

## **WHO's Study on global AGEing and adult health (SAGE): Evidence for an ageing world.**

The shifting demography of all nations has led to a marked increase in the older population globally both in relative and absolute terms. The World Health Organization's Multi-Country Studies unit is working with the US National Institute on Aging's Behavioral and Social Research Program to address ageing and well-being through implementing multi-country ageing and adult health studies to fill data gaps and pursuing cross-national comparisons with available data.

The US Health and Retirement Study (HRS) is a prominent study of ageing and well-being that has spurred several comparable international studies of ageing to provide the necessary evidence base to address the needs and contributions of older persons in higher income countries. Yet, the majority of older persons now and into the future will reside in lower income countries where the evidence base is very limited.

The extent to which lower income countries have begun to generate and use critical evidence for an effective health response has been slow and suboptimal in many countries. This lack of evidence is particularly prominent in low and middle income countries, partly because the demographic transitions have been relatively recent. Multi-country longitudinal studies are a powerful way to generate data, raise global and country awareness of the health issues of older people and inform policy.

### The WHO approach:

WHO's study on Global Ageing and Adult Health (SAGE) is a study that has generated cohorts in 6 performance sites of about 5000 respondents aged 50+ years at each site that are nationally representative and can then be followed up for a period of 5-10 years. In addition the study addresses issues of well-being, collects data on biomarkers in order to improve the precision of self-reported morbidity, identifies risks to health and monitors interventions, collects data on health examinations and performance tests such as anthropometry, grip strength, blood pressure and tests of cognition, vision and mobility, in order to allow adjusting for biases in self-reported health domains and activities of daily living and instrumental activities of daily living. In addition, separate validation exercises are being carried out that will provide data on characteristics of self reported morbidity questions, adjust for biases in self-reported physical activity and compare assays from dried blood spots (DBS) to venous samples.

SAGE uses the methodologies created and data collected by WHO in the World Health Survey (WHS) to build a longitudinal study on ageing and adult health in low and middle income countries. The study tool builds on the WHS, refocusing on the health situation of older adults, while adding new modules and sections which will assist with improving our empirical understanding of health status in older age and the contributions of health to the process of ageing. Cross-sectional ageing and health data for 70 countries is available from WHO from the WHS (see: <http://surveydata.who.int>).

The primary objectives of SAGE are:

1. To obtain reliable, valid and comparable data on levels of health for older (50+ years) adult populations;
2. To examine patterns and dynamics of age-related changes in health using longitudinal follow-up of survey respondents; and
3. To improve comparability of self-reported measures through measured performance tests and vignettes, (and conduct biomarker tests for selected health domains in sub-groups).

SAGE has released preliminary datasets for six countries (China, Ghana, India, Mexico, Russian Federation and South Africa) consisting of over 55,000 respondents. The data are presently being

cleaned and weighted and will be archived with full documentation of metadata using international standards of the data documentation initiative and those for data and metadata exchange. Anonymised microdata will be publicly released.

SAGE is also working with other data collection efforts, such as the new China Health and Retirement Longevity Study (CHARLS) and Longitudinal Aging Study in India (LASI), as well as harmonising measurement strategies with studies in high income countries that reflect the state of the art and other similar studies for cross-national comparisons.

SAGE is also working closely with the International Network of field sites with continuous Demographic Evaluation of Populations and Their Health (INDEPTH) in developing countries to ensure that detailed methodological exercises can be undertaken to validate self-reported morbidity and survey mortality data. INDEPTH offers a unique opportunity to inform developments in SAGE. Two specific strengths of this collaboration are:

1. Given that INDEPTH sites have relatively large populations under surveillance with regular monitoring of vital events, the inclusion of a standard short module to examine health and health related outcomes in regular surveillance rounds will provide rich data on sensitivity to change of the instrument and allow monitoring of time trends. Further, given that regular surveillance data is being collected in these populations, innovative strategies can be developed to link survey and surveillance data to inform larger national estimates if some national surveys in SAGE also overlap with INDEPTH countries.
2. Given the expertise within INDEPTH sites and their location, additional methodological exercises that will refine SAGE can be more readily undertaken – this can include improved recording of age, development of verbal autopsy tools to measure deaths in the ageing population, measurement of health and health related outcomes of ageing care providers caring for HIV/AIDS orphans and the nature of carer burden, etc.

Data are currently available from the first round of SAGE INDEPTH surveys (including a short version in a larger sample and the full version in a smaller subset) from over 46,000 respondents. In Ghana, India and South Africa this will provide an opportunity for comparisons with national samples.

For more information see <http://www.who.int/healthinfo/systems/sage/en/index.html> or contact:

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