From the Director

By highlighting the work of CHC faculty, this newsletter has long made clear the importance of social and behavioral factors for health and illness in the United States, as well as the central role the CHC plays in understanding and addressing these factors.

Over the past few years, as UCSF established its global health program, CHC members have played a similar role, applying what we have learned from our domestic work to global concerns. UCSF’s program is notable in large part because it links domestic and international health and includes social, behavioral and policy solutions with biomedical approaches. This stands in contrast with many other global health programs that have mushroomed at research universities since the Gates Foundation issued its “Grand Challenges in Global Health” in 2003.

Beyond Technological Solutions

The Gates challenges had the laudable goal of decreasing illness and death from diseases plaguing the developing world. Unfortunately, the challenges focused solely on technological solutions. While crucial, such solutions cannot fully succeed unless they incorporate an understanding of economic, social and political determinants of health.

After all, most diseases stem from a complex mix of genetic, biological, and psychosocial factors and curing and preventing disease requires attending to all these factors. From a scathing criticism of the global challenges in the British medical journal Lancet to discussions among researchers and health care workers in developing nations, there has been increasing recognition of the need to expand the focus beyond technological solutions.

Global health at UCSF does just that. By complementing the contributions of our biomedical colleagues with our expertise in social, behavioral and policy issues, CHC faculty provide some of the most compelling evidence for why a multidisciplinary approach is so essential. As they work in developing nations, these researchers address health problems that have deep-rooted social and behavioral causes, develop interventions that continued on back page
The Broad View

A few years ago, Robert Okin, chief of psychiatry at San Francisco General Hospital, was in Peru as a member of a human rights group. While there, he found himself speaking with about 25 poverty-stricken women living on the outskirts of Lima. Originally from farming communities, the women had been uprooted by a bloody civil war that robbed them of their land and forced them to witness the horrific murders of their male relatives.

It came as no surprise to Okin that the women were sad and angry; many were clinically depressed. What was surprising was that when Okin asked the women what would make them feel better, many answered: "Sewing machines."

"Their response suggests that conditions...such as depression, anxiety, or post-traumatic stress disorder that have been brought on, sustained, or amplified by impoverished circumstances or pervasive national trauma might be addressed better in some situations by first helping people adapt to changing political and economic realities, rather than beginning with more traditional psychiatric treatment," says Okin.

The Danger of Focusing on One Approach

His observation rings true to many people in health care, particularly those working in the developing world. The enormously complex genesis of many health conditions means that focusing only on biomedical interventions is dangerously short-sighted. Ignoring other causes including social and behavioral factors, seriously limits the utility of any given intervention.

"Social and behavioral issues are important in understanding disease patterns around the world, because social norms and taboos have a significant impact on health," says Haile Debas, MD, and director of Global Health Sciences at UCSF.

From gender-based conditions such as female genital mutilation through the cultural stigma that prevents people from seeking treatments for mental illness, breast cancer, and HIV/AIDS, Debas can tick off health challenge after health challenge that either has social and behavioral determinants and/or is exacerbated by these factors.

Social and behavioral factors are becoming even more prominent as developing nations' largest drivers of death and disease shift from communicable diseases (e.g., malaria and tuberculosis) to the non-communicable diseases with which the developed world is all too familiar (e.g., heart disease, hypertension, diabetes, and lung cancer). The latter diseases are strongly correlated with diet, sedentary lifestyles, smoking, education, and the movement from rural to urban life.

Debas suggests a number of strategies for dealing with these problems from educating and training health care workers to strengthening institutions and affecting government policies. These are strategies that CHC researchers are studying and applying in locations around the globe.
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The Work

In Argentina, tobacco use accounts for 15 percent of all deaths of people under the age of 65. To help slow the epidemic, physician Eliseo Perez-Stable is leading a multidisciplinary group of UCSF and Argentine researchers in a series of studies that focus on youth, a period in one’s life when health habits often sink deep roots.

The group began its work in the wake of the collapse of Argentina’s government in late 2001. “Despite the most profound economic and social crisis in the past 70 years, we were successful at establishing a research team in Jujuy, in the northwest region of the country,” says Perez-Stable, whose interest in Argentina deepened during a sabbatical in that country in 2004–2005.

Working with a cohort of 3,000 Argentine youth, the project aims to:

- define the individual, interpersonal, cultural, and contextual factors that affect the development of smoking,
- identify patterns of transition from smoking susceptibility through regular use, and
- develop and test a culturally appropriate intervention to modify smoking behavior.

The initial project has spawned additional studies from a range of disciplines and perspectives. In one, an economist is using data from a government survey to understand the correlation between socioeconomic status and smoking in Argentina. In another, a survey of obstetricians found that half of those surveyed agreed that it was okay for pregnant women to smoke if it was fewer than 10 cigarettes per day, a stunningly inaccurate conclusion they pass on to their patients. Another examined the history of tobacco litigation in Argentina, where to date the tobacco industry has consistently prevailed. The hope is that by understanding the legal tactics of big tobacco—and learning from successful litigation approaches in the US—the researchers can help address societal issues that sustain the tobacco epidemic. Yet another tracked the history of tobacco control legislation and how the tobacco industry thwarted those efforts through systematic disinformation and activities.

The group’s work also has uncovered that ethnic categories can be used to identify health disparities that many in Latin America would have thought irrelevant because, says Perez-Stable, “In much of Latin America there is a sense that racial and ethnic divides like those in the US are overwhelmed by social class differences. Yet we found that established smoking was much more prevalent among Amazonic youth than among Andean indigenous youth and the lowest among White youth in Jujuy.” The value of this finding is that it opens the door for the kind of culturally tailored interventions for prevention and cessation that have worked in other settings.

**An Internet World Health Research Center**

The problem of health disparities and the value of culturally-focused interventions are also evident in the work of clinical psychologist Ricardo F. Muñoz. For thirty years, Muñoz has helped create and refine culturally sensitive, cognitive-behavioral therapies (CBT) for depression and smoking cessation. Having developed, along with Perez-Stable, a successful smoking cessation intervention via mail (the Guía), and having also demonstrated that delivering CBT mood management methods for depression via television could generate significant reductions in depressive symptoms—Muñoz was understandably intrigued when the Internet came along.

In April 2000, he launched a project—accessible to both English and Spanish speakers—that used an Internet version of the Guía.

The results were enormously encouraging. Over 4,000 smokers from 74 countries enrolled in four separate studies. The first two evaluated the standard Guía. The other two were randomized trials comparing the Guía plus individually timed educational messages (ITEMS) to the Guía plus ITEMS plus a mood management course. In a paper discussing the four studies, the authors wrote: “We have shown that randomized, smoking cessation...
trials can be successfully conducted via the Web and can yield evidence-based Internet interventions with abstinence rates comparable with those of traditional interventions.”

Muñoz sees that work as an initial step in developing an Internet World Health Research Center at San Francisco General Hospital. Using a pilot grant and support from the CHC, his group has set up the basic structure and is now seeking funding partners to expand its vision. (See www.health.ucsf.edu.) San Francisco’s poor and non-English speaking populations will use the Center’s computers to go through a basic health screening in their native languages, with the help of staff. “The screening results could be printed out in the patient’s native language and in the language of the physicians, so both have a clearer understanding of the health issues,” says Muñoz. “They may also be steered to adjunct evidence-based Web interventions like the smoking cessation program.”

After testing these interventions at San Francisco General Hospital and other UCSF sites, he hopes to provide them to people around the world who otherwise would have little or no access to comparable or affordable help for health problems that lend themselves to CBT-type interventions. “And we would be able to do this without taking anything away from our San Francisco General patients,” says Muñoz.

“With just the three most common languages, Chinese, English, and Spanish, we could reach 27% of the world’s population via the Web with cognitive-behavioral therapies for a whole range of behavior-based health problems and population sub-groups,” says Muñoz. “And we could reach them with evidence-based web interventions—the equivalent of tested medications. I believe that’s one of the advances UCSF should be contributing as a world-class institution.”

**A Model for Latin America?**

Physician Dean Schillinger understands well why it is critical to find new ways to address health problems. His work demonstrates that treating chronic diseases, including those tied to tobacco and other health behaviors, will be one of the largest challenges developing nations will face over the next few years.

When he arrived in Santiago, Chile for his sabbatical last year, Schillinger, whose mother is Chilean, was amazed at how much Santiago had changed. “Fifteen years ago, it was a modest-sized, working class city,” he says. “Now it looks like Los Angeles circa 1975, with highways and high-rises, and Costco, ToysRUs and Häagen Dazs at the mall.”

An expert in chronic disease and health services research, Schillinger initiated two projects while also teaching at the School of Public Health in Santiago. Those projects emerged from the Ministry of Health’s first epidemiological study of chronic disease. Schillinger and Chilean colleagues helped interpret the study, which established that Chile was experiencing steadily increasing chronic disease rates, especially diabetes. It also found that respondents with a high school education or less were nearly eight times more likely to suffer from these chronic conditions than their more educated, more affluent counterparts. “In a society where the population is overwhelmingly poor, these disparities make the public health burden for treating these illnesses immense,” says Schillinger.

Tobacco is certainly one culprit in imposing that public health burden, which is why the country has passed legislation designed to reduce smoking rates and exposure to second-hand smoke. (Chile has the highest smoking rates in the world at 42 percent.) The first of Schillinger’s projects is an evaluation of the effects of that law on the health of employees—waiters in restaurants—who are exposed to second-hand smoke.

The second project, conducted with colleagues in health policy and management, aims to understand how Chile’s health system—a mix of national health insurance and employer-based managed care—might deal with the pending chronic disease burden.

Schillinger notes that the system has some considerable strengths, including government support, a strong investment in health technology, and a multidisciplinary...
Padian hopes that her studies in Zimbabwe can also help Americans and other cultures better confront gender-based health concerns, such as STD transmission and domestic abuse.

approach to care. “But there are real gaps as well,” he says. Notably, since 70 percent of the population—overwhelmingly those who are poor and uneducated—are enrolled in the national health insurance program it will be a challenge for the government to keep its promises about paying for chronic conditions as the number of people suffering from these diseases explodes.

“The project is an attempt to answer the question: Is the Chilean public health delivery system ready for burgeoning epidemics in chronic disease?” says Schillinger.

**Working Across Borders**

Just as Perez-Stable, Muñoz, and Schillinger are expanding traditional medical approaches to global health to account for more societal factors, Margaret Handley is expanding traditional epidemiology. A public health-focused epidemiologist, Handley’s work consciously moves away from a tight focus on individual determinants of health to examine a variety of causes of health problems that can then lead to a variety of solutions.

One thread in her work is that today’s technology—cell phones, the Internet, and ease of travel—has made it possible for immigrant communities to maintain bi-national identities. In doing so, they may be able to avert health problems that have traditionally plagued them due to severed connections with their homeland, including adopting a poor diet and developing depression in the country to which they migrate.

Yet the easy back and forth among communities also means health problems can travel more easily from one community to another. That may be what has happened in Monterey County, California, where an outbreak of lead poisoning among members of a small ethnic group from the central valley of Oaxaca, Mexico seems connected to the local foods that arrive weekly through networks of families and small importers. Working with a local nurse, a doctor, a geochemist in Mexico City, the Health Ministry in Oaxaca, and an anthropologist from UC Davis who is studying the networks that have grown up around this new breed of bi-national migrants, Handley is trying to identify the source of the poisoning and help the group cope with the problem.

“The factors influencing this are diverse and not well understood,” says Handley. “Food transportation, environment, food preparation practices that people don’t want to give up, because they help them to stay connected with their families. We want to build prevention messages that take into account the social ties between migrants and their home communities in a positive way so we don’t lose the good things that emerge from these networks and the bi-national identity that’s developed.”

In a second study, Handley is trying to find out how to improve medical records access for Mexican migrant women. She has conducted a pilot study of Mexican migrant women in Sonoma County who have high repeat C-section rates. One likely explanation is that vaginal births are high-risk after a vertical incision C-section—but much safer after a transverse C-section. Unfortunately, the terms apply to incisions that happen internally, so without medical records, physicians can’t know what type of C-section the woman has had, and requesting medical records from other countries is difficult.

“There is neither a paper nor an electronic health information system for maintaining health records for patients who have lived in both the US and Mexico,” says Handley. Her study examines the context in which migrant women are required to have repeat C-sections, whether their medical records are requested or received, and possible strategies to set up an appropriate record exchange.

**Empowering Women to Stop the Spread of HIV/AIDS**

Providing women with tools that can improve their health is also a passionate concern for epidemiologist Nancy Padian. Her work focuses on stopping the transmission of HIV/AIDS in various locations around the world, with her largest projects centered on women in Zimbabwe.
One thread in Padian’s work involves studying whether supplying young women with contraceptive tools—microbicides, diaphragms, and female condoms—can help prevent HIV transmission. The studies in Zimbabwe, which are still in progress, have enrolled thousands of women with retention rates over 90%.

Padian’s second thread examines whether economic and educational interventions will decrease young women’s risk of AIDS by enabling them to rise above cultural imperatives around sex in a male-dominated society.

“There’s a social and behavioral component in all of this work,” says Padian. “If you’re studying the effect of microbicides on HIV transmission, you have to understand the cultural acceptability of microbicides, the willingness of male partners to allow their use—and women’s willingness to even ask.” Her work may be having some effect, as a report by the Joint United Nations Program on HIV/AIDS recently found that in eight sub-Saharan African nations, including Zimbabwe, the percentage of young people ages 15-24 infected with the AIDS virus is decreasing.

Padian hopes that her studies in Zimbabwe can also help Americans and other cultures better confront gender-based health concerns, such as STD transmission and domestic abuse. “People in Africa are more willing to talk about gender equity and power dynamic issues that we don’t talk enough about here,” says Padian.

**Social and Behavioral Factors as the Impetus for Targeted Interventions**

In some of the global work CHC researchers engage in, social and behavioral factors play their most significant role as the force motivating the research. In John Greenspan and Troy Daniels’ work on Sjögren’s syndrome—a disease in which the body’s immune system mistakenly attacks its own moisture producing glands—widespread ignorance of the disease, including among clinicians, exacerbates its effects. (Sjögren’s causes dry eyes and dry mouth and, in many cases, debilitating fatigue and joint pain. About half of the time it occurs in the presence of another connective tissue disease, such as rheumatoid arthritis and lupus.)

“Without generally visible signs or physician knowledge or acceptance of the disease, doctors often dismiss patients as ‘not very sick’ at best, or neurotic at worst,” says Daniels. Since the effects of the disease are progressive, things often get worse without professional intervention.

That’s why Daniels and Greenspan created the Sjögren’s International Collaborative Clinical Alliance (SICCA), which is gathering data from six countries around the world. They aim to develop better diagnostic criteria that could be adopted internationally and, so, accelerate accurate diagnoses.

In the case of epidemiologist and oral medicine specialist Caroline Shiboski’s work in Zimbabwe, a motivating factor is that poverty and sometimes cultural issues prevent many sub-Saharan Africans from getting diagnosed or staying on top of treatment for HIV/AIDS. One reason is that T-cell monitoring is prohibitively expensive in Africa. But even if the tests were affordable, studies have shown that the stigma associated with the disease (or even being suspected of having the disease) keeps people away from testing and treatment.

In response, Shiboski designed a study with colleagues at the University of Zimbabwe to determine if nurses could be trained to diagnose HIV-related oral lesions during a physical exam and use these lesions as surrogate markers for HIV progression. Part of the impetus, was the hope that using nurses would make seeking diagnosis and treatment more accessible and less stigmatized.

Shiboski, who spends a few weeks each year teaching oral medicine and oral pathology to dentistry students at the University of Zimbabwe reports, “The nurses were able to do a good job of identifying oral candidiasis among HIV-positive women.” The finding provides hope that training nurses and other health care workers to better understand oral pathology can help more sub-Saharan Africans begin the therapy that can prolong their lives.
For Muñoz, this means that he can now **reach across borders** to his original home and **deliver reliable health care interventions** to people who have never had access to such interventions.

The Promise of Global Research

Bob Hiatt’s trajectory from traditional biomedicine to a population approach is a case study in the importance of a broader perspective and how lessons from a developing country can be brought home.

An internist and epidemiologist, Hiatt began his research career in Ethiopia over thirty years ago exploring the transmission of schistosomiasis, a disease that damages the liver, intestines, lungs, and bladder and infects 200 million people worldwide. It occurs when skin comes in contact with contaminated fresh water where specific types of snails live. In Ethiopia, Hiatt initially focused on the biological pathway, taking water samples, studying snail specimens, and assessing the degree of human infection by counting eggs in human waste. He quickly realized, however, that this was not sufficient.

“We also needed to understand how human behavior played into transmission,” he says. There simply was no way to fully understand transmission without understanding how rural communities in Ethiopia got their drinking water; without understanding the economic and technological conditions and cultural mores that made it difficult to consistently purify the water; without understanding how local agencies and the national government in Ethiopia worked when addressing health or sanitation issues.

Uncovering those factors demanded a new set of skills, the acquisition of which set the foundation for Hiatt’s subsequent work on population health, which incorporates a broad set of health determinants. He continues to use those skills in his position as Director of Population Sciences at the Comprehensive Cancer Center and as the new co-chair of the Department of Epidemiology. Today, for example, after studies established the onset of menarche as a risk factor for breast cancer, Hiatt finds himself trying to understand what might contribute to early puberty in women and is looking beyond just genetics into a variety of psychosocial factors that include family structure, physical activity, and environment. “It’s exciting work,” he says.

**Delivering Sewing Machines – and Beyond**

Exciting, yes, and infused with enormous potential to address longstanding health problems in bold, new ways—to deliver, in some sense, the equivalent of the sewing machines that the Peruvian women spoke of so movingly to Robert Okin.

To understand how this might work, consider Ricardo Muñoz’s vision for an Internet World Health Research Center. In his office, which looks out at the Mission district where he arrived when he was ten years old, Muñoz uses Google maps to zero in on the small, isolated Peruvian community where he was born. He smiles as he describes how satellite technology has made it possible for the people in remote Peruvian villages to have wireless Internet access. He clicks his mouse and the screen switches to a group of people standing in front of a rustic Internet café.

For Muñoz, this means that he can now reach across borders to his original home and deliver reliable health care interventions to people who have never had access to such interventions. “This is my passion,” he says. ♦
address these fundamental causes, and test promising approaches for everything from HIV/AIDS to a host of chronic diseases. Not surprisingly, much of this work has exposed disturbing health disparities, the identification of which can focus and shape thinking about how best to address conditions that threaten the health of so many.

The Link Between Domestic and International Health

Recognition of the interconnectedness among developing and industrialized nations is a second piece that distinguishes the UCSF program. Rather than focusing solely on the developing world, as is implied by the term “international health,” UCSF chose to create a “global health” program that emphasizes diseases of disadvantage, and which encompasses both domestic and international health.

Why is this so important? Because by linking domestic and international research, lessons learned in one country have the potential to offer powerful insights for others, with the learning going both ways between industrialized and developing countries.

Consider, for example, that the pattern of disease in developing countries is changing. Non-communicable diseases, which often result from behavioral factors (such as tobacco use, lack of exercise and high fat diets, particularly among those who are poorer and less educated) are accounting for a greater proportion of deaths. Because these diseases have long been the major killers in industrialized nations, researchers like Dean Schillinger and Eliseo Perez-Stable can draw on lessons learned in the US to fight chronic disease and tobacco-related illness in Chile and Argentina.

Conversely, Nancy Padian’s work on HIV/AIDS prevention among young women in Africa exposes gender issues that have implications for the spread of STDs and domestic abuse in the US.

The work these researchers engage in is not without its challenges—collaborating in resource-thin nations that are wrestling with brutal pandemics can be disheartening—but it also offers enormous promise for addressing major, worldwide health concerns and for joint cooperation among nations. It is critical work and we’re proud to be part of it.

Nancy Adler