Research Highlights
in the Demography and Economics of Aging

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Cross-National Research on Aging

In nearly all regions of the world, the population ages 65 and older is growing faster than the total population. Growth in the elderly population relative to other age groups challenges existing health services, family relationships, social security, and pension programs.

To help address these challenges, the Behavioral and Social Research Program of the National Institute on Aging (NIA) sponsors a wide range of data collection efforts and research related to population aging. This Research Brief highlights cross-national datasets partially or fully funded by NIA, how these data are used to address key research questions, and where people can go for more information.

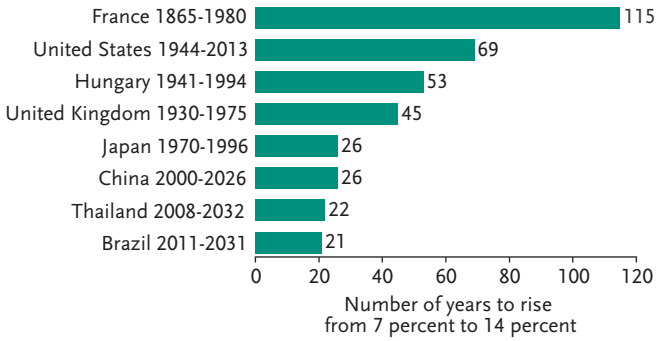
A Global Issue

The size of the elderly population and the speed of population aging vary across regions. Europe has the highest proportion of people ages 65 and older (16 percent), but the older population is growing fastest in several countries in East and Southeast Asia. During the 26-year period from 1970 to 1996, the proportion of people ages 65 and older in Japan doubled (Figure 1). China, with 1.3 billion people, is expected to follow a similar trajectory but on a much larger scale. In sub-Saharan Africa, the elderly are projected to make up 4 percent of the total population in 2030, only a slight increase over today's levels. However, in this region, population aging is taking place in the context of an HIV/AIDS pandemic and chronic poverty. As a result, many African societies confront population aging without traditional kin support or formal social security systems.

The United States must also confront the challenges of population aging; however, with higher fertility rates than most European countries, the United States has more time to prepare for change. In 2006, 12 percent of the U.S. population was age 65 or older, a level surpassed by many Western European countries. That population aging in the United States lags behind Europe and several industrialized Asian countries means U.S. policymakers may address this critical issue based on the effects of policies and programs adopted in other countries. With cross-national data, researchers may evaluate policies implemented in some countries but not others or may distinguish universal aspects of aging from the effects of culture, social and political institutions, and variations in policy response.

Figure 1

Speed of Population Aging in Selected Countries



Sources: K. Kinsella and Y.J. Gist, *Older Workers, Retirement, and Pensions: A Comparative International Chartbook* (Washington, DC: U.S. Census Bureau, 1995); and K. Kinsella and D.R. Phillips, "Global Aging: The Challenge of Success," *Population Bulletin* 60, no. 1 (2005).

Data Availability

Table 1 (page 2) provides a list of NIA-supported cross-national datasets and selected single-country studies.

Original Data Collection Efforts

Many international data collection efforts are modeled after the U.S. Health and Retirement Survey (HRS). HRS data collection began in 1990, and over the last 10 years has included innovative supplements on memory, diabetes, and prescription drug use. The English Longitudinal Study of Ageing (ELSA) data collection began in 2000 and, similar to the HRS, includes measures of physical impairment and biological

markers of disease. The Survey of Health, Ageing and Retirement in Europe (SHARE) measures health, socioeconomic status, and social and family networks for about 35,000 people ages 50 and older residing in a regionally representative group of European countries and Israel. SHARE also incorporates new methods for calibrating self-reported health status across individuals and across countries (see box).

Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, and Switzerland were included in the first SHARE wave (2004 to 2005). The Czech Republic, Ireland, Israel, and Poland have been added to the second wave of data collection. Data similar to HRS, ELSA, and SHARE are currently being collected in the Korean Longitudinal Study of Aging (KLOSA). There are plans for comparable surveys in Japan, Ireland, and Thailand. China is also considering a panel study of health and retirement. These new data collection efforts will provide unique information on the health, socioeconomic status, and social networks of older individuals living in countries with varying public policies, cultures, and histories.

In developing countries, the International Network for the Demographic Evaluation of Populations and Their Health (INDEPTH) provides demographic surveillance in 37 sites in Africa, Asia, and Latin America. INDEPTH provides a model for collecting comparable data across sites, even in countries with severe resource constraints. Using innovative techniques, INDEPTH sites provide mortality data otherwise lacking for the less developed world, especially with regard to adult populations. The longitudinal nature of these data is essential to understanding emerging patterns of adult mortality and noncommunicable diseases and will help shape chronic disease prevention and control programs.

Table 1

Cross-National Databases and Selected Single-Country Studies Funded by NIA

Study title	Geographic area(s)	Web address/E-mail contact
Census Microdata Samples Project	13 European countries, Canada, U.S.	nikolai.botev@unece.org
The Cross-National Equivalent Files 1980-2005[a]	U.K., Canada, U.S., Germany	CNEF@cornell.edu
Human Mortality Database[a]	28 countries	www.mortality.org
International Database on Aging (IDBA)[a]	227 countries	Victoria.a.velkoff@census.gov
INDEPTH[b]	19 developing countries	www.indepth-network.net
The Luxembourg Income Study (LIS)[a]	30 countries	LISAA@maxwell.syr.edu
Odense Archive of Population Data on Aging[a]	28 developed countries	cindy.owens@duke.edu
Study on Global Ageing and Adult Health (SAGE)	6 developing countries	www3.who.int/sage
The Adelaide Longitudinal Study of Ageing (ALSA)	Adelaide, South Australia	www.icpsr.umich.edu/NACDA
Chinese Longitudinal Healthy Longevity Survey	China	www.pubpol.duke.edu/centers/ppa
Indonesian Family Life Survey (IFLS)	Indonesia	ifls-supp@rand.org
Matlab Health and Socioeconomic Survey (MHSS)	Matlab, Bangladesh	mhss-supp@rand.org
The National Survey of the Japanese Elderly[c]	Japan	www.icpsr.umich.edu/NACDA
Nihon University Japanese Longitudinal Study of Aging	Japan	www.usc.edu/dept/gero/CBPH/nujlsoa
The Second Malaysian Family Life Survey (MFLS-2)	Malaysia	www.rand.org/labor/FLS/MFLS
Social Environment and Biomarkers of Aging Study	Taiwan	www.icpsr.umich.edu/NACDA
English Longitudinal Study of Ageing (ELSA)[c]	England	www.ifs.org.uk/elsa
German Socio-Economic Panel (GSOEP)[c]	Fed. Republic of Germany	GSOEP@cornell.edu
The Longitudinal Study of Aging Danish Twins	Denmark	www.pubpol.duke.edu/centers/ppa
Origins of Variance in the Old-Old: Octogenarian Twins	Sweden	gm1@psu.edu
Survey of Health, Ageing and Retirement in Europe (SHARE)	11 European countries, Israel	www.share-project.org.
Swedish Adoption/Twin Study of Aging (SATSA)	Sweden	www.mep.ki.se/twin
Mexican Health and Aging Study (MHAS)[c]	Mexico	www.pop.upenn.edu/mhas
Cross-Sectional and Longitudinal Aging Study	Israel	herczeg@post.tau.ac.il
Health and Retirement Study (HRS)[c]	United States	http://hrsonline.isr.umich.edu.
Victoria Longitudinal Study	Victoria and Alberta, Canada	www.ualberta.ca/~vlslab

[a] Data archives.
[b] International Network of Field Sites With Demographic Evaluation of Populations and Their Health in Developing Countries.
[c] These single-country studies are compatible with U.S. Health and Retirement Survey or other cross-national data.

Source: National Institute on Aging, Publicly Available Databases for Aging Related Secondary Analyses in the Behavioral and Social Sciences, accessed online at www.nia.nih.gov, on March 3, 2006.

Data Archives

The Behavioral and Social Science Research Program at NIA also supports several efforts to combine information on aging from existing sources. For example, the National Archive of Computerized Data on Aging provides access to a large collection of electronic datasets for gerontological research. The Cross-National Equivalent Files (1980 to 2005) combine individual country surveys to create comparable longitudinal data for the United Kingdom, Canada, Germany, and the United States. The Human Mortality Database, International Database on Aging, Luxembourg Income Study, and Odense Archive of Population Data on Aging are other examples of NIA-funded data archives that provide cross-national data on trends in mortality and aging.

Results From Cross-National Research

Cross-national studies help us understand how changes in health and pension systems affect labor supply, demands on government resources, individual retirement decisions, and family support. In the study of health and health care systems, NIA-supported data collection and analyses have also shown how population aging affects health care costs, how individual health changes with age, and how U.S. elderly health patterns differ from those in other industrialized countries.

Health Puzzles

The United States has the highest per capita health expenditures of any highly developed country. Yet elderly health in the United States has lagged behind that of many other developed countries. It is commonly assumed that the U.S. disadvantage is linked to poor health outcomes among U.S. residents with low socioeconomic status. However, using data from the U.S. Health and Retirement Study and the English Longitudinal Study of Aging, Banks et al. (2006) found that U.S. residents ages 55 to 64 are less healthy than their English counterparts across all socioeconomic groups. Their findings showed that health differences between the two countries cannot be attributed to biases in self-reporting

ANCHORING VIGNETTES

Researchers must often rely on individual self-assessments of health status, health care use, and access to services. Respondents may be asked to "strongly disagree," "disagree," "agree," or "strongly agree"; or to say whether they consider themselves to be in "poor," "fair," "good," "very good," or "excellent" health. Although self-reported health measures have long been useful indicators of individual health, these measures may not be directly comparable across groups of individuals.

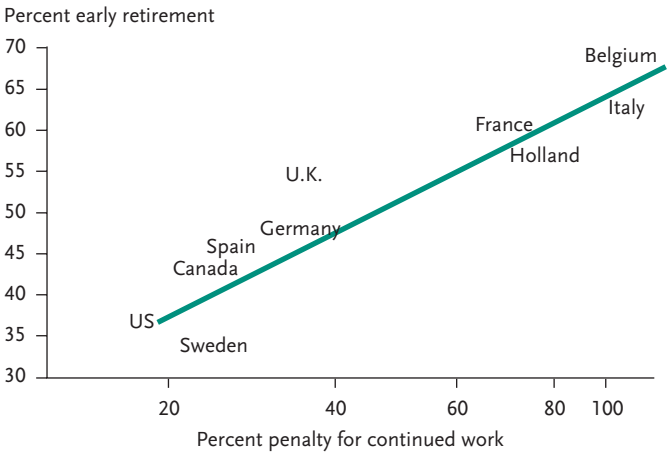
Young and old respondents may assess their health based on dissimilar reference levels. When respondents are from multiple countries and cultures, in addition to their having different reference levels, they may also interpret the response categories differently. Respondents from one country may be more willing to "strongly agree" than respondents from another country. This suggests that, across both age groups and countries, survey respondents apply different standards to self-assessment scales (Kapteyn, Smith, and Soest, forthcoming).

An experimental survey technique, the use of anchoring vignettes, in combination with appropriate statistical techniques, may allow researchers to adjust for the difference in reference levels across groups. Anchoring vignettes involve asking respondents questions about a hypothetical situation in addition to asking self-assessment questions. The vignettes describe the actual status of an individual using the same categories as corresponding self-assessment questions. Combined with specific statistical methods for analyzing the responses, these vignettes allow researchers to develop a common reference point for the scale despite group (national) differences in interpreting the scale. The World Health Organization's Study on Global Ageing and Adult Health (SAGE) includes self-reported assessments of health linked to anchoring vignettes as a strategy for collecting data on older persons in developing countries and for improving comparability across individuals, communities, and populations. Self-assessments and vignettes from the SAGE health modules have also been added to the Survey of Ageing and Retirement in Europe (SHARE) and other surveys.

References

Gary King and Jonathan Wand, "Comparing Incomparable Survey Response: Evaluating and Selecting Anchoring Vignettes," accessed online at http://gking.harvard.edu/files/c.pdf, on March 5, 2007; and Arie Kapteyn, James Smith, and Arthur Van Soest, "Vignettes and Self-Reports of Work Disability in the U.S. and the Netherlands," *American Economic Review* (forthcoming).

Figure 2
Retirement and Tax Disincentives



Source: J. Gruber and D.A. Wise, *Social Security and Retirement Around the World* (Chicago: University of Chicago Press, 1999).

or to behavioral risk factors such as smoking, obesity, and alcohol consumption.

Comparisons among European countries have also revealed paradoxical differences in the relationship between health expenditures and health outcomes. Italy and Spain spend less on health care than the European average, but have higher life expectancies than several Northern European countries (the Netherlands, Denmark, and Germany) that spend more on health care. Yet researchers using SHARE data on individual respondents in all these countries found a consistent relationship between health care expenditures and self-reported health, after correcting for cross-cultural differences in responses (see box). A 1 percentage-point increase in health care expenditures was associated with a 4 percentage-point increase in the (adjusted) proportion of respondents who reported feeling "very healthy" (Borsch-Supan et al. 2005). These methods may be particularly useful in explaining differences between self-reported disability levels or overall health and outcomes based on mortality data.

Gender differences in elderly health have emerged as another health puzzle. Goldman et al. (2004) combined several panel studies—the Social Environment and Biomarkers of Aging Study in Taiwan, the Wisconsin Longitudinal Survey (WLS), and the MacArthur studies in the United States—to examine sex differentials in cardiovascular risk. In the United States, males have higher risk than females on all cardiovascular indicators. However, in Taiwan, male-female differences in biological markers of cardiovascular risk are smaller and less consistent. These findings raise questions as to whether male-female differences are inherent, as has been thought in the United States, or whether factors such as socioeconomic status, cultural practices, diet, and lifestyle contribute to the observed gender differences.

Older Workers Withdraw

During the last half of the 20th century, many countries lowered the age at which people could collect public pension benefits. Gruber and Wise, in their landmark study (1999), identify a strong association between social security incentives to retire and the withdrawal of older workers from the labor force (see Figure 2). Labor force withdrawal rates jump at early eligibility ages and again at statutory retirement ages. These departure rates are higher in countries with stiff tax penalties for those who work beyond the age of eligibility (Germany and France) than in countries with smaller penalties (the United States). Today, workforce participation at older ages is increasing in many developed countries, but the gap between official and actual ages of retirement persists and is emerging in rapidly aging developing countries as well.

Public and Private Support for the Elderly

For many countries, an aging population raises concerns about the public costs of caring for the elderly as well as questions about the continued viability of traditional family support. Cross-national comparisons can help determine the right mix of public and private support systems for elderly populations in different economic and cultural contexts.

Consumption of public resources also varies by age. Figure 3 (page 5), from Lee, Lee, and Mason (2006), shows the age pattern of public consumption for people ages 0 to 85 in France, Indonesia, and the United States. In France and the United States, government programs are more likely to target particular age groups, for example, through education programs for children or health care services for the elderly. U.S. government programs, in particular, are heavily weighted to individuals ages 75 and older. In contrast, programs in Indonesia are more likely to focus on young people, to the extent that age targeting occurs at all.

Mason and his collaborators (2005) measure intergenerational transfers at the national level in a manner consistent with national income and domestic product accounts. Their methods produce cross-nationally comparable measurements of intergenerational transfers embodied in family assistance, public assistance, pension programs, health care, and education systems, among others. These estimates will allow comparisons of the economic effects of population aging across countries with different public policies and/or different traditions of providing for the elderly.

Analysis of SHARE data shows that across Europe, the family still provides much of the day-to-day support for relatives, with the elderly spending hours helping others or looking after grandchildren, and also receiving assistance from their own children (Börsch-Supan et al. 2005). Geographic proximity and, in southern Europe, the low rate of paid employment among elderly women, make it possible for the elderly to both provide and receive everyday support from family. Over 60 percent of the SHARE elderly reported daily contact with their most frequently contacted child.

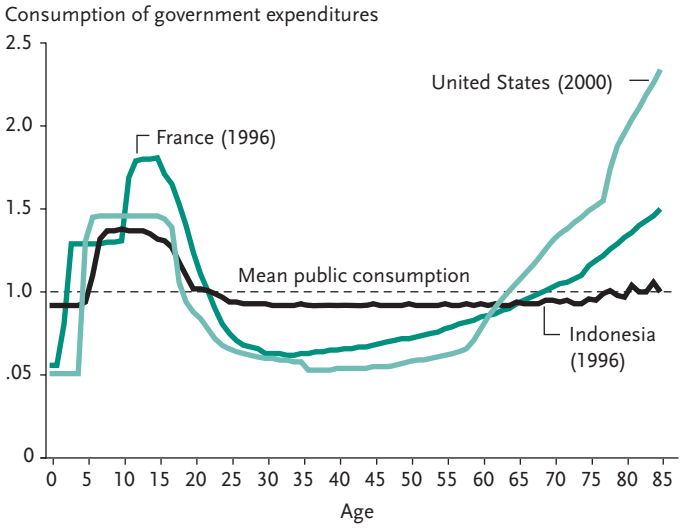
Future Directions

With support from the U.S. National Institute on Aging, important cross-national data collection efforts have emerged, providing policymakers with essential information about population aging across the globe. But more work is needed to prepare policymakers and the public for the demographic changes to come. In *Preparing for an Aging World: The Case for Cross-National Research*, the National Research Council lists the key ingredients for conducting effective and policy-relevant cross-national research:

- Use multidisciplinary research designs.
- Conduct longitudinal research to investigate the relationships between work, health, economic status, and family structure.
- Standardize data collection efforts across different countries.
- Emphasize cross-national research as an important tool for policymakers and for evaluating programs.
- Consolidate information from multiple sources to generate linked databases.
- Provide the scientific community with widespread access to cross-national data on aging.

Figure 3

Per Capita Public Consumption by Age



Note: Government expenditures include spending on health, education, old age and survivor benefits, benefits for families and children, employment, housing, and other goods and services.

Source: R. Lee, S. Lee, and A. Mason, "Charting the Economic Life Cycle," *Working Paper* 12379 (Cambridge, MA: National Bureau of Economic Research, July 2006).

The National Institute on Aging

The National Institute on Aging supports 13 research centers on the demography and economics of aging, based at the University of California at Berkeley, the University of Chicago, Harvard University, the University of Michigan, the National Bureau of Economic Research, the University of North Carolina, the University of Pennsylvania, Pennsylvania State University, Princeton University, RAND Corporation, Stanford University, the University of Southern California/University of California at Los Angeles, and the University of Wisconsin.

Research Highlights in the Demography and Economics of Aging is prepared as a cooperative activity of these centers. For further information about the Centers and to view other issues of *Research Highlights*, please visit the all-centers website at http://agingcenters.org. This research brief was produced by the Population Reference Bureau with funding from the Behavioral and Social Research (BSR) Program of the National Institute on Aging. This brief was written by Marlene A. Lee, Ph.D., senior policy analyst at the Population Reference Bureau, and edited by staff at the National Institute on Aging.

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