



BOW STREET BULLETIN

News and Ideas from the
**Harvard Center for Population and
Development Studies**

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Ken Hill: Demographic Detective Tracking Population Health Mysteries

Kenneth Hill is a demographer—a researcher who studies the growth and density of human populations and their vital statistics. But in his own mind, Hill—Professor of Public Health Practice in the Department of Global Health and Population at HSPH—is a fictional gunslinger.

That’s because estimating population trends in nations that lack good data collection “is like a detective story,” he said, “where you only have parts of the information, and you don’t know necessarily which parts you have and which parts you don’t. It has the appeal of a detective story—with some extra utility, because you’re producing important numbers that have a potential impact on planning, on organizing health

services, on all sorts of things to try to improve the welfare of populations.”

For more than 40 years, Hill has delved into some of the most important questions in his field. Starting out as a British government statistician in Uganda—serving the latter part of his tenure under the brutal regime of dictator Idi Amin—he helped delineate a surprising population boom in that East African nation. More recently, Hill has focused on maternal mortality in developing countries, new demographic measurement methods, the role of development in fertility decline, and connections between economic crises and demographic parameters.

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Gauging the Social and Economic Devastation of Malaria in Zambia

Malaria is one of the great scourges of the world, causing some 650 million episodes of illness and between one and three million deaths every year. The burden of malaria is concentrated in poor, tropical countries—and, in the case of Zambia, can hardly be overstated. The parasitic infection is endemic in every province of the country, and is the leading cause of illness as well as the second most common cause of death nationwide.

In recent years, Zambia has made tremendous strides in fighting the disease, with the current anti-malaria campaign making it a global leader in efforts to control the infection. Under the direction of the Ministry of Health, the National

Malaria Control Center (NMCC) coordinates more than 25 national and international partners on ten strategic anti-malaria interventions, with a current annual budget of \$60 million.

Because of its speed and scope, the current malaria intervention provides an excellent opportunity to study the effects of health on economic development. The link between health and economic outcomes is a contentious issue, with recent work by Gallup and Sachs, Acemoglu and Johnson, and Weil, among others, coming to radically different conclusions. Even though malaria is viewed as one of the most economically important diseases, most recent studies of its economic effects have had to rely on data

from periods of malaria eradication in South Asia and Latin America that took place almost half a century ago.

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BOW STREET BULLETIN

THE HARVARD UNIVERSITY CENTER FOR POPULATION AND DEVELOPMENT STUDIES

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LETTER FROM THE DIRECTOR

Revitalizing America's Population Health Agenda

With the election of Barack Obama to the Presidency, and a fresh outlook on health and social policies, this could be a defining moment in how the Administration frames population health. Alarming, the U.S. ranks in the lower third of OECD nations in life expectancy and a host of other markers of health and well being. We desperately need an agenda that prioritizes not only health care, but also disease prevention.

Pop Center scholars have explored a range of strategies that can move the country toward this goal. Many of these ideas can be found in the October 2008 report "Blueprint for a Healthier America," published by the Trust for America's Health and supported by the Robert Wood Johnson Foundation—which also sponsors the Pop Center's Health and Society Scholars Program.

Among the suggestions to the new Administration from Pop Center researchers:

- Rebuild the public health infrastructure and revitalize America's community health

centers, which combine health and social services in one setting.

- Systematically assess how social policies affect population health, and use the findings to direct resources where they will do the most public health good.
- Formulate health policies that take into account the dramatic demographic changes underway in our society: racial and ethnic diversity, an aging population, and the fact that most women participate in the labor force.
- Enact broad-scale public policies that will change the political and cultural contexts that promote obesity, tobacco consumption and sedentary lifestyles.

Pop Center scholars are committed not only to enlightened global policies, but also to a new American health agenda. With thoughtful leadership in Washington, our research and creativity will be increasingly relevant in the national conversation. ■

—*Lisa Berkman*

Call for Working Group and Workshop Proposals

The Harvard Center for Population and Development Studies (Pop Center) is pleased to launch a new funding and administrative support initiative that will help faculty and affiliates to stimulate and disseminate new research in the Center's signature areas.

Any affiliated member of the Center may propose the formation of a working group with final approval from Director Lisa Berkman. Each group will have a lead faculty member charged with determining the group's direction, as well as a coordinator who will serve as the contact and organize meetings. A working group is entitled and encouraged to host special workshops and other gatherings in its subject area, either on site or at other locations around the globe.

Working group themes can be based on a specific research design/method, health

problem, risk or determinant, prevention/intervention strategy, or geographic location (for example, Southside Chicago, India, or South America). All working groups will be transdisciplinary in orientation.

The Pop Center is also pleased to be able to host and provide financial underwriting for exploratory workshops, whereby individuals with similar interests get together, present and share information, and ultimately decide if there could be potential collaborative opportunities (e.g., the formation of a working group). We will consider funding to cover the costs of convening these meetings (food and beverage, travel for invitees, etc.), as well as provide administrative support.

If you would like to convene an exploratory meeting, please email Laura Price, Program Director, at lpri@hsph.harvard.edu. ■

Ken Hill: Demographic Detective *continued from page 1*

His investigations have also cast historical events in a new light. A recent study concluded that the 1947 Partition in the Punjab—the culturally rich region straddling the border between India and Pakistan—reduced population growth rates beyond most conventional estimates, most likely because of community violence and forced migration.

Like a good detective story, all these endeavors mix elements of art and science. The art of demography, he said, “is a judgment—a feel for the culture, a feel for the data. One tries to avoid being too naïve, accepting everything at face value. And one tries to avoid being too dismissive and simply saying this stuff isn’t right, there’s nothing we can do with it.” The science reflects formal quantitative techniques in demography.

One of the most difficult challenges in global health today is the unyielding maternal mortality ratio (MMR) in sub-Saharan Africa. In a 2007 study in *The Lancet*, Hill estimated that region’s MMR at 905 per 100,000 live births—compared to 9 per 100,000 in developed regions. “It’s scandalous,” he said. Though the 2000 Millennium Summit established the Millennium Development Goal 5 of

reducing the maternal death rate by 75 percent between 1990 and 2015, the target appears hopelessly out of reach. According to Hill, “We’re not even close.”

Maternal mortality happens to be one of the trickiest things for a demographer to measure—which is why Hill is drawn to the



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challenge. “The data are terrible,” he said. “Even though you have this enormous range in rates between the developed and the developing world, the actual numbers of deaths per year are quite small. In children under five, you’ve got close to ten million deaths a year; with maternal deaths, you’ve got close to

500,000 per year. You’ve got 1/20th the number of observations—and the smaller the number of observations, the harder something is going to be to measure.” Compounding the demographer’s challenge, government bureaucracies and health care systems often miss maternal deaths because many of the victims die outside the delivery room.

To grapple with these problems of measurement, Hill in 2006 published an article in the *Bulletin of the World Health Organization* that suggested how data collectors could more accurately capture maternal death rates. For the 2010 round of government census interviews, he called for pointed questions and follow-up questions regarding household deaths, and for specific United Nations recommendations on how to improve the quality of national census-taking. “And both of those things happened!” he said.

Results from the enhanced censuses will start coming in as early as 2011. The prospect has Hill rubbing his hands in anticipation. “It’s always exciting to get new data sets. It’s even more exciting when they are data sets that you’ve been advocating for,” he said. “I can’t wait.” ■

Bringing a Rights Perspective to International Reproductive Issues

Since 2002, the Pop Center’s Group on Reproductive Health and Rights (GRHR) has brought together Boston-area academics and activists working on these challenges. The Group formed out of concerns about dwindling attention to reproductive issues in the international health and development agenda. Through seminars, discussions and the facilitation of independent research, the Group acts as a focal point for issues of reproduction, gender, sexuality, human rights, and health at Harvard. Sofia Gruskin, Director of the Program on International Health and Human Rights and Associate Professor in the Department of Global Health and Population at the Harvard School of Public Health, serves as Faculty Chair.

Highlighting work in reproductive health and rights, GRHR has launched an annual lecture series at the Center that brings scholars and activists to Cambridge. Former chairs Mindy Roseman and Laura Reichenbach, along with Group member Rebecca Firestone, received support from the MacArthur Foundation to produce an edited collection of critical essays by leading scholars and practitioners in the field of global reproductive health and rights. In *Global Reproductive Health and Rights: the Way Forward*, authors represent an array of specialists who reflect the field of reproductive health itself, including human rights lawyers, economists, demographers, and advocates.

GRHR meets monthly and hosts both global and local leaders in the field. In 2009,

it will hold forums to discuss a range of issues, including optimal responses to the pregnancy intentions of HIV-positive women. GRHR aims to identify gaps in research and develop a multidisciplinary research agenda, spanning the biomedical and social sciences. Ultimately, the Group hopes to create a more complete understanding of how women’s reproductive intentions can safely be fulfilled.

GRHR will be receiving funding from the National Institutes of Health to support the conference “Pregnancy Intentions of HIV-Infected Women: Forwarding the Research Agenda,” to be held in the fall of 2009. For more information, please contact the Group coordinator, Sarah MacCarthy, at smacCarthy@hpsph.harvard.edu. ■

RWJF Health and Society Scholars Probe Context of Biology and Behavior

Recognizing the critical need to improve the nation's health by addressing the full spectrum of factors affecting health and policy, the Robert Wood Johnson Foundation established the Health & Society Scholars program in 2001. The program enlists up to 18 postdoctoral fellows annually to investigate the effects of contextual factors on behavior and biology. Its longer-term goal is to increase population-wide interventions and build the nation's capacity for research, leadership, and policy change.

As one of six sites to host this competitive program, Harvard is committed to forging a new field of "population health" through training and innovative research. Housed at the Harvard Center for Population and

Development Studies, three new scholars arrive each fall for a two-year appointment. Pop Center Director Lisa Berkman and Ichiro Kawachi, M.D., Ph.D., Chair of the Department of Society, Human Development and Health, HSPH, serve as co-directors. Core faculty from the School of Public Health, the John F. Kennedy School of Government, the Harvard Medical School, and the Faculty of Arts and Sciences serve as primary mentors and provide leadership and direction. They include: Gail Adler, Harvard Medical School; Jason Beckfield, Sociology, Harvard FAS; Amitabh Chandra, Kennedy School of Government; Nancy Krieger, HSPH; Laura Kubzansky, HSPH; Wendy Berry Mendes, Psychology, Harvard FAS; and SV Subra-

manian, HSPH. Their diverse contributions have helped create a "common language" of population health—a prerequisite to the development of any new field.

RWJF Health and Society Scholars determine their own research agenda, with the University providing opportunities to gain experience in primary and secondary data analysis. Through mentoring, participation in a biweekly seminar series, and the launching of innovative pilot studies through a generous seed grant program, the scholars have grappled with the challenges of causal inference from many disciplinary viewpoints. By all accounts, program alumni bring back to their home institutions deeper and broader insights into population health. ■

Malaria in Zambia *continued from page 1*



The Zambia project plans to evaluate the socioeconomic effects of the comprehensive anti-malaria program on a district level from 2003–2008. Thanks to our close collaboration with the Zambian NMCC, we are able to match district level rollout data—distribution of nets, spraying, preventive treatment (IPT) and drug distribution (ACTs) by district and quarter—to district level measures of health, as well as demographic, educational and economic outcomes.

The first part of the project will look at the overall malaria picture and the relationship between measures of malaria and measures of inputs into the anti-malaria campaign. How large are the declines in malaria from 2003–2008, and what is the distribution of declines across provinces and districts? What are the differences in the timing of malaria declines across regions? Similarly, what are the cross-regional variations in the modality and intensity of the anti-malarial effort? Is it possible to map differences in the rollout of the anti-malaria

campaign into observed differences in results? How much of the officially-documented caseload can reliably be attributed to malaria through rapid diagnostic (RDTs) and microscope-based tests?

The second part of the project will look at the economic and social effects of malaria control, using geographic and temporal variations in malaria reductions examined in the first part as a source of identification. We will focus on four specific domains: education, worker productivity, direct health system cost, and changes in fertility in response to reduced malaria morbidity and mortality. With a large number of financial and organizational challenges to be surmounted at the start of the program, comprehensive coverage has been achieved only recently in selected parts of the country.

Though the evidence collected so far is preliminary, the initial results look promising: rapidly declining infant mortality rates across the country, as well as pronounced productivity increases in malaria-prone sectors such as sugar cane farms. A full and final evaluation will only be possible once the program is completed in 2011 and the program's sustainability put to test.

—Günther Fink

Günther Fink is Assistant Professor of International Health Economics at the Department of Global Health and Population, Harvard School of Public Health and the Harvard Center for Population and Development Studies. His research has covered a wide range of topics related to economic development, with a focus on the interactions between health and human capital on one side, and economic growth on the other. Fink has collaborated on the Zambia project with Nava Ashraf, Assistant Professor of Business Administration at the Harvard Business School, and with David Weil, Professor of Economics at Brown University.

For Further Reading:

Acemoglu, Daron, and Simon Johnson, "Disease and Development: the Effect of Life Expectancy on Economic Growth," *Journal of Political Economy* 115:6, December 2007.

Bleakley, Hoyt, "Malaria in the Americas: A Retrospective Analysis of Childhood Exposure," Mimeo, University of Chicago, 2007.

Gallup, John Luke, and Jeffrey D. Sachs, "The Economic Burden of Malaria" *American Journal of Tropical Medicine and Hygiene* 64(1, 2)S, 2001.

Lucas, Adrienne, "The Impact of Disease Eradication on Fertility and Education", Mimeo, Wellesley College, 2007.

Weil, David N. "Accounting for the Effect of Health on Economic Growth," *Quarterly Journal of Economics*, August, 2007.

Zambia Ministry of Health, "2008 National Malaria Control Plan: Actions for Scale-up for Impact on Malaria in Zambia, In support of the National Malaria Strategic Plan 2006–2010."

Celebrating Pop Center's Grand Reopening and Honoring Sol Levine

The Harvard Center for Population and Development Studies hosted the annual Sol Levine Lectureship on Society and Health on October 6, 2008, with speaker Gita Sen delivering the keynote address. The following day, more than 200 guests attended the Pop Center's Reopening Celebration at the Charles Hotel, featuring presentations by Dean Barry Bloom, Lisa Berkman, David Bloom, and Samuel Preston of the University of Pennsylvania, who delivered the keynote address. ■



Keynote Speaker Gita Sen, Alice Levine, and Lisa Berkman at the Sol Levine Lecture



Samuel Preston delivering the keynote address at the Center's Reopening Celebration



Center supporter Dick Gamble with faculty Sissela Bok and Norm Daniels



The Center's Faculty Steering Committee with President Faust and Dean Bloom. Back row: David Bloom, Ken Hill, President Faust, Peter Bol, and Amitabh Chandra. Front row: SV Subramanian, Mary Waters, Lisa Berkman, and Gary King.



Presenter David Bloom, Chair of the Dept. of Global Health and Population, HSPH



Harvard President Drew Gilpin Faust toasts the reopening of the Pop Center

UPCOMING WINTER/SPRING 2009 SEMINARS

POP CENTER SEMINARS

Pop Center, 9 Bow Street, 4:30–6:00 PM

DATE	SEMINAR LEADER	TOPIC
January 26	Michael Reich Taro Takemi Professor of International Health Policy, HSPH and Laura Frost, Principal, Global Health Insights	ACCESS: How Do Good Health Technologies Get to Poor People in Poor Countries?
February 9	Allan Hill Andelot Professor of Demography, HSPH	A Tale of Two Cities: Social Class Differentials in Women's Health in Cairo and Accra
April 6	Duncan Thomas Professor of Economics, Duke University	Seminar Title TBA
April 20	Norman Daniels Saltonstall Professor of Population Ethics and Professor of Ethics and Population Health, HSPH	Seminar Title TBA
May 4	Mary C. Waters M. E. Zukerman Professor of Sociology, Harvard	Seminar Title TBA
May 18	Claudia Goldin Henry Lee Professor of Economics, Harvard	Seminar Title TBA

ROBERT WOOD JOHNSON FOUNDATION HEALTH AND SOCIETY SCHOLARS SEMINARS

Harvard School of Public Health, Kresge 708, 4:00–6:00 PM (unless otherwise noted)

DATE	SEMINAR LEADER	TOPIC
January 22	Nancy Krieger Professor of Society, Human Development, and Health, HSPH	Analyzing Population Health in Context: Who and What Is Missing?—The Case of Health Inequities
February 5	Peter Bearman Director of the Lazarsfeld Center for the Social Sciences; the Cole Professor of Social Science; and Co-Director of the Health & Society Scholars Program, Columbia University	Understanding the Social Determinants of Autism
February 19	Charles Nelson Director of the Laboratories of Cognitive Neuroscience, Children's Hospital Boston	A Cognitive Neuroscience Approach to the Early Identification of Autism (see "Featured Seminar" next page)
March 5	Diego Pizzagalli John and Ruth Hazel Associate Professor of the Social Sciences, Harvard	Depression: Clues from Affective Neuroscience
March 19 Pop Center, 9 Bow St.	Bruce McEwen Director of the Harold and Margaret Milliken Hatch Laboratory of Neuroendocrinology, The Rockefeller University	Protective and Damaging Effects of Mediators of Stress and Adaptation: Central Role of the Brain
April 2	Wendy Berry Mendes Assistant Professor, Dept of Psychology, Harvard	Intergroup Interactions: What Physiological Responses Can Teach Us about Discrimination, Bias and Intergroup Conflict

THE PROGRAM ON THE GLOBAL DEMOGRAPHY OF AGING SEMINARS

Pop Center, 9 Bow Street, 4:30–6:00 PM

DATE	SEMINAR LEADER	TOPIC
February 2	Rebecca Thornton Assistant Professor of Economics, University of Michigan	Health Insurance in Nicaragua: a Randomized Evaluation of Enrollment and Effects of Insurance
March 30	Andrew Foster Professor of Economics and Community Health, Brown University	Seminar Title TBA
April 13	Elizabeth Lamont Associate Professor of Health Care Policy, Harvard Medical School	Seminar Title TBA
April 27	Alberto Palloni Board of Trustees Professor of Sociology Faculty Fellow, Northwestern University	Seminar Title TBA
May 11	Kenneth Shepsle George D. Markham Professor of Government, Harvard University	Seminar Title TBA

FEATURED SEMINAR

Harvard's Charles Nelson Explores New Directions in Autism Research

Autism, a complex neurological disorder, affects 1 in 150 persons (according to 2007 CDC data), making it more common than pediatric cancer, diabetes and AIDS combined. With no known cure and a plethora of theories about its causes, scientists are studying the disorder from every possible angle: genetics, environmental triggers, brain imaging, and its staggering economic impact.

One of these scientists is Dr. Charles Nelson, the director of the Laboratories of Cognitive Neuroscience at Children's Hospital Boston and Professor of Pediatrics, Harvard Medical School. Overseeing a multidisciplinary team of researchers, Nelson brings together experts from neuroscience, psychology and education with clinicians in developmental pediatrics, child neurology and other fields. Together, they are searching for answers on a variety of questions,

including how face-processing skills develop and how environmental factors shape cognitive development.

After almost twenty years at the University of Minnesota, Nelson joined the Harvard faculty in 2005. He chaired the John D. and Catherine T. MacArthur Foundation Research Network on Early Experience and Brain Development, and served on the National Academy of Sciences panel that wrote *From Neurons to Neighborhoods*.

On February 19, Nelson will lead the Harvard Pop Center's RWJF Health & Society Scholars seminar, titled "A Cognitive Neuroscience Approach to the Early Identification of Autism." After presenting an overview on the disorder, Nelson will delve into autism's neurobiology and molecular biology and discuss advances in early detection. ■



Access: Why Good Health Technologies Do or Don't Reach Poor Nations

Many people in developing countries lack access to health technologies, even basic ones. Why do these problems in access persist? What can be done to improve access to good health technologies, especially for poor people in poor countries?

A new book, *Access: How do good health technologies get to poor people in poor countries?*, by Harvard professor Michael Reich and his collaborator Laura Frost, of Global Health Insights, seeks to answer those questions by offering a comprehensive analytical framework for access and examining six case studies that span a range of health technologies. The authors emphasize that access to health technologies in poor nations is shaped by social, economic, political, and cultural processes. To understand those processes, they develop a model based on four A's—*Architecture*, the organizational structure and relationships for access; *Availability*, which emphasizes the supply components of access; *Affordability*, the cost issues for various players; and *Adoption*, which includes demand factors and acceptance.

Reich and Frost explain what happened to access for six health technologies—and why some became more available than others. The technologies include a medicine (praziquantel for the treatment of schistosomiasis), a vaccine (hepatitis B vaccine), a diagnostic (malaria rapid diagnostic tests), a device (vaccine vial monitors for temperature exposure), and two contraceptives (the Norplant implant contraceptive and female condoms). The book is based on research studies commissioned by the Bill & Melinda Gates Foundation to better understand the development, adoption and uptake of health technologies in poor countries. The conclusions reached and specific lessons on strategies to improve access will be of keen interest to students of health and development, public health professionals and health technology developers. ■

Access co-author Michael Reich is the Taro Takemi Professor of International Health Policy at the Harvard School of Public Health and former director of the Harvard Center for Population and Development Studies.



For more information, visit the companion web site at www.accessbook.org



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