Longitudinal Aging Study in India

An investigation of the economic, physical, and social well-being of India’s growing elderly population

Harvard School of Public Health · International Institute for Population Sciences · RAND Corporation
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The Longitudinal Aging Study in India

**Background**

The contours of global population have undergone marked changes over the past several decades. In 1950, for example, world population numbered 2.5 billion, with roughly 5 percent aged 65 and above. Today, world population has risen to 6.9 billion, of which roughly 8 percent (or 523 million) are aged 65 and over. Going forward, we will see further increases: by 2050, global population is expected to reach 9.1 billion, with the 65+ population accounting for 16 percent, or nearly 1.5 billion, of total global population.

In sum, though world population is projected to increase 3.6 times from 1950 to 2050, the 65+ age group will increase by a factor of 11; moreover, the 80+ age group will increase by a factor of 27. The share of the population aged 65 and over is expected to increase in every country in the world between now and 2050 (United Nations 2008, National Institute on Aging 2007b).

While global aging can be seen as a symbol of medical, social, and economic advances over the past half century, it also represents a significant policy challenge. Population aging threatens to topple existing insurance and pension systems, and calls into question existing models of familial and social support. The phenomenon of global graying has the potential to fundamentally alter economies and trade, human migration, and disease burdens.

Although some governments have begun to plan for their aging societies, most have not. There remains a dire need to raise awareness about the significance of population aging and its potentially dramatic implications. In addition, gathering robust and internationally harmonized data will prove vital in order to prepare financially, socially, and medically for rapid population aging.

Funded by the National Institute on Aging, LASI is a partnership between the Harvard School of Public Health, the International Institute for Population Sciences, and the RAND Corporation. LASI will pilot and eventually inform a longitudinal, fully representative survey of those in India aged 45 and older. LASI will address issues of great policy importance using a science-based agenda and internationally harmonized survey instruments.
Population dynamics in India

With roughly 1.2 billion inhabitants, India is the second most populous country in the world. Currently, the 65+ population accounts for 5% of India’s national population, translating into roughly 60 million people. By 2050, these numbers are projected to climb to nearly 14% or approximately 222 million people. The share of the “oldest old”, or the population aged 80 and over, is also projected to increase from 1% to 3% (CIA 2009, United Nations 2008). The rapid rise of India’s elderly population, coupled with changing family structures and limited social provisions, presents policy makers with pressing economic, health, and social challenges.

There are several forces driving India’s population growth and changing age structure, including an upward trend in life expectancy. An Indian born in 1950, for example, could expect to live for 37 years, whereas today India’s life expectancy at birth has nearly doubled to 69 years; by 2050 it is projected to increase to 76 years. This trend reflects significant declines in infant and adult mortality rates, and improvements in survival rates at all ages. As a result, India’s population will rise from 1.2 billion today to an estimated 1.6 billion by 2050, with a much larger elderly share.

The government of India has taken several steps to reform the pension system and enact other policies tackling the growing challenge of population aging, but further analyses and efforts are needed. Under the National Social Assistance Programme, the Indian government established the National Old Age Pension Scheme in 1995 with the aim of providing a pension to the indigent elderly. This scheme is funded by both central and state governments, and currently pays Rs 200 (about US$5.00) per month to those over age 65 and classified as poor or disabled (National Portal of India, 2009a). Beginning with Uttar Pradesh in 1957, several states in India have also pledged financial and in-kind assistance for the indigent elderly, ranging from Rs 75 to Rs 300 (about US$2.00 to US$7.50) per month. Other statewide schemes include the provision of in-kind support for the elderly people below the poverty line (Rajan et al 2004).

India’s changing age structure

[Graph showing the increase in elderly population share from 1950 to 2050]

In 2007, the Indian Parliament passed the Maintenance and Welfare of Parents and Senior Citizens Bill, rendering children and property heirs responsible for the care and support of the elderly poor and urging state governments to set up old-age homes for the destitute elderly (National Portal of India, 2009b).

Several other proposed changes to the system are under debate, and LASI will be well positioned to evaluate the effect of changing policies on behavioral outcomes in India.

One of the most comprehensive surveys to date is the Study of Global Ageing and Adult Health (SAGE), carried out by the World Health Organization (WHO) and the International Institute for Population Sciences (IIPS) in Mumbai.

New data are needed to conduct analyses of population aging and to develop further mid- and long-term policy solutions to address the challenges presented by population aging; no sufficiently broad nationally representative dataset is currently available for investigating the economic and social factors associated with aging in India. LASI will expand on the factors investigated by SAGE and other surveys – such as the National Family Health Survey (NFHS), also conducted by IIPS – by sampling a broader and nationally representative population.
The National Institute on Aging (NIA) and the Institute for Social Research (ISR) at the University of Michigan jointly launched the Health and Retirement Study (HRS) in the United States in 1992. The HRS was established as an effort to inform national retirement policy, as population aging became a challenge in the United States. The HRS model employs unique and in-depth interviews to cull multi-disciplinary data – spanning physical and mental health, insurance coverage, financial situations, family support systems, employment status, and retirement planning – from a nationally representative sample of adults over the age of 50 (National Institute on Aging 2007a).

Many nations have adopted HRS-like studies, and aim to measure health – and its determinants and consequences – over later portions of the life cycle. One of the first such efforts was the English Longitudinal Study of Ageing (ELSA), directly comparable to the HRS. The successes of HRS and ELSA have led to an international study that now tracks health and retirement trends in Europe: the Survey of Health, Ageing and Retirement in Europe (SHARE). SHARE originally involved Sweden, Denmark, France, Belgium, The Netherlands, Germany, Switzerland, Austria, Spain, Italy, and Greece; follow-up waves have expanded to include other countries, and SHARE aims to include all EU member countries. SHARE, like HRS, is methodologically innovative and is designed to maximize cross-national comparisons (National Institute on Aging 2007a).

Many features of the HRS model allow for well-informed policy decisions, such as a rigorous and science-based agenda, respect for local knowledge, longitudinal focus, and public access to data. As population aging becomes a major policy concern in developing and developed countries alike, HRS has inspired the expansion of similar studies around the world. The Mexican Health and Aging Study (MHAS) was the first such effort in a developing country, launched in 2001. Similar studies are also underway in East Asia. South Korea has launched the Korean Longitudinal Study on Aging (KLoSA), and planning for HRS-like studies is well underway in China, Thailand, and Japan (National Institute on Aging 2007a). LASI aims to continue the HRS tradition in a setting where population aging poses a serious threat to the stability and well being of a state and society.
Applying the HRS model to India: constructing an appropriate survey instrument

A survey instrument has been designed to collect information that is conceptually comparable to that of the Health and Retirement Study (HRS) and its sister surveys in Asia (i.e., the Chinese Health and Retirement Longitudinal Study, the Japanese Study on Aging and Retirement, and the Korean Longitudinal Study of Aging), but that will also capture characteristics specific to India. Because we have developed LASI to be consistent with parallel international studies, we expect it will contribute to scientific insights and policy development in other countries.

The internationally harmonized survey instrument was developed in English and has been translated into local languages (Hindi, Kannada, Malayalam, and Punjabi). The expected interview duration is about two hours, using face-to-face interviews. The survey environment in India is conducive to a large-scale, comprehensive study such as LASI, as demonstrated by high response rates in earlier surveys.

The basic premise of the LASI instrument is that it should be comparable to HRS, such that cross-national comparative studies can be pursued. In developing a survey harmonized with other HRS-type studies, certain domains inherently exhibit substantial country-specific heterogeneity (Harkness 1999; Johnson 2002; Lillard and Burkhauser 2006). For example, different countries have unique public and private pension systems, educational systems, financial products and institutions, and welfare programs. For these domains, strict ex-ante harmonization cannot be established. Thus, where local characteristics, particularly institutional and cultural differences, demand modification, the LASI instrument has been developed to reflect local circumstances, with ex-post harmonization still in mind. Furthermore, we have built upon the harmonized instrument by adding innovations, such as collecting data on physical environments, including land, water, indoor air quality, and access to sanitation; and expanding the survey to include information about infectious disease and a comprehensive set of biomarkers.

The LASI instrument comprises the household survey, which is to be collected only once for each household by interviewing the selected key informant; the individual survey, which the interviewer will collect for each respondent; and the protocol for biomarker collection.

The household survey consists of five sections: (1) The household roster or coverscreen contains questions about the demographic composition of the household, such as the number of household members, the identity of the household head, and characteristics of household members, such as name, sex, age, and each person’s relationship to the household head. (2) The housing and environment section consists of questions about the household’s physical dwelling, residential history, and the estimated value of the primary residence. As noted earlier, data on the physical environment are innovations that LASI brings into HRS-type surveys, providing researchers worldwide with new opportunities to investigate the role of the physical environment in the determination of health.
(3) The income section attempts to capture the complete income and assets of all household members, as well as remittances from non-household members.

Detailed income data will be requested for every person in the household, differentiating between sources of income. Domestic advisors have provided further insights to fully capture India’s idiosyncrasies, and an in-depth study designed to validate the income, asset, and consumption models has also been conducted. (4) Detailed questions appropriate to the Indian context about assets and debts are asked about the entire household. These core concepts include the market value of financial and non-financial assets, household debt burden, and net worth. (5) The household consumption section is designed to collect expenditure data at the household level. Expenditures include two separate parts: the amount spent and the amount consumed out of the household’s own production, as the latter is quite common in low-income rural environments.

The individual survey consists of (1) the demographic section, taken from standard HRS demographic questions (birth date, sex, ethnicity, and marital status). Questions about education are modified to reflect the Indian education system, and questions about caste are added to this section, capturing unique social characteristics of India. As in HRS, we ask questions about marital history, language, religious affiliation and related activities, and early childhood experiences (including health status and family economic conditions). (2) The family and social networks section asks detailed questions about all immediate family members, including parents, children, and siblings, both alive and deceased. As in HRS, we ask about family members’ ages (for deceased family members, age at death), marital status, educational attainment, working status, home ownership, and living arrangements. We also collect information about emotional closeness with family members. This section concludes with questions about participation in community and other organized activities. (3) The health section consists of questions about (a) overall health and specific diseases: To facilitate comparisons across studies, we adopted questions on chronic illness from HRS; however, unlike other HRS-type studies, we added questions on infectious disease because of their relatively high prevalence in India. (b) Health events: we draw on health event questions from HRS, KLoSA, and the China Health and Retirement Longitudinal Study (CHARLS) and add new questions about natural disasters such as floods and earthquakes that are known to have significant impacts in India. (c) Functional health: we include both self-reported and performance-based measures, as they tap different constructs of physical functioning, and, although complementary, are not readily interchangeable (Suthers and Seeman 2004). (e) Mental health: we use all original Center for Epidemiological Studies-Depression (CESD) questions, analyze the data, and then examine whether we can extract a subset of questions that are appropriate to the Indian context. (f) Anchoring vignettes: these describe the health status of hypothetical persons and ask respondents to evaluate the health of those persons using the same scale that they used to describe their own health.
The use of anchoring vignettes will help account for reporting biases in self-reported measures, and adoption of this new methodology will facilitate cross-national and within-country cross-cultural comparisons of self-reported health. (4) The section on health insurance and services utilization captures both access to and use of health services. With respect to health insurance, we include questions about public and private health insurance holdings, benefit coverage, and premiums. We then ask about use of health services from public and private providers in relation to both curative and preventive care. Curative questions, including those on hospitalization, outpatient care, dental care, and nursing home care, are derived from HRS. Whereas HRS inquires only about medical checkups, we ask additional questions about immunization, given the prevalence of infectious diseases in India. Questions in this section will complete our understanding of the demand side of health care, including preferences for private or public health care providers.

(5) The work and employment section consists of questions about current job and employment history, which are developed for wage and salary workers and the self-employed, separated between agricultural and non-agricultural workers. The questions for wage and salary workers and the self-employed parallel those in HRS, with modifications to fit the institutional situation in India. Questions on agricultural workers come from CHARLS: whereas HRS does not distinguish agricultural workers, CHARLS inquires about agricultural workers because they are common in rural areas. (6) The pensions and retirement section includes questions about (a) Retirement: we collect information about official retirement for those who work in the formal sector; for those in the informal sector, the concept of retirement is assessed by asking questions regarding the ceasing or reduction of work. We expect to gain valuable insight into how work patterns change with aging in India. (b) Pensions: this module is modified to be appropriate for the system in India. As India’s pension system has undergone several changes, we will ascertain the timing of respondents’ employment to determine which pension law is applicable. (7) The section on expectations is based on the questions that all HRS-type surveys include: subjective probabilities of survival to specific ages, of working to specific ages, of leaving bequests, and of receiving inheritances. In addition to these core questions, we will use visual aids to facilitate understanding of the concept of probability among less educated respondents.
Building the evidence base to confront the challenges of population aging in India

**Income and Wealth.** A lack of well-developed public and private pensions heightens the importance of personal savings and family transfers in obtaining old-age income security in India. LASI will create an opportunity for a cross-national study that will allow us to examine the relationship between pensions, personal savings, and family transfers, as well as enhance our understanding of households’ wealth accumulation or preservation strategies under different institutions and markets. LASI aims to collect highly detailed information on household income, in addition to wealth and consumption data.

**Work and Retirement.** Labor force participation remains high (39%) among those aged 60+ and is especially high (45%) among the rural population aged 60+ (Government of India 2005). While workers in the government sector are required to retire at 60, those working in the private sector have no mandatory retirement age. These high participation rates also reflect an overwhelming reliance on the informal sector, which accounts for more than 90% of all employment in India (Dave et al 2000). They also reflect the inadequacy of existing social safety nets for the elderly, and the erosion of family-based support systems in India. Government and formal sector employees participate in contributory provident fund schemes and highly subsidized plans that provide retiring workers with a lump sum, a gratuity, and pension payments; workers from the informal sector receive no pension. These and other characteristics of the Indian labor market, such as seniority-based pensions and an incomplete social security program, provide opportunities to examine how retirement behavior varies across industrial sectors and under different conditions. As pension policy evolves, we will be able to evaluate its effect on retirement behavior using LASI data.

**Health.** Less than 10% of the Indian population has health insurance (either public or private), and roughly 72% of all health care spending comes from out-of-pocket expenditures. India’s aging population is particularly at risk, as the health insurance scheme for the poor covers only those aged 65 or younger. These national features provide an opportunity to examine how different health care policies and institutions influence health care utilization and health outcomes. Using innovative and comparable measures of health, such as anchoring vignettes and direct assessment of biological measures (e.g., blood pressure), LASI will enable us to conduct cross-national studies of health that account for cultural differences and reporting biases.

**Family characteristics and intergenerational transfers.** In India, as in many traditional societies, the family has been not only the center of social and economic life, but also the primary source of support for the elderly. The last few decades have witnessed important alterations in family life (National Institute on Aging et al. 2007) and, in particular, have called into question the role of the family in supporting the aged: India’s fertility rate has fallen, and couples have begun to bear children at a later age. At the same time, life expectancy has increased, resulting in more elderly people who need care. All of these changes are taking place in the context of increased urbanization, which tends to separate children from elders and contribute to the disintegration of family-based support systems (Srivastava and Sasikumar 2003). Using LASI, we will be able to examine how urbanization might influence family transfers and the effectiveness of government policy promoting family-based support for the elderly; we also aim to measure the importance of family and social networks as determinants of health and welfare.
LASI pilot program: study design

The LASI pilot survey targeted 1,600 individuals aged 45 and older and their spouses, and will inform the design and rollout of a full-scale, nationally representative LASI survey. The expectation is that LASI will be a biennial survey and will be representative of Indians aged 45 and older, with no upper age limit. The age of 45 is chosen to (a) harmonize this survey with its sister HRS surveys in Asia; and (b) allow measurement of pre-retirement behavior, as people often begin to change their labor market, health, and consumption behaviors as they age.

1,600 age-qualifying individuals were drawn from a stratified, multistage area probability sampling design. After a series of pre-pilot studies designed to test the instrument and the key ideas behind it, pilot data were collected through face-to-face interviews over three month time periods. Descriptive analyses of the data will be performed and lessons will be drawn to inform the launching of a full-scale LASI survey.

The LASI pilot survey was conducted in four states: Karnataka, Kerala, Punjab, and Rajasthan. To capture regional variation we have included two northern states (Punjab and Rajasthan) and two southern states (Karnataka and Kerala). Karnataka and Rajasthan were included in the Study on Global AGEing and Adult Health (SAGE), which will enable us to compare our findings with the SAGE data. The inclusion of Kerala and Punjab demonstrates our aim to obtain a broader representation of India, where geographic variations accompanied by socioeconomic and cultural differences call for careful study and deliberation. Punjab is an example of an economically developed state, while Rajasthan is relatively poor, with very low female literacy, high fertility, and persisting gender disparities. Kerala, which is known for its relatively efficient health care system, has undergone rapid social development and is included as a potential harbinger of how other Indian states might evolve.
LASI pilot program: molecular biomarkers

Another feature of the LASI pilot survey instrument is the collection of biomarkers, which can be analyzed to provide researchers with quantitative data on health. The National Research Council recommends that biomarkers be incorporated in a social survey to (a) capture health data from a portion of the population that otherwise would not have this type of data recorded; (b) investigate molecular determinants of common health outcomes; and (c) study interactions between biomarkers and other social conditions that may subsequently lead to declines in health outcomes (National Research Council 2001). The inclusion of biomarkers and other health assessments is particularly important for less-developed countries such as India, where access to health care tends to be limited. As a result, undiagnosed diseases are likely more common than in developed countries.

The protocol for biomarkers in the LASI pilot consisted of the collection of molecular biomarkers, anthropometry, and functional assessment. The lead field organization of our team, IIPS, successfully completed the first wave of SAGE, which also collects biomarkers.

As in HRS and SAGE, we collected five dried blood spots (DBS) by administering finger pricks to individuals. The DBS are stored for later analysis at the National AIDS Research Institute (NARI) in Pune, India, which is an institution of the Indian Council of Medical Research (ICMR) with high capacity freezer rooms and appropriate backup systems. While outcomes of analysis will be limited with only five specimens per respondent, our primary purpose in the pilot is to ensure that we are able to collect high-quality data from a large number of respondents and to identify any problems we have in the field so that we can improve our protocol for the full-scale LASI.

The LASI research team has joined with DBS experts in the United States to craft a proposal to the NIA for analyzing the DBS collected during LASI. In particular, the LASI team proposes to analyze the DBS for the presence of apolipoproteins B-1 and A, C-reactive protein (CRP), Epstein-Barr virus (EBV), and hemoglobin (Hb). The DBS collected during the planned full-scale LASI project will also be analyzed by the research team at NARI.

We also followed HRS protocol in collecting anthropometric measurements. For every respondent, we measured height, weight, and waist circumference. We closely followed ELSA’s protocol of functional assessment, collecting information on blood pressure, lung function, physical function, and vision (Banks et al 2006). Our cognition model departs slightly from ELSA, drawing from both HRS and SAGE.
LASI pilot program: computer-assisted personal interview (CAPI)

The LASI pilot employed computer-assisted personal interview (CAPI) techniques to record the responses of survey participants. This method requires field teams to be outfitted with laptop computers, pre-loaded with survey questions asked of respondents in a face-to-face interview. Field teams input responses directly into a laptop computer, thereby limiting data entry processes as well as minimizing data recording and entry errors. This portion of the LASI project was funded through a pilot grant from Harvard’s Program on the Global Demography of Aging (PGDA).

The use of CAPI allows for crosschecking of data in real-time, thereby minimizing data entry errors and ensuring internal consistency.

The RAND Labor and Population Center has spearheaded the development of a comprehensive information system, MMIC™ (Multimode Interviewing Capability), building on work by CentERdata in The Netherlands. MMIC™ was used to program the CAPI survey for LASI, and integrates various traditional modes of collecting interview data, including telephone interviewing, self-administered surveys, and personal interviewing.

MMIC™ was used to manage the whole data collection process from questionnaire design, sample management, and fieldwork monitoring to final dataset production, and is designed to overcome many of the limitations inherent in existing survey processing suites, particularly for the kind of large-scale CAPI questionnaires envisioned for the full LASI survey. MMIC™ is designed to lend greater accuracy and responsiveness to the needs of researchers.
LASI pilot program: implementation

LASI pilot preparation activities began in summer 2010, and included CAPI training for IIPS programmers, translation and review of the pilot survey instrument into four languages (Hindi, Kannada, Malayalam, and Punjabi), and CAPI programming of each translated instrument. To ensure high-quality translation, independent experts from the respective pilot states reviewed each translated version of the survey instrument.

As part of pilot preparation activities, IIPS Ph.D. students conducted 100 pilot pre-test interviews in English and Hindi in the vicinity of IIPS (Maharashtra state). The main purposes of this pre-test were to understand how CAPI functions in the field; to test interview procedures and protocols; to estimate interview time requirements; and to further refine the survey instrument. In addition, 50 pilot pre-test interviews were fielded in each language and respective state to ensure that the survey instrument sufficiently accounted for language and cultural differences.

In late summer 2010, IIPS conducted a mapping and listing workshop. The purpose of this meeting was to identify the boundaries of each Primary Sampling Unit (PSU) in each state and list all structures and households within; ensuring that all persons within each PSU had an equal chance of being selected for the pilot survey. IIPS also hosted a workshop for individuals who were to train interviewers in each state in the areas of survey instrument content, CAPI, and biomarkers collection. In fall 2010, each state conducted separate mapping and listing workshops and trained interviewers.

In each state, IIPS briefed state and district governments well in advance to secure their full cooperation with LASI pilot survey procedures. IIPS also collaborated with local newspapers to convey the need for and importance of participating in LASI. The pilot survey was administered by each state’s respective Population Research Center. For quality control, IIPS also stationed research officers in each state throughout the pilot survey period. IIPS project coordinators and biomarkers and CAPI specialists also visited each state to monitor fieldwork.

LASI pilot fieldwork was launched in Karnataka and Kerala during the first week of November 2010; Punjab during the second week of November 2010; and Rajasthan during the third week of November 2010. Interviews in all four states were completed by the third week of December 2010.

Analysis of LASI pilot data will reveal important preliminary findings related to pensions and income, health, and social characteristics, and will also lead to a refined and sophisticated LASI full-scale survey instrument.
LASI: 2011 and beyond

We expect that LASI will become a full-scale, biennial survey of 30,000 people representing Indians aged 45 and older. We will track this cohort of respondents (some of whom may die, move into other communities, or move into institutions) over time and develop follow-up interviews as appropriate. In addition, to ensure LASI’s continuing representation of the 45+ population, every four years we plan to add a refresher sample of people who have recently become 45.

The results of the pilot study will inform the design of a full-scale, nationally representative LASI. These data will also provide a much-needed foundation for scientific research and policy-making related to aging in India. Through comparative studies, LASI will contribute to scientific insights and policy development in other countries due to its harmonized design with parallel international studies. LASI will ultimately be part of a worldwide effort aimed at understanding how different institutions, cultures, and policies can influence – and prepare for – population aging.

The full-scale LASI will be a part of the mega data system of aging surveys, which is under development by the RAND Corporation and integrates HRS, ELSA, SHARE, KLoSA, and CHARLS. We have worked with the mega data team at RAND to facilitate the inclusion of LASI, and expect to be fully integrated within one year of the completion of fieldwork. LASI will thus become another data source that can be used to make cross-country comparisons.

The pilot survey will pave the way for increased scientific investigation of the economic, social, and biological determinants and consequences of population aging in India. Internationally harmonized data will be disseminated online to the global research community, enabling further coordinated research on the health and well being of the elderly in India in comparative perspective.

Following the pilot study, we are conducting substantive analyses of aging, health, retirement, finance, and familial support and social networks. A final report will describe the economic and health status of respondents and their social and family networks and is expected to shed light on several behavioral and policy issues: What is the relationship between expectation of living longer and savings? Who bears the economic burden and burden of caring for the elderly? What social and economic contributions do the elderly make?
The results from the pilot version of LASI will be testable against international findings, but our analysis will be more focused on what can be learned regarding India. Areas of inquiry will include: the effect of the different health policies in Indian states; the relationship between health and socioeconomic status; the manner in which the health financing system (of both western and alternative medical practices) affects elders; the effect of the pension system on the minority of elders that are eligible for it; the effect of public transfers on intra-family support; and the relationship between earnings, savings, pensions, and retirement.

We expect that the proposed work will allow us to determine in detail the structure, content, geographical and demographic scope, and methodology of a full-scale longitudinal survey on aging in India. The data gathered will allow scientific investigation of the economic, social, and psychological factors associated with population aging and of the impacts of population aging on public finance and public health in India. Such investigations will enhance our understanding of the dynamics of population aging and its impacts and provide a basis for considering changes in public policy. The proposed project will bring high-quality data to the international scientific community and will stimulate international comparative studies.
Harvard University.

The overarching mission of the Harvard School of Public Health (HSPH) is to advance the public’s health through learning, discovery, and communication. To pursue this mission, HSPH produces knowledge through research, and translates knowledge into evidence that can be communicated to the public, policy makers, and practitioners to advance the health of populations.

LASI receives support from the Program on the Global Demography of Aging (PGDA), which carries out research on important themes related to global aging and health with an emphasis on issues in the developing world. The PGDA is housed jointly by HSPH and the Center for Population and Development Studies, which brings together faculty, students, and researchers from a wide array of disciplines including epidemiology, economics, demography, sociology, statistics, and population genetics.

International Institute for Population Sciences.

The International Institute for Population Sciences (IIPS) is a Mumbai-based, deemed university engaged in high-quality teaching and research in the fields of population, development, and health studies. Over the past fifty years, IIPS has operated as a premier autonomous institution under the Ministry of Health and Family Welfare, Government of India.

IIPS has a long history and rich experience through collaborating with a vast network of national, state, and local organizations, as well as major international development organizations, to conduct large-scale national surveys in India.

RAND Corporation.

For more than 50 years, decision makers in the public and private sectors have turned to the RAND Corporation for objective analysis and effective solutions that address the critical social and economic challenges facing the nation and the world.

Today, RAND researchers and analysts continue to be on the cutting edge of their fields, working with decision makers in both the public and private sectors to find solutions to today’s difficult, sensitive, and important problems.
Collaborating institutions.
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