

The INDEPTH WHO-SAGE multicentre study on ageing, health and well-being among people aged 50 years and over in eight countries in Africa and Asia

This supplement to *Global Health Action* presents the first results from the INDEPTH WHO-SAGE multicentre study, comprising background information (1), site-specific results (2–9) and an overall multicentre analysis (10). Reporting on one of the first cross-national studies of ageing in Africa and Asia, this supplement might be termed historic, especially when coupled with the demographic circumstances of population ageing, and the simultaneous public release of the microdata from the eight sites. According to a UN projection, the world is only a few years away from a historic watershed – when for the first time in human history those aged 65 and over will outnumber those under age 5 (11). Awareness of population ageing and its consequences is by now quite widespread in European policy circles; but the issue is only just reaching the radar screens of most low-income nations. What steps should low-resource countries take (and when), in advance of the demographic, epidemiologic, and economic transitions associated with population ageing? Industrialised nations experienced population ageing after they became wealthy; most low-resource countries will have to cope with this transition prior to becoming wealthy. Minimal attention has been given to the dynamics of health and their economic consequences in developing countries, which are now among the fastest ageing nations. To date, the attention of global institutions has been riveted almost solely on children rather than the needed dual focus on both groups of societies' dependents: children and older people. Unfortunately, no manual exists to guide the preparations of nations at different levels of development or stages of the demographic ageing transition, and governments have to navigate without adequate maps or GPS systems. While the demographic changes occur over a timeline measured in decades, the development of new institutions and systems, including sound pension and insurance systems, need to be set up decades in advance of any transition. The long-term costs of public sector pensions in Africa are already giving rise to expressions of anxiety in some financial circles. The results from the

standardised data for the four African and four Asian country sites presented in this Supplement represent a significant advance on previously available information for charting the evolution of the demographic and epidemiological transitions in low-income countries.

Two decades ago, there was a distressing paucity of demographic, economic, and health data on adult health and ageing for low-resource countries (12). Most of the available data were cross-sectional. However, longitudinal studies, most especially ones that combine health and economic status data within the same study, are needed to understand many of the dynamics of ageing. To remedy the abysmal lack of information on older populations in low-income countries, the U.S. National Institute on Ageing (NIA), a component of the National Institutes of Health (NIH), commissioned a series of reports on ageing in developing countries from the U.S. Bureau of the Census (13, 14), and the U.S. National Academy of Sciences (15). Although as recently as 1990 almost all industrialised societies also suffered from a lack of adequate data (especially longitudinal), significant progress has since been made in establishing nationally representative longitudinal studies, such as the Health and Retirement Study USA (HRS), the English Longitudinal Study on Ageing (ELSA), and the Survey of Health, Ageing and Retirement in Europe (SHARE). These surveys, with their data on health and economic status, cognitive functioning, and biological assessment are transforming several areas of social and behavioural science (16). Over the past several years, NIA has encouraged efforts to develop nationally comparable representative studies in low-resource countries. We are now seeing successes in developing comparable and coordinated national surveys in countries such as Mexico (MHAS), China (CHARLS), and in earlier stages, India (LASI). Additionally, the NIA, in concert with WHO, seized the opportunity to develop a network of low-cost adult health and ageing-related surveys that piggy-backed on the World Health Survey. The network, known as the Study on Global AGEing and Adult Health (SAGE), has

fielded studies in Ghana, South Africa, India, China, Mexico, and Russia. INDEPTH WHO-SAGE resulted from an opportunity to field a standardised set of surveys of adult health and ageing in eight INDEPTH health and demographic surveillance system (HDSS) sites, with the survey content drawn heavily from the SAGE, SHARE, and HRS surveys. While there have been a number of cross-national surveys focusing on ageing in Asia, this is the first involving sub-Saharan Africa.

From the beginning, the INDEPTH network of socio-demographic surveillance sites offered significant potential for understanding health and demographic processes within low-income countries, most especially within rural areas. The addition of new survey data on adult health and ageing to the data portfolio of the INDEPTH sites significantly enhances the value of the surveillance sites themselves, and adds value to the survey data through linkage to the rich local epi-demographic history and context created by the INDEPTH sites. The new survey data also substantially enhance the capacity of the Network to evaluate or assess the impact of policy interventions, such as the establishment or major modification of pension or health systems. Further, the ability to compare the results of three of the INDEPTH WHO-SAGE sites [South Africa (2), India (9), and Ghana (5)] with the nationally representative SAGE surveys for those countries will provide the opportunity to assess the generalisability of INDEPTH WHO-SAGE small-area results for these three countries.

In 1996, the Global Burden of Disease project made the remarkable projection that within a few decades, non-communicable disease would outpace infectious diseases as a cause of morbidity and mortality in all regions of the globe (17). Although the projected epidemiological transition was largely a function of population ageing, the implications of these projections were largely ignored. INDEPTH WHO-SAGE will become an important observatory of the epidemiological transition in low-income countries. The introductory article in this supplement (1) clearly shows that at baseline, the four INDEPTH WHO-SAGE Asian countries (Viet Nam, Bangladesh, Indonesia, and India) have moved further toward the relative predominance of non-communicable disease than the African countries (South Africa, Tanzania, Kenya, and Ghana). Based on the experience of industrialised nations, the projected increase in degenerative non-communicable diseases that tracks increases in adult life expectancy will be accompanied by an increasing loss of physical and cognitive functioning and growing levels of disability. The increase in disability will result in reduced capacity for work among older workers, loss of autonomy, and the need for substantial care in old age, which is enormously costly in terms of both economics and well-being. During the 1980s in the United States, the prevalent view in epidemiological and

ageing circles was that while modern medicine could delay death, it could not prevent or delay the onset of degenerative diseases, which could not be treated effectively. Most believed that increases in old age longevity would lead to a pandemic of disability, with disabled life expectancy increasing substantially. However, an important finding was that in the United States, between 1982 and 2001, disability among those aged 65 and over declined by 25%, demonstrating the substantial plasticity of individual ageing (18). More recently, concern has been rising that the epidemic of obesity will lead to substantially increased disability, offsetting the gains. As life expectancy increases in these middle and low-income countries, no one knows yet whether disabled life expectancy will outpace healthy life expectancy, or whether there will be any compression of morbidity and disability, especially if onset starts later in life.

The collection of data on the same individuals in later waves of INDEPTH WHO-SAGE will allow researchers to investigate a whole set of questions not amenable to analysis within the current cross-sectional data. Longitudinal data are needed to tackle a variety of questions posed by the authors of this supplement. Answering questions such as how chronic disease-related disability evolves, how long individuals with specific diseases survive, whether self-reported health predicts survival better than the health score, or how living arrangements and widowhood affect health and well-being, require panel data. Longitudinal data are also needed, for example, to identify the mechanisms by which old age pensions can improve the health and general welfare of grandchildren if part of the pension is distributed to those grandchildren. Similarly, in the absence of a randomised trial, longitudinal data would be essential to assess the impact of pensions on the health of pensioners – do old age pensions that end when the pensioner dies improve the health and well-being of the pensioner? If so, is it by means of increasing pensioners' ability to purchase food and health care, or is it because they feel more needed by their family, or do their families take better care of them to keep the pension income flowing? It is therefore important that the current samples are followed up regularly and that every effort is made to track individuals during the interim periods – a strength of health and demographic surveillance – in order to ensure a high response rate for these follow-ups.

The decision to release the microdata simultaneously with this supplement, via the Global Health Action Web site (<http://www.globalhealthaction.net>), is a noteworthy milestone for INDEPTH and will be a great boon for research on adult health and ageing in the respective countries. Cross-national research in both developing and developed countries has been seriously hampered by slow release of microdata, sometimes more than a decade after collection, and sometimes not ever as in the case of the

first WHO cross-national survey on ageing conducted around 1979–1980. The tension between speedy data release and the desire of the data collectors to hold onto the data until they have had a chance to fully mine those data laboriously collected from the study they had designed, is perhaps greatest today in low-income countries of Africa and Asia. However, in order to justify the very considerable expense of cross-national longitudinal studies, costs of the data need to be amortised over as many secondary data projects as possible, and the research products must also become useful to policy makers as soon as possible. Science requires replication, and the lack of data sharing can slow down research and the production of policy-relevant results. It has been the experience of studies such as HRS, ELSA, and SHARE that such longitudinal studies catalyse new fields of social and behavioural science and coalesce whole groups of researchers around the studies' data, forming new scientific communities. In this case, every effort should be made to get these data as rapidly as possible to pre- and post-doctoral students and junior faculty of at least the eight countries involved in the study. At the same time appropriate efforts must be made to maintain the ethics of data confidentiality, ensuring that respondent anonymity is not breached, especially since these studies were all conducted in specific and known geographic areas, which makes the protection of anonymity more challenging.

The agreement by the INDEPTH WHO-SAGE principal investigators to conduct the study with the understanding that the data would be speedily released is highly commendable, and one can predict that the dividends to the study will perhaps be greater than the INDEPTH team imagines.

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