

**CONTRIBUTION TO IN-DEPTH REVIEW OF
STATISTICS RELATED TO POPULATION AGEING.
NATIONAL SURVEY ON HEALTH AND AGEING IN MEXICO (ENASEM¹)**

Note prepared by Mexico

I. BACKGROUND

1. The National Survey on Health and Ageing in Mexico (ENASEM) is a longitudinal survey. The first collection of information was carried out in 2001; the second was done in 2003 in order to establish a follow-up on the people interviewed in the first survey. The study design allowed identifying the predominant features and investigating the evolution over time. The ENASEM was a joint project of the National Institute of Statistics and Geography (INEGI) and researchers from Pennsylvania, Maryland and Wisconsin Universities of the United States of America.

II. OBJECTIVE OF THE SURVEY

2. The ENASEM 2012 intends to update the statistical information gathered in the previous collections (2001 and 2003) on population aged 50 and over in Mexico, with urban and rural representation, which could facilitate analysing the process of ageing and the impact of diseases and disability in the realization of their activities, whatever these are. An additional round of the ENASEM in 2014 would follow up on the people interviewed in 2012.

3. The **specific objectives** of the survey are:

(a) To obtain extensive demographic data for selected persons, among which includes their migratory history;

(b) To update or gather the socio-demographic characteristics of the non-resident children and deceased children;

(c) To know the general state of people's health interviewed as well as the health services they used, and the costs incurred to obtain this service;

¹ Note. All surveys mentioned in this document are quoted by their acronyms in Spanish.

(d) To determine the level of people's memory, mental health and depression, by applying a series of cognitive exercises;

(e) To study the inter-generational relationships, including the parents' survival, as well as the relationship with them and the help that is offered;

(f) To quantify the amount and identify the type of aid that is given and received from the children;

(g) To determine the status of functionality and the assistance that interviewed the person receives for the development of their daily activities;

(h) The Labor History, the condition of activity and the current employment characteristics of the persons interviewed;

(i) Characteristics of property and the estimated value of housing, as well as the services that they account in it;

(j) To gather information on the income received by employment, pensions or other sources, as well as the real estate and capital.

4. The **thematic coverage** includes the following:

(a) Health measures in diverse domains (self-reported health, chronic diseases and in the case, their treatments, symptoms, functional status, depression, cognition);

(b) Socio-economic conditions (current and from childhood), labor history and exposure to workplace risks, medical insurance, health costs, current employment;

(c) Family relations (family structure, patterns of aid, care, health history and migration of the respondents);

(d) Socio-demographic aspects of their own and the family network (migratory individual experience, of the spouse, parents and siblings), listing the children (regardless of their place of residence) and the home's residents;

(e) Income, assets or durable consumer goods, pensions, and conditions of the present dwelling;

(f) Anthropometric measures in a sub-sample (this information will not be captured by INEGI).

III. INNOVATIONS IN THE DATA COLLECTION SYSTEM

5. To carry out the data collection in 2012 for the study subjects of the 2001 and 2003 rounds, a prior route has been designed that would ensure the relocation of those subjects. This resulting information would feed a system, which in turn was the main input of the electronic questionnaire developed for the survey in 2012.

The first experience in the use of CAPI systems (Computer Assisted Personal Interviewing) in Special Households Surveys occurred in 2009 with the National Survey on Time Use (ENUT) and the National Survey on Health Insurance for a New Generation (ENSMNG). The ENUT won third place in the “II Regional Prize for the Statistical Innovation” organized by the World Bank, because thanks to the innovation the cost of the project was reduced and it has improved the quality of information.

6. Since then, electronic questionnaires have been developed for the Victimization and Perception of the Public Safety Surveys, the National Survey of Financial Inclusion and the Survey of Penetration on Free-To-Air Television (ENPETAH). Nevertheless, the ENASEM has a number of unpublished features that in our experience require further analysis and solutions. At first, we assessed the possibility of making alliances with the RAND Corporation (U.S.A) in order to obtain their program called MMIC to benefit from its schemas for personal interviews. In addition, the possibility of internal developments for the Generator of Surveys (DGAI) and the use of the system that had been used in Special Surveys (SICAP) were analysed.

7. Making a balance of advantages and disadvantages, we realize that all of them required adjustments to fully adapt to ENASEM. Considering that the period for the preparation of the computer application was very short, we decided to adapt the SICAP electronic questionnaire of special surveys.

8. From the system’s perspective, the ENASEM has the following distinctive features:

- (a) Is longitudinal;
- (b) Is extensive. The project has 2.440 questions. The longest one that has been carried out in Special Surveys;
- (c) It has two types of interviews: Direct and by Substitute Respondent (Proxy) each one with proper redaction and sequences;
- (d) The questionnaire design in paper has a special typography that gives indications to the interviewer to fill the questionnaire;
- (e) Preload. The questionnaires invoke a series of data collected in 2001 and 2003 that are presented to the respondents to update their situation for 2012;
- (f) Planned three months for the design, development and testing of the electronic questionnaire. We have to take into account that there was a need for flexibility to adopt changes for the capture instruments during the process.

9. To serve the extension of the project and take into account the special requirements in the typography of the questionnaire, a system that would be more efficient when used on mini laptop computers was needed. For this reason, the required system was defined using the structure of an XML document (eXtensible Markup Language). The system stores the design and typography of the questionnaire as well as the logic that determines the interview’s flow. The source code (Delphi) allows the system to work by one question at a time. With this we have succeeded in making more efficient the use of memory and increase the speed of responses.

10. We developed a process to extract the information captured in 2001 and 2003 (preload) in order to store it in a dataset in such a way that it could be available in all the system functions.

11. To simplify the reading of the information collected in the field, the system allows users to view the database in PDF format in an image of the paper instruments.

12. There is also a PDF report that concentrates the preloaded information (general data of the study subjects, list of people that reside in the same household, non-resident children and deceased children) to be used as reference in the cases that by contingency, would be collected with paper questionnaires.

13. Longitudinal surveys require being adapted to the changes that have occurred over time in the object of study. For this reason, a battery of questions that allow updating the survival rate of the study subjects, their marital status, their status of residence and the existence of new spouses. The electronic questionnaire processes this battery of questions and builds to the interior of the household the modules and sections that must be applied. It also generates variables that, at the time of the interview, let us assess automatically the instructions that define the sequence of the interview.

14. The interviewer system helps subjects interpret the instructions for filling the survey and it evaluates filters and sequence passes. All this allows the interviewer to focus on the goal of the survey and on the pace in which they should apply the questions. This facilitates their work in understanding, contextualizing and classifying the responses. Through a more attentive interview, we obtain data with the highest quality.

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