

## The Longitudinal Aging Study Amsterdam: Introduction

DIDI M.W. KRIEGSMAN, AARTJAN T.F. BEEKMAN,  
MARIËTTE WESTENDORP-DE SERIÈRE, DORLY J.H. DEEG

### **The Longitudinal Aging Study Amsterdam: the half-way mark**

The merit of conducting longitudinal studies needs no emphasis. However, a considerable number of scientific, financial and administrative obstacles need to be overcome before such an undertaking can become productive (Deeg 1989). With regard to funding, longitudinal data are expensive and become available only long after the initiation of the study. From the point of view of the research team, there are a great many theoretical and practical issues that need to be addressed before there can be any hope of a successful study. As far as the respondents are concerned, i.e. the people who take part in the interviews, it may be comforting for them to know that there is a team of researchers monitoring them over time. However, the demands made on them by the study might also be perceived as a burden, thus weakening their motivation to continue to participate in the study.

Notwithstanding these potential difficulties, we are pleased now to be able to present an overview of the first longitudinal findings of the Longitudinal Aging Study Amsterdam (LASA). We are particularly pleased that the Dutch government was prepared to wait so long for these findings, that the research team has not only remained intact, but has even expanded, and that a great number of participants in the study were willing to remain 'on board'.

The Longitudinal Aging Study Amsterdam is an interdisciplinary, longitudinal research project with the objective of determining the predictors and consequences of changes in physical, cognitive, emotional and social functioning in elderly people. The study was designed and funded with both scientific and policy-relevant aims in mind. Initiated, and also largely financed by the current Ministry of Health, Welfare and Sports, LASA is a concerted action of originally two departments of the Vrije Universiteit in Amsterdam (the Department of Psychiatry and of Sociology and So-

cial Gerontology), later joined by the Institute for Research in Extramural Medicine. This close collaboration between researchers from various disciplines and policy-makers is characteristic of both the design and the execution of the study.

However, the interests of research and policy are not always parallel. Therefore, before embarking on the study, the principal objectives and initial design of the study were extensively discussed with an international advisory board, consisting of experts from a wide range of disciplines who have continued to supervise the research team ever since. The results of preparatory discussions, literature reviews and the initial conference with the Advisory Board resulted in a book that outlines the concepts and design of the Longitudinal Aging Study Amsterdam (Deeg, Knipscheer, and Van Tilburg 1993).

Preparation for the main LASA study included a series of pilot studies to test and validate the measurement instruments which were intended to be used and to determine the procedures and fieldwork which would be necessary for the study (Deeg and Smit 1993). In 1992/1993, the first cycle of interviews and examinations for the main LASA study took place. The respondents, who had been interviewed 10 months earlier, in the context of the NESTOR-study 'Living arrangements and social networks of older adults' (Knipscheer et al. 1995), were now contacted by the LASA team. The basic findings of this cycle have been published in a book (Deeg and Westendorp-de Serière 1994) and in a series of publications in national and international scientific journals (see Publications by the research team 1991–1997).

LASA was designed as a ten-year study, including the preparation phase. The participants were invited to participate in three waves of interviews, with intervals of three years. The second cycle of interviews took place in 1995/1996. This implies that the study has now roughly reached the half-way mark, and that longitudinal data are now available. The present publication is intended to provide an overview of the data that are available so far. Before presenting the findings, this chapter will provide a summary of the principle objectives, design and organization of LASA, and outline the scope and contents of this book.

### **Summary of the principle objectives**

Although basically scientific in nature, the Longitudinal Aging Study Amsterdam was designed to provide a basis for developing and evaluating (national and local government) policy in the field of aging. The global objective of the current policy in the field of aging is directed towards enhancing autonomy, social integration, and the quality of life of older persons (Ministry of Welfare, Health and Cultural Affairs 1991). Moreover, it is expected that, on the basis of longitudinal data, policy-relevant aspects of aging can be identified and new policy objectives can be developed, that

the assumptions underlying policy-decisions can be tested, and that the effects of policy changes on the older population can be assessed prospectively.

LASA was primarily intended to be an observational study, and the purpose of the database is to form a framework within which specific hypotheses can be tested. Intervention studies are not included in LASA.

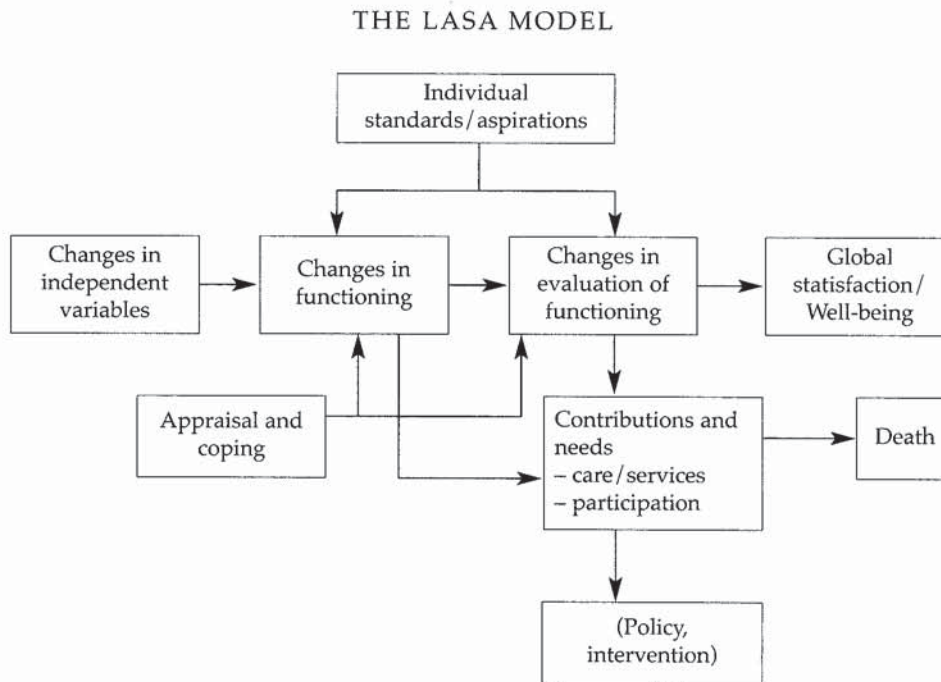
The main research topics addressed in LASA are autonomy, social integration, and the quality of life of older people. Autonomy and social integration are operationally defined as functioning, i.e. observable behavior; quality of life is defined as the perception older people have of their own functioning. Four components of functioning are distinguished: physical, cognitive, emotional and social. These four components have a varying influence on autonomy and quality of life. It is the explicit intention of LASA to address interdisciplinary research questions concerning the inter-relations between these components. The consequences of changes in functioning are operationally defined as global satisfaction and well-being, contributions to and needs from society, and, ultimately, death. The extent of contribution to society and needs from society are directly related to policy measures: either those in existence or those to be developed. Interventions can also be related to the context of particular contributions to and needs from society.

The LASA study focuses primarily on the predictors of change in the four components of functioning, on the trajectories of functioning, and on the consequences of changes in functioning. The following central research questions have been formulated (Deeg, Knipscheer, and Van Tilburg 1993):

1. Among older persons, what changes over time take place in the physical, cognitive, emotional and social components of functioning?
2. What are the predictors of change for each of the four components of functioning?
3. How are changes in the four components of functioning inter-related?
4. What are the consequences of changes in functioning in terms of older persons' contributions to society, their adjustment and their need for care?

More detailed research questions have also been formulated, some of which will require additional data collected from specific sub-samples. These latter are addressed in studies on the course and consequences of depression, and studies on the determinants of recurrent falls and fractures, all of which are based on previous findings of research groups participating in LASA (Beekman 1996, Graafmans 1997).

The following conceptual model is referred to as 'the LASA Model' (Deeg and Westendorp-de Serière 1994).



As has been previously described (Deeg, Knipscheer, and Van Tilburg 1993), specific comparisons are made of the predictors, trajectories and consequences of change in functioning between males and females, and between healthy individuals and individuals suffering from one or more chronic conditions. The first comparison concerns the evaluation of differences between males and females, for example in adjustment to chronic disease; the second comparison involves an evaluation of the predictors of the onset of decline in functioning and improvement in functioning as well as deterioration below a critical level. International collaboration is being sought, in order to investigate the differential effects of socio-cultural circumstances and care systems on autonomy, social integration, and quality of life.

### Organization

The LASA study is primarily being carried out in the Departments of Psychiatry (Faculty of Medicine) and Sociology and Social Gerontology (Faculty of Social and Cultural Sciences). Also taking part are members of the Department of General Practice, Nursing Home and Social Medicine, the Department of Internal Medicine and the Institute for Research in Extramural Medicine (Faculty of Medicine), the

Department of Social Research Methodology (Faculty of Social and Cultural Sciences) and the Department of Educational Sciences (Faculty of Human Movement Sciences). These collaborative efforts were also instrumental in founding the Centre on Aging of the Vrije Universiteit in 1995.

There is also extensive external collaboration: with the Netherlands Interdisciplinary Demographic Institute (The Hague), the Northern Research Centre for Health Issues (University of Groningen), the Institute of Social Medicine (University of Amsterdam), the Department of Human Nutrition (Agricultural University of Wageningen), the Netherlands Central Bureau of Statistics, the "Weezenlanden" Hospital (Zwolle), the Department of Health Sciences (University of Jyväskylä, Finland), and the Intramural Program of the National Institute on Aging (United States of America).

The progress of LASA is regularly monitored by an international Advisory Board and, more frequently, by a smaller, national Advisory Board. The Ministry of Health, Welfare, and Sports is represented in both boards. Ethical aspects of the research procedures were approved in 1992 by the Committee on the Ethics of Research in Humans of the Faculty of Medicine of the Vrije Universiteit.

## **Scope and contents of this book**

### *Progress*

During the years, the four components of functioning (physical, cognitive, emotional and social) have mainly been studied as separate entities. This was necessary in the early phases of LASA, partly because specific measurement instruments for the four components of functioning needed to be developed and evaluated, and partly because there was a need for descriptive data.

However, LASA was designed as an interdisciplinary study. After the completion of the LASA baseline study cycle, an increasing number of interdisciplinary research questions have been examined cross-sectionally. Examples include the association between physical health and depression (Beekman 1996), studies on the modifying influence of social support and personal coping resources on the associations between chronic diseases and physical and emotional functioning (Kriegsman 1995, Penninx 1996), and studies on the association between cognitive and social functioning (Smits et al. 1995, 1997).

Now that the second study cycle has been completed, LASA has finally become a truly longitudinal study. The availability of longitudinal data offers new and challenging opportunities to develop and evaluate interdisciplinary hypotheses based on the conceptual model described in the previous paragraph. As a consequence of

the increasingly interdisciplinary approach, in the future it will become more difficult to distinguish the four components of functioning as separate entities. In preparation of this development, the researchers studying the separate components of functioning have developed scenarios for future research. These scenarios are based on theoretical models originating from the various disciplines of the researchers, and are linked to the interdisciplinary LASA Model.

### *Purpose*

The purpose of this book is fourfold. Firstly, it is intended to be a sequel to the book which presented the baseline findings (Deeg and Westendorp-de Serière 1994) and to serve as a source-book for the second study cycle, providing information on changes in the four components of functioning found in the respondents. Secondly, by presenting the theoretical background and substantial issues in the domain-specific scenarios regarding physical, cognitive, emotional and social functioning, and describing how these scenarios fit into the LASA Model, a conceptual basis is formed for further interdisciplinary development. Thirdly, the consequences of changes in various domains of functioning are described. Finally, and for the future of LASA most importantly, the initial longitudinal results described in the earlier chapters are summarized and perspectives are outlined both for future research and the achievement of policy relevance.

### *Contents*

Chapter 2 reports on response and attrition in the second study cycle. Special attention is paid to the reasons for non-response and the consequences with regard to the representativeness of the study sample.

Sections 3 through 6 describe the scenarios and the empirical results of the first longitudinal analyses for each domain of functioning. In each of these sections, the domain-specific scenario is described first, in order to provide a theoretical basis for the interpretation of the empirical findings. This description is followed by the presentation of empirical results concerning changes in functioning within each specific domain. Determinants of changes in functioning are also described; determinants originating from the domain itself, and also those derived from other domains of functioning.

Chapter 7 describes the consequences of changes in physical, cognitive, emotional and social functioning for the central outcome measures of autonomy, well-being and care utilization.

Chapter 8 presents a summary of the main findings, together with a perspective for future interdisciplinary research within the LASA concept.

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