of Vietnam. His decorations and awards include the Bronze Star and the Meritorious Service Medal with three Oak Leaf Clusters, the Air Force Commendation Medal and the Legion of Merit Award. In retirement, John loved playing golf, traveling, woodworking, the color orange and his family, especially spending time with his grandchildren. He is survived by his wife of 53 years, Shirley

“Josie” Van Herpen of Sedona, Ariz.; his children, Stephen Van Herpen, Kathleen Pickett, Patricia Van Herpen, John Van Herpen, Johanna Kersten and Margaret Reyman; 11 grandchildren; five great-grandchildren; his sister, Marion Nydam; and his brothers, Nick and Renee Van Herpen. Memorial contributions can be made to the Fisher Center for Alzheimer's Research Foundation at alzinfo.org or the Parkinson's Institute and Clinical Center at theipi.org.

Robert K. Wood Sr., M.P.H. '58, of Keene, N.H., died on May 31 at the age of 89. Bob was a New Englander most of his life. He and his wife, Constance Rice Wood of Marlboro, Mass., celebrated their 65th wedding anniversary in March 2009. Bob's undergraduate studies were interrupted by World War II, during which he served in the U.S. Army. He later became assistant administrator at Springfield Hospital in Massachusetts, and after three years he moved to Keene, N.H., to become administrator of the Elliot Community Hospital. In 1971, Bob was the last president of Elliot Community and the first president of the Cheshire Medical Center, where he was being cared for before he passed away. He worked tirelessly to get his father, the famous Boston Red Sox pitcher and Cleveland Indians outfielder Smoky Joe Wood, voted into the National Baseball Hall of Fame over the last 40 years. He leaves his beloved wife, Connie; his twin sister, Virginia Whitney; and three children, Robert K. Wood Jr. (and wife Lucy), Jeffrey B. Wood (and wife Kate) and Durinda R. Wood. Memorial gifts may be sent to

the Cheshire Medical Foundation, c/o Cheshire Medical Center/Dartmouth Hitchcock-Keene, 580 Court St., Keene, NH 03431.

Samuel Zibit, M.P.H. '47, died on March 17 at Barnes-Jewish Hospital in St. Louis from complications of a heart attack at the age of 95. Samuel grew up in Brooklyn, N.Y., and battled meningitis during the influenza epidemic of 1918-1919. He overcame the illness and returned to school as if nothing happened. Samuel worked for the Social Security Administration in Washington, D.C., until World War II, when he entered the Merchant Marine and served on a supply ship in the Atlantic. He was a director of the Jewish Center for the Aged from 1959 until 1974 and was active until recently in an education program at the center for senior citizens. Since the 1980s, he had been a teacher and student at Washington University's Lifelong Learning Institute, recently attending classes on Greek architecture. He stayed in shape throughout his life by swimming almost daily at the local YMCA. He is survived by his wife, Helen Zibit; a son and daughter-in-law, Ben and Martha Zibit; and a daughter, Trudy Zibit-Boxer.

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



Cushing/Whitney Medical Library, Yale University

A lesser-known work of an architectural giant rises on College Street

The cranes have been brought in and tracks laid in 1963 as construction progresses on The Laboratory of Epidemiology and Public Health (LEPH).

The nine-story building, designed by pre-eminent American architect Philip Johnson, has been the home of the Yale School of Public Health since its completion in 1964. And while the building at 60 College Street is not Johnson's best work—and far from his most famous (it was mentioned once, and only in passing, in a recently published and detailed retrospective on Johnson's architectural legacy)—it is nonetheless significant, said Robert A.M. Stern, dean of the Yale School of Architecture.

The university has traditionally used architecture as a means of expressing its identity. LEPH—and Johnson—are a part of that rich architectural history.

Stern sees the finished structure as “refined” with a “simple, quiet shape.” Still, the building does not define Johnson's work. His most famous creation, perhaps, is the Glass House, his longtime home in New Canaan, which is now a museum.

The design of LEPH was likely influenced by other architects of the era, notably Louis I. Kahn (designer of the Yale University Art Gallery). Johnson, in turn, influenced countless other architects. “He was a very important tastemaker,” Stern said.

The single-story building across College Street, today used by Yale for offices, was then a retail strip that included, among other things, an auto parts store.

Michael Greenwood



Michael Marsland

Committed to health, Liberian president thanks Yale for “instrumental” support

Living up to the epithet of “Iron Lady,” President Ellen Johnson Sirleaf of Liberia displayed steely resolve in describing her vision for the African nation on a visit to Yale in April.

“We want to make Liberia a postconflict success story in which the United States has made a great contribution,” she told the large audience gathered in Battell Chapel. Sirleaf lauded Yale for being “instrumental” in supporting the country’s budding health care system, one of several priorities for a government emerging from years of civil war.

The Yale School of Public Health is deeply involved in such efforts, training surgeons and staff at hospitals in pre- and postsurgical safety protocols with a “Safe Surgery Saves Lives” checklist. In addition, YSPH has partnered with the

William J. Clinton Foundation’s HIV/AIDS Initiative and others to offer a “Health Systems Management” course. The school also is involved in an ongoing effort to renovate the John F. Kennedy Memorial Hospital, which was a jewel of Liberia’s health care system before the war. Elizabeth H. Bradley, Ph.D. ’96, professor in the division of Health Policy and Administration and director of Global Health Initiatives at Yale, oversees these initiatives.

Sirleaf has faced more than her share of challenges in Liberia. She told the audience how soldiers once threatened to bury her alive. Keeping a cool head, Sirleaf was able to persuade them that “it wasn’t the right thing to do.”

Melissa Pheterson

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

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