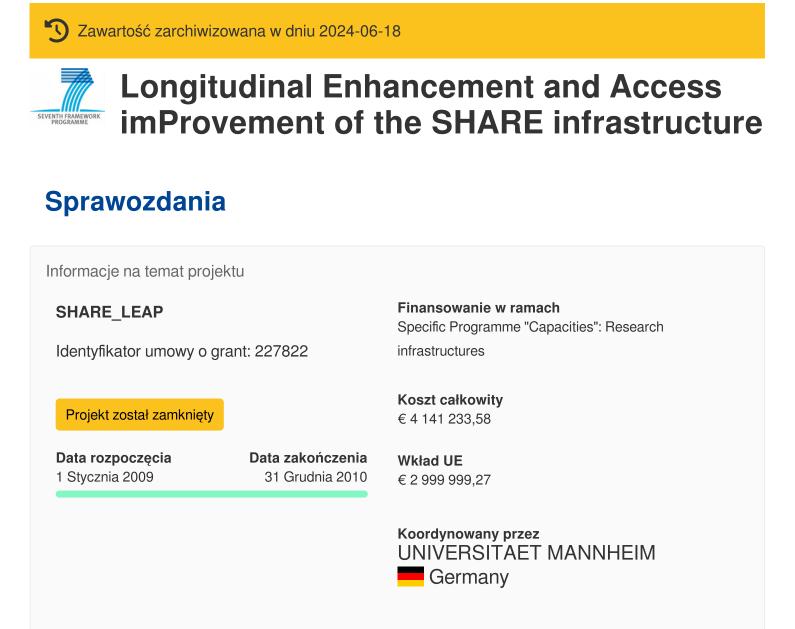
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Longitudinal Enhancement and Access imProvement of the SHARE infrastructure



# Final Report Summary - SHARE\_LEAP (Longitudinal Enhancement and Access imProvement of the SHARE infrastructure)

Population ageing is among the most pressing challenges of the 21st century in Europe. Addressing this challenge scientifically demands an infrastructure of micro data of the changing health, economic and social living conditions of individuals as they go through the ageing process. SHARE, the survey of health, ageing and retirement in Europe, is an infrastructure of multidisciplinary, longitudinal, and cross-nationally harmonised micro data that has been created in response to these demands. Currently, SHARE contains three waves of data for about 48 000 respondents aged 50+ in 17 European countries, totalling about 94

000 interviews. SHARE became a great success: More than 2700 researchers are working with the data, and in March 2011, the European Commission (EC) established SHARE-ERIC, the first European research infrastructure consortium for the survey of health, ageing and retirement in Europe. This project is the essential device to enhance the longitudinal stability of the SHARE panel and to improve access and consulting services to users in the years 2009 and 2010. It did:

- enhance the longitudinal stability of the panel by keeping in touch with the panel members, monitoring moves, re-interviewing 'lost' panel members, and ascertaining last year of life events of deceased panel members. The scientific value of SHARE critically depends on continuous panel care.

- improve the research potential from the SHARE infrastructure by adding imputed values for missing variables, calibrated weights, geo-coded and environmental variables, and meta- / para-statistics derived from IT-driven survey methods.

- enhance the SHARE survey instrument in response to user feedback, to changes in the institutional environment, and to new survey technologies recently developed, making the interview more effective and less burdensome for the respondents. All enhancements and modifications were implemented in 2009 and throughout 2010. All changes and improvements were completed on time for the ESFRI-financed fourth wave of data collection that started in December 2010.

- improve and maintain the much applauded user-friendly access for SHARE data users through services provided by central and national support points.

Project context and objectives:

Population ageing and its social and economic challenges to growth and prosperity are among the most pressing challenges of the 21st century in Europe, as repeatedly emphasised by the EC, the Council and the European Parliament. Addressing this challenge scientifically requires an infrastructure of micro data that permits researchers to observe the changing health, economic and social living conditions of individuals as they age individually and as they are exposed to the societal changes precipitated by the population ageing process.

SHARE is an infrastructure of micro data that has been created in response to these demands. It lays the foundations for empirical research on ageing for many disciplines, including demography, economics, epidemiology, gerontology, biology, medicine, psychology, public health, health policy, sociology and statistics.

SHARE combines three major strengths which make it a truly unique and innovative infrastructure in the world. First, it is ex-ante harmonised across countries which allows comparing the effects of the different health and welfare systems in the European countries. Second, it is multi-disciplinary and fills an important research vacuum, namely the interaction between health and socio-economic factors. Until recently, researchers were forced to use United States (US) data for such analyses. Third, SHARE is longitudinal, i.e. the same individuals are repeatedly being interviewed to understand their individual aging processes and their responses to a changing social and political environment.

The current SHARE infrastructure provides researchers with a set of health variables (e.g. self-reported health, physical functioning, cognitive functioning, physical measures such as grip strength, walking

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speed, peak flow and BMI, health behaviour, use of health care facilities), psychological variables (e.g. psychological health, well-being, life satisfaction, control beliefs), economic variables (e.g. current work activity, job characteristics, job flexibility, opportunities to work past retirement age, employment history, pension rights, sources and composition of current income, wealth and consumption, housing, education), and social support variables (e.g. assistance within families, transfers of income and assets, social networks, volunteer activities, time use), measured at two common points in time (2004 / 2005 and 2006 / 2007), and, through the life-history interview (2008), at major crossroads in each respondent's life. Access to the infrastructure via two data archives is free for all scientists globally, subject to European Union (EU) data protection regulations.

SHARE will, as an infrastructure, not only advance the state-of-the-art in empirical ageing research. The infrastructure itself has advanced the state-of-the-art in survey technology.

This project is the key element to enhance the longitudinal stability of the SHARE panel and to improve access and consulting services to users in the years 2009 and 2010

Project results:

The SHARE longitudinal and baseline instruments have been adapted for future administration during the ESFRI infrastructure construction phase, prior to the SHARE ERIC inauguration. SHARE researchers and external advisors have met in series of working meetings during spring 2009 to discuss innovative instrument developments and changes to the existing survey instrument. Additionally a workshop was held to explore new perspective in mixing interview modes (telephone, face-to-face, internet) in future SHARE waves. All changes, as decided by the SHARE questionnaire board were put into programmable form during summer 2009 and programmed by CentERdata. A version 1 of the SHARE wave 4 instrument was ready and tested October / November 2009. During 2010, longitudinal and baseline SHARE survey instruments were further revised and translated. For the new countries there was a translation workshop on 15 January.

In order to prepare the pilot, survey agencies and operators had the train-the-trainers (TTT) meetings. The TTT for the new countries was held on 16 and 17 February, 2010, and the TTT for the old countries on 19 February 2010 in Mannheim. During these TTT meetings, which were organised and conducted by MEA the purpose of the pilot was explained. For the new countries an introduction to the study was given, physical measurements were explained, and a full-scale mock interview was held. Testing and instrument revision continued during the entire preparatory steps in 2010. A first pilot to test functionality and suitability of the revised instrument was conducted February and March 2010. The pilot was discussed and evaluated at the Paris meeting, which was held 16, 17 and 18 March, 2010. At the evaluation, preloading was improved, many details, and some language issues for the newly started countries were solved. Also sampling strategies for the refresher sample for the fourth wave were discussed. Results from pilot studies were used as input for further refinement of the software. In preparation of the pre-test, on 23 April 2010 an IT meeting was organised.

On 25 and 26 May, the TTT for the pre-test for both old and new countries were held in Mannheim, and organised and conducted by MEA. For the new modules and questions mock interviews were held. The

sample management system was discussed and preloading was explained. Ways of gaining the respondent's cooperation and proxy interviews were extensively discussed. The entire month of June 2010, pre-tests of the new instrument were launched in all participating countries with roughly one hundred panel and refresher respondents. Again, results of that pre-test were utilised to improve and refine the instrument, and ultimately yielded the final instrument version, ready for the main test in December 2010. The questionnaire was shortened based on the experience in the pre-test.

Beyond training, the preparation of the fieldwork of the fourth wave also involved translating the instrument, the manuals (interview manuals, SMS manuals, SD manuals, etc.), and the information brochures for the respondents in all languages and their dissemination.

The project has created imputations for item non-response and survey weights. A crucial requisite to implement imputation techniques is the availability of cleaned data. Data have been checked in order to ensure their internal consistency and detect outliers. To this end, we compared the distribution of key variables like earnings and labour force status in SHARE with their homologues in samples extracted from national and multi-national surveys, such as EU-SILC and GSOEP. Only once data were cleaned, imputation of missing data was implemented. It is noteworthy that the techniques we adopted made use of the longitudinal dimension of SHARE. In fact, the generation of imputed data took into account, whenever possible, the information provided by panel respondents in other SHARE waves. Ceteris paribus, including such information in the statistical models used to obtain imputations is expected to increase substantially their precision. The calculation of design and calibrated weights requires careful data-cleaning on the individual and household identifiers as well as on the basic demographic information involved in calibration, namely age, household size, gender and regional information. During the first year of SHARELIFE, we have produced a much revised version of calibrated and design weights for waves one and two of SHARE and interim weights for wave 3.

There has been maintenance of SHARE data base and provision of access to SHARE data. Cleaned, easily accessible and well-documented data are a pre-requisite for good empirical research. Data-cleaning of waves 1, 2 and 3 of SHARE has been a major - work-intensive task that required cooperation of country teams and substantive working groups. The most recent data releases are version 2.3.1 released on 28 July 2010, for waves 1 and 2 and version 1.0.0 released on 24 November 2010 for the third wave of SHARE, also known as SHARELIFE. These releases contain detailed files for documentation and information of users. The data are available per no-cost, no-fuss download via the CentERdata archive in Tilburg, the Netherlands.

There also has been maintenance of user network by providing user support at a central and national service points, and continually updating the SHARE web sites in English and all participating countries' languages to include the newest results, data, methodology, information on cleaning and imputation processes, information on all upcoming events and future of the SHARE project. A most significant achievement was the organisation of two SHARE user conferences in May 2009 in Brussels and in October 2009 in Mainz - which created a sense of community and exchange among SHARE users. Since the number of paper submissions exceeded the number of available slots by factor two, only very high quality presentations could be accepted. The user conferences thus also were big scientific successes. In 2010, an advanced methodological workshop was held in Israel, with the purpose of maintaining the user

network.

Further work performed during the entire project included the verification of respondents' longitudinal status (moves, deaths), the collection of meta-, para- and geo-coded data as valuable context information to be added to the SHARE micro data base, and documentation of network usage and impact.

During the project, the general and the national websites for SHARE were improved and extended, national SHARE users meetings were organised with the aim of facilitating the use of SHARE data. Both at the central level and at national teams, newsletters were published.

In June 2010, a midterm review meeting was held in Brussels, and the project was presented and discussed.

Much effort had to be put into the progress of safeguarding the future of the survey at this crucial juncture between funding through the framework programmes and funding through the ESFRI-process. Especially in such phases of change, it is critical to maintain continuous contact with our panel members, the valued added created by the longitudinal dimension of the survey. After numerous contacts and meetings within the SHARE consortium and with the ESFRI-representatives and the applying teams in Germany and the Netherlands, finally, in the fall, the official application for the ERIC status could be made and future operation could be secured.

Throughout the project, extensive collaboration and interaction occurred with teams of the new countries in order to ensure proper execution of their first wave of data collection. This entailed mostly technical assistance on the various tools used by SHARE (such as the CAPI and the SMS) and help with translation questions. Also comprehensive information material was prepared, for the purpose of documenting the survey for future waves and potential new countries which plan to access.

We continued refining the generic English language tool after pre-test results were discussed and evaluated. Numerous smaller changes still had to be implemented and tested to produce a high-quality interview instrument in time for the start of fieldwork in November 2010. We collaborated closely with the IT team of Centerdata in Tilburg.

At all stages the English-language tool and its updates were then translated into all SHARE languages, using the language management utility (LMU) developed by CentERdata for SHARE. We employed the same review process as in the earlier waves in order to ascertain functional equivalence of the questions in all languages.

We provided technical assistance to country teams who needed special advice on implementing proper translation for questionnaire items that had to be adapted to the specific national context, e.g. items on the pension system. We tracked and documented extensively what country-specific adaptations had to be made.

Longitudinality is a main feature of SHARE: only by following the same person over time and by ageing are researchers able to distinguish between a cause or an impact on a process during ageing and in different

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birth cohorts. Therefore it is imperative to keep participants in the panel as well as ascertain the death of deceased panel members. A longitudinal study requires thus a permanent status update of all involved panel respondents. We know that it is much more costly to search respondents after they have moved, than regularly contacting them and asking for any new address before they actually move.

We also need to know what have happened to previous panel members who do not re-appear in the following wave, especially if they live alone. They may have moved (to an institution), maybe hospitalised, or lonely and suspicious towards strangers and not opening the door. They may also be deceased. It is far from trivial to distinguish between move, temporary illness and death, in particular when respondents live by themselves and in isolation from relatives, friends and neighbours.

Interviewers have been advised and trained to verify the status of each sample person. In the contract with the survey agency, at least eight attempts of contact should be made including contact to neighbours or relatives.

Almost all SHARE countries do not have access to a national population register, the exception being Denmark, which uses a unique personal identification code that is keyed to the SHARE participant ID. This means that for SHARE in general, a continuous work has to be done regarding:

- 1) keeping participants in the panel;
- 2) keeping track of participants, if they move;
- 3) ascertain the vital status of participants.

Keeping participants in the panel

Panel care in order to keep the participants in the panel has mainly been based upon written material in different forms: information brochure, thank you cards, and Christmas greeting cards. In addition, a token in the form of a small gift or a money incentive have also been used, both as a way to say thank you, as well as an incentive to convert reluctant panel members. It is difficult to validate the effect of such tokens and incentives, as the willingness to participate in such a population-based survey may differ from culture to culture. Denmark did not use any kind of token or incentives in the first three SHARE waves, but did reach a relatively high participation rate.

Keeping track of participants and ascertainment of vital status

There seems to be as many legislative and confidentially laws as there are countries in the SHARE survey. As mentioned before, national population register may not exist, or may not be used to track survey participants on a database level. This makes it difficult to achieve 100 % information on the moves of SHARE participants as well as their vital status. Various ways have been employed to be able to track former participants at the individual level: Christmas greeting cards or thank you letters with a free postage return card or a toll free telephone number, which could be used to inform the survey agency about deceased SHARE participants or the move of a person. Interviewers have contacted neighbours and relatives, left their business card or other contact information to make it easy to send a message to the survey agency regarding a SHARE respondent's whereabouts. Also, in case of a greeting card or thank

you letter being returned to sender all possible contact modes were performed in order to find out the reason for the returned mail. In some countries local authorities could be contacted and would provide an explanation.

Collection of vital status has mainly been conducted through the information gathered as described above. In a few countries the status of non-respondents was ascertained by cross-checking with death registers (France) or with national population registers (Italy). In Denmark, cross-checking with the national population register is a default updating procedure before each new SHARE wave.

Finally, great emphasis has been laid on keeping SHARE participants in the panel as well as tracking them. The work has been lead by the country teams, who as researchers themselves, are well aware of the necessity of having a large and living panel. However, there is much evidence from several countries in the industrialised world that participation rates in surveys like the SHARE are declining. In a time with self-realisation as a golden standard a concept like the civic duty for the benefit of the society, not the individual, is not saleable. But knowing this challenge will just incite SHARE to put even more emphasis on the panel care for future waves. And since there are different cultures in the various SHARE countries no uniform method can be applied.

Potential impact:

This project has been the key element to enhance the longitudinal stability of the SHARE panel and to improve access and consulting services to users in the years 2009 and 2010. It has achieved its four central aims:

First, the project enhanced the longitudinal stability of the panel by keeping in touch with the more than 30 000 panel members, monitoring addresses and moves, re-interviewing 'lost' panel members with an especially developed brief survey instrument, and ascertaining what has happened to deceased panel members during their last year of life. The scientific value of the SHARE infrastructure critically depends on such continuous panel care.

Second, the project did improve the research potential from the SHARE infrastructure by developing additional database elements such as imputed values for missing variables, calibrated weights, geo-coded and environmental variables, data quality indicators, and meta and para-statistics derived from our innovative IT-driven survey methods.

Third, the project did enhance the SHARE survey instrument in response to lessons learned in previous waves, to user feedback, to changes in the institutional environment, and in response to new survey technologies recently developed, making the interview more effective and less burdensome for the respondents.

Fourth, the project did maintain and improve the much applauded user-friendly access for SHARE data users through services provided by central and national support points. Such services include responses to the continuous flow of user questions, guidance for new user projects, and corrections of user-detected errors in data and documentation.

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