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

BOW STREET BULLETIN

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Lessons from the RISK Project: *Longitudinal study of Katrina survivors aims to impact disaster management policy*

When a major natural disaster strikes, the whole world turns its attention to the affected area. Offers of emergency assistance abound and media coverage is relentless. But what happens when the cameras go away? What happens to those who are left to deal with the aftermath of the destruction and devastation? What are their prospects? How can improved disaster management policies improve long-term outcomes for survivors?

A Katrina evacuee boards the bus to Houston.

The RISK Project (Resilience in Survivors of Katrina), housed at the Harvard Center for Population and Development Studies (Pop Center), aims to answer just such questions. "Researchers don't tend to follow disaster victims longitudinally," says RISK Principal Investigator Mary C. Waters, the M.E. Zukerman Professor of Sociology at Harvard and Pop Center faculty member. "We don't know a lot about the long-term effects of losing everything and having to rebuild."

Opening Doors to the RISK Project

The RISK Project grew out of a study for the MacArthur Foundation Network on the Transition to Adulthood. In 2003, 1,019 individuals (942 women and 77 men) enrolled in the New Orleans arm of the Opening Doors Study, a randomized-design experiment aimed at increasing graduation rates in community colleges. The study hoped to ascertain whether increases in educational attainment produced by Opening Doors resulted in better health and health behaviors among those who benefited from the program.

The New Orleans Opening Doors program was restricted to low-income parents. Because of this restriction, the sample consisted largely of young African American women. Most participants were unmarried and had one or two children. The participants were poor and there was a great deal of variation in physical and mental health status across the participant population.

Opening Doors' surveys focused on socio-economic status, mental and physical health, and issues of social support (e.g., Who do you turn to in times of trouble? Do you trust the government?). All 1,019 participants completed a baseline survey, and 492 of them had completed a 12-month telephone follow-up before the hurricane struck.

When Katrina hit in August 2005, the project researchers thought their work had come to an end. But Waters and her future RISK colleagues—Christina Paxson, president of Brown University and a professor of economics; Jean Rhodes, National Mentoring Professor of Psychology at the University of Massachusetts, Boston; and Cecilia Rouse, professor of economics at Princeton, and dean of the Princeton Woodrow Wilson School—had other ideas.

"Jean, Chris, Cecilia, and I decided to take over the study," says Waters. "We wanted to continue following the women and their children, and gauge their long-term outcomes post-Katrina."

Because of the data that existed on the Opening Door participants, the RISK group knew they were in the rare position of comparing findings on a population both before and after a natural disaster, thus being able to understand the full picture of the effects of that disaster.

The National Science Foundation (NSF), the National Institutes of Health (NIH), and the MacArthur Foundation

continues on page 4

INSIDE THIS ISSUE

BOW STREET
BULLETIN

THE HARVARD UNIVERSITY CENTER FOR POPULATION AND DEVELOPMENT STUDIES

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LETTER FROM THE DIRECTOR

The Power of Partnerships

The projects and priorities of the Pop Center are never far from my mind—even when I am thousands of miles away from Harvard Square. The first half of 2013 for me will be spent on a working sabbatical, visiting Africa and India on behalf of the center to connect with our partners, delve into some field work and complete some writing assignments.

These partnerships are critical to meeting the goals of the Pop Center. They provide the support and diversity—in geography, perspective, and expertise—that enhances our ability to look at issues holistically, fill in knowledge gaps and consider the global implications of our work.

One of our newer projects involves the INDEPTH Training and Research Centres of Excellence (INTREC), funded by the European Commission. The goal of INTREC is to build sustainable capacity for social determinants of health research in seven low- and middle-income Asian and African countries. In this effort, we are working with five other partners, including the INDEPTH Network, Umea University of Sweden, Heidelberg University, Amsterdam University, and Gadjah Mada University in Indonesia. After an energized and fruitful meeting with the collaborators in Germany last October, the work is now well underway. (Details will be shared with you in a future issue)

As we continue to build and strengthen networks across the globe, it is equally important that the Center cultivate relationships across Harvard. Over the past five years, the Pop Center has developed a community of scholars from a wide range of disciplines across the University who have central interests in population health and demographic change. At the same time, we have fostered interlocking relationships with other Harvard centers such as the Harvard Global Health Initiative and the Institute for Quantitative Social Science that have been enormously helpful in helping us accomplish our goals—particularly in our examinations of the intersection of population and development.

Our cover article on the RISK Project illustrates the powerfully relevant work being done through the collaboration of our faculty with equally committed experts from other educational institutions across the U.S. With diverse backgrounds and perspectives comes new ways of thinking, new ways to evaluate data, and new solutions that may have an important impact on future policy.

For me, the center is like the hub of a wheel, with many spokes representing the people, organizations, and institutions with whom we work. Without the spokes, our wheel would not work nearly as well—and would not be nearly as interesting to watch.

While I'm out exploring some of these spokes, David Canning will be filling in as the acting director of the center. I look forward to reconnecting when I return to campus in September, and am excited to fill you in on everything I bring back to the Center from the great wide world.

—Lisa Berkman

Is there Compression of Morbidity?

Recent Evidence Suggests Onset of Chronic Disease Occurring Earlier

Large improvements in the rates of morbidity (illness and disease) and mortality (death) in the second half of the twentieth century led to major increases in survival and life expectancy at older ages. For example, the probability that a 65 year old would survive to age 80 increased by 40% between 1960 and 2007, and the expected number of years to be lived above age 65 rose by 30% over the same period. While increases in survival and life expectancy generally signal health improvements in the population, there's mounting evidence that the additional years of life at older ages have not been accompanied by better health.

Three decades ago, Stanford Professor of Medicine James Fries proposed the hypothesis "compression of morbidity." He suggested that with improved medical care, increases in survival at older ages would be accompanied by a postponement in the age of onset of illness, thus leading to a reduction in the length of morbidity (the "compression") and proportionally a reduction of lifetime spent with disability. Over the years, this has become a goal of the medical community: to compress the period of illness into as short a time as possible while simultaneously striving to have people live longer.

"There's mounting evidence that the additional years of life at older ages have not been accompanied by better health."

Since coming to Harvard as a David E. Bell Research Fellow, I have continued working on whether compression of morbidity exists and whether it occurs evenly across socioeconomic positions and race/ethnicity, or whether more disadvantage groups are experiencing expansion rather than compression of morbidity. In recent work, I showed that compression of morbidity is not occurring in the overall U.S. population, with chronic diseases such as hypertension, obesity, and diabetes remaining the main current sources of morbidity.

Hiram Beltrán-Sánchez

Last September, in collaboration with Harvard Professor S.V. Subramanian, I organized a workshop at the Harvard Center for Population and Development Studies to examine the current evidence on compression of morbidity. The workshop brought together an interdisciplinary group of recognized scholars on the topic. The evidence provided by these experts overwhelmingly showed that *expansion* of morbidity, not compression, appears to be occurring in the elderly U.S. population. For example, despite reductions in disability and functional mobility in the U.S. in the mid-1990s, some research shows increases in the last decade.

Additionally, there is little evidence that the incidence of major chronic diseases (e.g., diabetes and cancer) has been delayed at later life; on the contrary, some research that the onset of diabetes and major cardiovascular risk factors (e.g., obesity, hypertension and dyslipidemias) may be occurring at earlier ages as a result of the growing obesity epidemic. As the U.S continues moving towards an aging population, it is imperative to examine differentials by socioeconomic status and race/ethnicity to assess whether more disadvantage groups are experiencing worse morbidity.

Professor Subramanian and I propose that the framework of morbidity compression needs to be reevaluated. It is important to consider the recent dramatic increases in prevalence and incidence of chronic disease and illness, which we believe might lead to an expansion of morbidity with substantial implications for public health, as well as health care policy. Much of the current research that is occurring simply focusses on disability and related functional mobility indicators. Thus, from a medical, clinical and public health perspective, it misses major expansions of disease and health risk factors that have occurred in the population in recent years. Reevaluating the compression of morbidity argument would allow us to get improved evidence and a more comprehensive understanding of whether additional years of life at old age are accompanied by less suffering and disease. ■

—Hiram Beltrán-Sánchez, Ph.D., is a first-year David E. Bell research fellow at HCPDS. In addition to his research on compression of morbidity, he is also currently examining biodemographic patterns in the adult Mexican population and their link with the Mexican-origin population in the United States.

For further reading on the "compression of morbidity" issue, we suggest:

Mortality and morbidity trends: Is there compression of morbidity? Crimmins EM, Beltrán-Sánchez H. J Gerontol B Psychol Sci Soc Sci. 2011; 66 B(1): 75-86

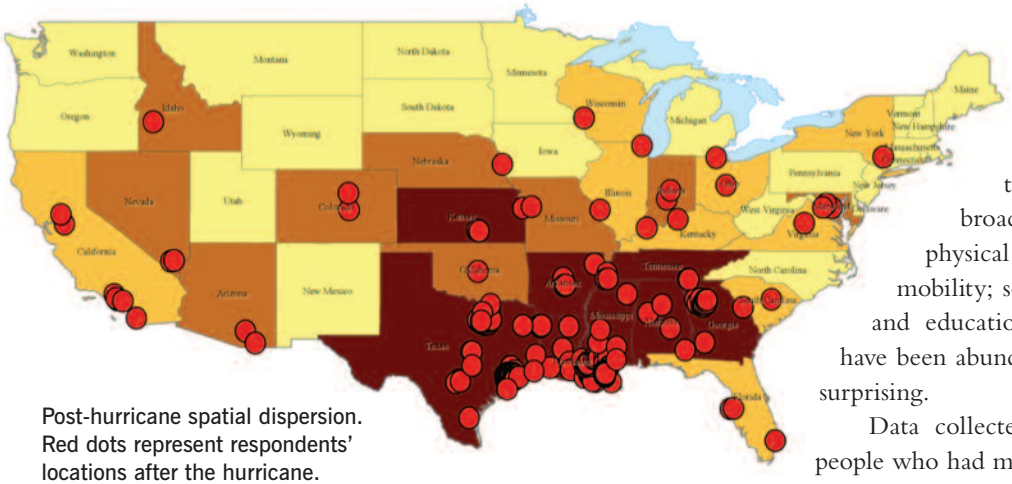
Healthy life expectancy for 187 countries, 1990-2010: a systematic analysis for the Global Burden Disease Study 2010. Salomon JA, Wang H, Freeman MK, Vos T, Flaxman AD, Lopez AD, et al. The Lancet, Volume 380, Issue 9859, Pages 2144 - 2162, 15 December 2012

Trends in health of older adults in the United States: Past, present, future. Martin LG, Schoeni RF, Andreski PM. Demography. 2010; 47(SUPPL.1): S17-S40

were quick to see the value of the RISK Project. "We got money right away, including a five year NIH grant," says Waters.

Many questions, many perspectives, many benefits

The RISK Project has brought together the talents of Waters and her core team as well as over a dozen research affiliates, post-doctoral fellows, and doctoral students—all of whom are equally dedicated to the project's deceptively simple mission: to study the consequences of a disaster for the lives of vulnerable individuals and their families.



Post-hurricane spatial dispersion. Red dots represent respondents' locations after the hurricane.

To get started, the project's survey researchers put forth a monumental effort to locate the displaced and scattered women of the original survey. Their efforts paid off.

Between seven and 19 months after the hurricane, 711 women completed the first post- Katrina telephone survey. Between 43 and 54 months after the hurricane, 720 individuals completed RISK's second telephone survey.

RISK Project researchers have been focusing on **all aspects of the women's lives,** including physical and mental health and the value of support networks and community. The myriad issues they hope to shed light on include potential outcomes for children and the best forms of—and uses for—federal disaster funds.

Key to RISK's ability to tackle so many complex questions is the project's interdisciplinary nature. Economists, psychologists, and sociologists bring their specialized perspective to each study in the project. They employ multiple research methods, including quantitative survey analysis and qualitative life history assessments.

RISK also benefits from a culture of partnership, particularly between team members from a variety of educational institutions. Waters, Rhodes, Rouse, and Elizabeth Fussell, an associate professor in sociology from Washington State, serve as RISK's principal investigators. Paxson, formerly a principal investigator, now works with RISK in a consulting capacity.

"The interdisciplinary nature of the study has been a great learning experience, "says RISK research affiliate Sarah Ryan Lowe, a postdoctoral fellow at Columbia University. "Because we are all from different academic backgrounds, we look at the data in unique ways and ask a large variety of questions. I think I have learned how to integrate different perspectives and to think more holistically about disasters."

"The continuous exercise of presenting to each other our understanding of the data expands our views," adds Corina Graif, a Robert Wood Johnson Foundation Health & Society Scholar at the University of Michigan, Ann Arbor. "It is always inspiring to me to see the amount of enthusiasm and commitment that each of us has for the topics we investigate most closely and the amount of cross-fertilization among the different theoretical and analytical approaches."

Lasting lessons

In its relatively brief existence, the RISK team has already engaged in an extensive and broad series of research studies in the areas of physical and mental health outcomes; residential mobility; social support; child outcomes; methodology; and education and economic outcomes. The findings have been abundant, thought provoking, and, in some cases, surprising.

Data collected before and after Katrina indicates that people who had mental health issues before the hurricane are at greater risk of having more lasting mental health issues, including PTSD, afterwards. As a result of this finding, RISK recognizes the importance of providing mental health help for susceptible people and recommends that mental health assistance should be a priority in the medical responses to the hurricane.

Studies on how people use financial disaster assistance have yielded some interesting results. Even with financial assistance, renters have faired poorly in the rebuilding of New Orleans. Since Katrina, rents have tripled because housing stock has gone down drastically; as a result, renters are being priced out of the city.

Says Waters, "From a public policy point of view, it's very hard to know if New Orleans is bouncing back. How can we know if post-disaster assistance helped the folks who didn't come back? Are they worse off or better off? And what kind of post-disaster assistance makes sense?"

One of the findings that surprised RISK researchers was the impact that pet loss had on pet owners. "The loss of pets had a long-lasting negative effect on people," says Waters, "Especially for those with low social support. Which makes sense; if you don't have a lot of people in your life, your pet is extremely important to you." Many people lost pets because they had to leave their homes and shelters don't generally take pets. Shelters that do take pets require all of the pet's immunization records, which people can't easily locate in the midst of a disaster. The RISK researchers realized that when people are planning for disasters in the future, preparations for insuring pet safety will be critical.

For policy makers, rebuilding homes and other structures after a disaster is a very clear goal. But proper planning is required to insure

that the buildings that do arise match the needs of the people who have been displaced. Is focusing on the construction of single-family homes the best use of time and resources? Or would low-income apartment structures better meet the needs of the many displaced renters?

But rebuilding people's lives is by far the most important priority, a priority that requires a specialized knowledge set—the type of knowledge that RISK hopes to provide.

Thousands of volunteers aided residents after Katrina.

Community appeal

In order to identify solutions that will provide long-term, positive impact on the survivors of disasters, RISK researchers acknowledge the need to shift the way in which policy makers and relief organizations approach disaster recovery. Explains Waters, "We have a very individualistic approach to disaster recovery. We give support to individuals, to families, to buildings, but our research has found that you need to think about the community rebuilding, too. People don't just lose their homes. They lose their friends and neighbors. Their sense of safety in their community and their knowledge base are all gone."

"We're realizing that it is important to target things in a more communal way. For instance, saying, 'We're going to rebuild this entire neighborhood.' And we're going to do it with the input of people who've been most affected by the loss of this neighborhood.'"

The researchers found that New Orleans residents who were evacuated en masse to Houston had a relatively positive experience, largely because there was a large group of survivors together in one area who were able to create a sense of support and community. In contrast, many were moved to cities such as Atlanta and Miami on a more individual basis. On their own and without community and institutions to help them, they did not fair as well.

"It's best to think about people as not being individuals, but being connected by communities," says Waters.

The Future of RISK

While RISK research on the multiple, long-term devastation is plentiful, the team also believes it's valuable to explore the phenomenon of "post-traumatic growth" (The positive change experienced as a result of the struggle with a major life crisis or a traumatic event.)

A surprisingly large number of the women in the study have said that if it weren't for the hurricane, they never would have made certain positive changes in their lives, such as using FEMA funds to move to safer neighborhoods, or having access to better schools for their children. Says Waters, "Some seem to be living out the old adage, 'When life gives you lemons, make lemonade.'"

In the spring of 2013, RISK researchers will present three papers from the study at the Population Association of America (PAA) meetings in New Orleans. And the RISK Project team has high hopes for the policy implications of their research.

"We show the importance of shielding people from disaster exposure through comprehensive evacuation planning, especially for those who rely on public transportation. We also show the importance of connecting survivors with their loved ones and reestablishing a sense of long-term stability by securing housing, employment, and schools," says Lowe. "The findings also indicate the importance of arranging accessible post-disaster psychological support in order to bolster the survivors' stress management skills."

Adds Waters, "We see some policy implications from our research already and we'd like to draw those out in the future, with the hope of properly supporting at-risk victims of future natural disasters."

Through the Harvard Pop Center, the RISK Project has submitted a new grant proposal to NIH, with the goal of following the Katrina survivors for another five years. "In a lot of ways, people are still just really putting their lives back together again, so the story is not completely told," says Waters. "New Orleans is still rebuilding, and we'd really like to continue to follow these women and their children."

"It's a big project, an important project," adds Waters. "It's profound to have been with the people and the results of Katrina for so long." ■

The RISK Project's website contains comprehensive information on the researchers, various ongoing studies, results publications, and news.
Visit www.riskproject.org to learn more.

Upcoming Winter/Spring 2013 Events

POP CENTER SEMINARS

Harvard Pop Center, 9 Bow Street, Cambridge, 4:00 PM – 5:00 PM

These Monday sessions are open to everyone: faculty, research scientists, postdoctoral fellows and students.

DATE	TITLE & SEMINAR LEADER
February 4	**Cognitive Mobility: Labor Market Responses to Supply Shocks in the Space of Ideas** George J. Borjas, Robert W. Scrivner Professor of Economics and Social Policy, John F.Kennedy School of Government, Harvard University
February 11	**Push or Pull: Drivers of Women's Labor Force Participation during India's Economic Boom** * Stephan Klasen, professor of economics, University of Göttingen, Germany
March 4	**Observational Studies Analyzed Like Randomized Trials, and Vice Versa** * Miguel Hernan, professor of epidemiology, Harvard School of Public Health
March 11	**Health and Aging in Malawi: Evidence from the Malawi Longitudinal Study of Families and Health** * Hans Peter Kohler, Frederick J. Warren Professor of Demography, University of Pennsylvania
March 25	**The Underclass Debate 30 Years Later** * Douglas S. Massey, Henry G. Bryant Professor of Sociology and Public Affairs, Princeton University Note that this seminar will run from 4:30 PM – 6:00 PM
April 8	**Demography of the Future** * Herbert L. Smith, professor of sociology, and director, Population Studies Center, University of Pennsylvania
April 22	**Redefining Neighborhoods Using Common Destinations: Social Characteristics of Activity Spaces and Home Census Tracts Compared** Anne R. Pebley, Fred H. Bixby Chair, Dept of Community Health Science, professor of sociology, and director, California Center for Population Research, UCLA
April 29	**Migration, Health and Well-being in Rural Africa** Michael J. White, professor of sociology, Brown University

** Co-sponsored by the Program on the Global Demography of Aging*

ROBERT WOOD JOHNSON FOUNDATION HEALTH AND SOCIETY SCHOLARS SEMINARS

Harvard Pop Center, 9 Bow Street, Cambridge, 4:00 PM – 5:30 PM

These Thursday sessions are open to faculty, research scientists, and postdoctoral fellows.

DATE	TITLE & SEMINAR LEADER
January 31	**Embodied Histories & Health Inequities: Racism, Class, Mortality, Body Size, & Breast Cancer – An Ecosocial Analysis** Nancy Krieger, professor of society, human development, and health, Harvard School of Public Health
February 28	**Biomarkers and the Transformation of Social Science Research: The Case of Cortisol** Aaron Mauck, lecturer, departments of social studies and the history of science, Harvard University
March 14	**Title TBA** Ryan Brown, associate behavioral and social scientist, Rand Corporation, and professor, Pardee RAND Graduate School
April 24	**Title TBA** Jason Boardman, associate professor of sociology, University of Colorado at Boulder

FRIDAY LUNCHEON SEMINARS

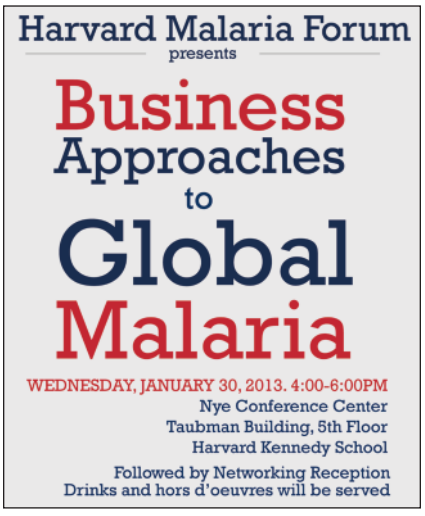
Harvard Pop Center, 9 Bow Street, Cambridge, 12:30 PM – 1:30 PM

These Friday seminars, co-sponsored by the Harvard Pop Center and the Program on the Global Demography of Aging, focus on salient issues in population health, demography, and economics. These informal gatherings serve as opportunities for researchers to garner important feedback from others working in similar areas. Open to everyone: faculty, research scientists, postdoctoral fellows and students. Please check our website for seminar titles. Lunch is provided.

DATE	SEMINAR LEADER
February 1	**Presenter: Kelly Hallman,** senior associate, The Population Council
February 8	**Presenter: Mariana Arcaya,** doctoral candidate, department of society, human development and health, Harvard School of Public Health
February 22	**Presenter: Guy Harling,** doctoral candidate, department of society, human development and health, Harvard School of Public Health
March 1	**Presenter: Jacob Bor,** doctoral candidate, department of global health and population, Harvard School of Public Health
March 8	**Presenter: Corrina Moucheraud,** doctoral candidate, department of global health and population, Harvard School of Public Health
March 15	**Presenter: David Hurtado,** doctoral candidate, department of society, human development and health, Harvard School of Public Health
April 5	**Presenter: Tom Burgoine,** career development fellow, Centre for Diet and Activity Research, Institute of Public Health, University of Cambridge
April 12	**Presenter: Courtney Cogburn,** RWJF Health & Society Scholar, Harvard Center for Population and Development Studies
April 19	**Presenter: Sam Liu,** research associate, Harvard Center for Population and Development Studies
April 26	**Presenter: Christina Roberto,** RWJF Health & Society Scholar, Harvard Center for Population and Development Studies

FEATURED EVENT

The Harvard Center for Population and Development Studies
is proud to co-sponsor this important event:



For more information, go to www.globalhealth.harvard.edu

How Companies Must Adapt for an Aging Workforce

The world's population is growing older, taking us into uncharted demographic waters. By 2050, over one-fifth of the US population will be 65 or older, up from the current figure of one-seventh. The number of centenarians worldwide will double by 2023 and double again by 2035. Projections suggest life expectancy will surpass 100 in some industrialized countries by the second half of this century — roughly triple the lifespan that prevailed worldwide throughout most of human history.

Anti-aging technologies — from memory-enhancing drugs to high-tech joint replacements — have combined with healthy lifestyles not merely to increase longevity, but to make old age healthier for many people. Although the jury is still out, there is evidence that disability at the end of life is being compressed into a shorter period, which suggests that longer workspans will accompany longer lifespans. In the near future, employees in significantly growing numbers will likely be able to work productively into their eighth or even ninth decade.

Business has been slow to plan for population aging, but delay won't be an option for much longer. Unemployment is high now, but as labor markets tighten, especially in Europe and Japan, companies will soon have little choice but to welcome older employees. Indeed, prompt action to harness — and enhance — the contributions of older workers will be seen as a key competitive advantage.

Responding effectively to longer lifespans will require changes in business practices and public policies. Allowing people more freedom of choice regarding the timing of retirement is a good start. Our research (with our colleagues Jocelyn Finlay and Guenther Fink) on male life expectancy in 43 countries between 1965 and 2005 shows an average rise of 8.8 years; for the same period, the mean legal retirement age for men rose by only 0.4 year. Social security systems in many countries create strong incentives for retirement between the ages of 60 and 65. Pension contribution and payout schedules will need to be examined and optimized so as to enable, encourage, and capture the benefits of prolonged careers.

Business practices also require prompt attention. First, attitudes need to change. Older workers are often seen as a burden, with younger candidates preferred in recruitment decisions. But in economies where knowledge rules, the experience of older workers grows in value. Employer surveys commonly reveal that workers over 60 are seen as more experienced, knowledgeable, reliable, and loyal than younger employees. Practice should synch up with that perception.

Older employees who wish to keep working may demand flexible roles and schedules. Allowing more part-time work and telecommuting will entice older workers to stay on, extending their careers by placing lighter burdens on them. Allocating demanding physical tasks to younger employees will produce a similar benefit (and potentially reduce health care costs arising from workplace accidents).

Ongoing training, meanwhile, will help older workers master new skills as the economy changes. And employees' longer working lives give companies the benefit of greater productivity gains from their training investments.

Investing in the health of all employees enhances productivity and avoids unnecessary costs as the workforce ages. Wellness programs produce healthier employees at all ages; on-site clinics save workers time and focus care on prevention and early disease detection, which also lowers costs. Last, it is believed that seniority-based pay sometimes exceeds performance at the latter stages of the life cycle. In these circumstances, bringing pay and performance (properly assessed) into closer conformity would likely ease corporate norms surrounding age at retirement.

In designing the organizations of the future, the private sector — with appropriate public-policy support — should anticipate, rather than passively await, this trend toward longer lifespans and older employees. While some adaptations lie on the more distant horizon, others can be undertaken right now, to the benefit of both younger and older employees — and of the company itself. ■

—By David Bloom and David Canning

David Bloom is Clarence James Gamble Professor of Economics and Demography at the Harvard School of Public Health and a Harvard Pop Center faculty member. David Canning is Richard Saltonstall Professor of Economics and International Health at the Harvard School of Public Health and associate director of the Harvard Pop Center.

David Bloom

David Canning

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