

# Jordan - Population and Family Health Survey 2007

**Department of Statistics (DoS)**

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# Sampling

## Sampling Procedure

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### SAMPLE DESIGN

The 2007 JPFHS sample was designed to produce reliable estimates of major survey variables for the country as a whole, urban and rural areas, each of the 12 governorates, and badia and non-badia areas. In order to ensure comparability with the previous surveys, the sample was designed to provide estimates for the three regions, North, Central and South. The grouping of the governorates into the regions is as follows: the North region consists of Irbid, Jarash, Ajloun, and Mafraq; the Central region consists of Amman, Madaba, Balqa and Zarqa; and the South region consists of Karak, Tafielah, Ma'an and Aqaba.

The 2007 JPFHS sample was designed using the 2004 Population and Housing Census as the sampling frame. The sampling frame was stratified by governorate, major cities, other urban, and rural within each stratum. A two-stage sampling procedure was employed. First, blocks were selected systematically as primary sampling units (PSUs) with a probability proportional to the size of the PSU. A total of 930 PSUs were selected at this stage. In the second stage, a fixed number of 16 households were selected as final sampling units in each PSU, resulting in a sample size of about 15,000 households. Blood testing (anemia) and the measurements of height and weight were conducted among eligible individuals in the selected households in 465 PSUs (half of the sample). In addition, 310 selected PSUs (one third of the sample) which were not selected for the above measurements were chosen for collecting data on domestic violence in the household.

Note: See detailed description of sample design in APPENDIX A of the survey report.

## Response Rate

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A total of 14,880 households were selected for the survey from the sampling frame; among those selected households, 14,748 households were found. Of those households, 14,564 (99 percent) were successfully interviewed. In those households, 11,113 eligible women were identified, and complete interviews were obtained with 10,876 of them (98 percent of all eligible women). The overall response rate (the households response rate multiplied by the eligible woman response rate) was about 97 percent.

Note: See summarized response rates by place of residence in Table 1.1 of the survey report.

# Questionnaires

## Overview

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The 2007 JPFHS used two questionnaires – namely, the Household Questionnaire and the Individual Questionnaire. Both questionnaires were developed in English and Arabic, based on the questionnaires used in the 2002 survey, in collaboration with Macro International Inc. The Household Questionnaire was used to list all usual members of the sampled households and to obtain information on each household member's age, sex, educational attainment, relationship to the head of household, and marital status. In addition, questions were included on the socio-economic characteristics of the household, such as source of water, sanitation facilities, and the availability of durable goods. The Household Questionnaire was also used to identify women who are eligible for the individual interview: ever-married women aged 15-49. In addition, in half of the households, all women aged 15-49 and children under five years of age were measured to determine nutritional status and tested for anemia.

The household and women's questionnaires were based on the DHS standard Questionnaire. Additions and modifications to the model questionnaire were made in order to provide detailed information specific to Jordan, using experience gained from the 1990, 1997 and 2002 Jordan Population and Family Health Surveys. For each ever-married woman aged 15-49, information on the following topics was collected:

- Respondent's general background
- Birth history
- Family planning
- Pregnancy, postnatal health care and breastfeeding
- Children immunization and children and mothers nutrition.
- Marriage
- Fertility preferences
- Husband's background and respondent's employment
- AIDS and STIs
- Other health issues
- Domestic violence
- Early childhood development

The last two sections of the questionnaire (domestic violence and early childhood development) use and discontinuation, and marriage during the five years prior to the survey was collected using a monthly calendar.

# Data Collection

## Data Collection Dates

Start	End	Cycle
2007-06	2007-11	N/A

## Data Collection Mode

Face-to-face

### DATA COLLECTION NOTES

#### RECRUITMENT OF STAFF

Different supervisory and executive levels of survey staff members were recruited according to certain criteria, such as experience, educational and personal qualifications, and familiarity with geographic areas. Fieldworkers for the main survey were recruited from among those who participated in the 2004 census as well as those who took part in other demographic surveys conducted by the Department of Statistics (DoS), especially the 2002 JPFHS. The interviewers were all highly qualified females. Supervisors and field editors were selected from the DoS permanent staff or from those with good past experience in such surveys.

#### TRAINING AND PRETEST

Training of the interviewers took place in Amman for four weeks in May and June 2007. The training course consisted of instructions regarding interviewing techniques and field procedures, a detailed review of items on the questionnaires, instructions and practice in weighing and measuring children and women, anemia testing, mock interviews between participants in the classroom, and practice interviews. After the training, pretest fieldwork was conducted over a one-week period in three urban clusters and one rural cluster.

Field practice in anemia testing was carried out during the pretest for persons who were assigned as team health technicians. In addition, team members practiced their ability to weigh and measure women and children. Also during this period, field editors and team supervisors were provided with additional training in methods of field editing, data quality control procedures, and fieldwork coordination. Conducting training in the Prince Hamzah Hospital was an advantage, as the interviewers who were assigned to take measurements of height and weight and conduct blood testing for anemia were able to practice with out-patients. Debriefing sessions were held with the pretest field staff, and modifications to the questionnaires and instructions were made based on lessons drawn from the exercise. The survey technical staff, MOH specialists, and experts from Macro International Inc. participated and lectured in the training program. Those are specialized in conducting height and weight measurements and blood testing for anemia as well as conducting training and technical application of the survey inputs.

#### MAIN FIELDWORK

The survey fieldwork was organized in such a way as to ensure control over field logistics by DoS field offices all over the country. The workload, the dispersion of sample units, and transportation facilities served as criteria for identifying the number of field staff in each area. The field staff consisted of 14 controllers, 8 editors, 57 interviewers and 8 female health technicians (for blood testing). All teams were supervised by three controllers and two inspectors. During field work, these teams were combined or reformulated as necessary. Fieldwork was carried out between 14 June and 19 November 2007.

To facilitate data collection, each interviewing team was assigned a number of blocks in the sample area. Each inspector, in collaboration with the supervisor, divided his team so as to ensure that all adjacent sampled households were completed by one interviewer. To ensure good data quality, interviewers were asked to conduct fewer interviews during the first three days of data collection; the completed questionnaires were then checked by the field editor and/or the supervisor to ensure completeness and consistency of data. Under the supervision of controllers and inspectors, the field editor and/or the supervisor conducted spot checks by randomly visiting some sampled households and reinterviewing some respondents. The original questionnaires were then matched to the re-interview questionnaires and any differences were discussed.

Interviewers made repeated attempts to obtain the responses of eligible respondents by calling back to interview eligible women who were not home at the time of the first visit, or by attempting to persuade eligible women who were reluctant to be interviewed. Once a cluster was finished, the questionnaires were delivered to the central office in Amman for processing.

# Data Processing

## Other Processing

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Fieldwork and data processing activities overlapped. After two weeks of data collection, and after field editing of questionnaires for completeness and consistency, the questionnaires for each cluster were packaged together and sent to the central office in Amman where they were registered and stored. Special teams were formed to carry out office editing and coding of the open-ended questions.

Data entry and verification started after two weeks of office data processing. The process of data entry, including one hundred percent re-entry, editing and cleaning, was done by using PCs and the CSPro (Census and Survey Processing) computer package, developed specially for such surveys. The CSPro program allows data to be edited while being entered. Data processing operations were completed by the end of December 2007. A data processing specialist from Macro International made a trip to Jordan in January 2008 to follow up data editing and cleaning and to work on the tabulation of results for the survey preliminary report, that was published in February 2008. The tabulations for the present final report were completed in May 2008.

# Data Appraisal

## Estimates of Sampling Error

The estimates from a sample survey are affected by two types of errors: non-sampling errors and sampling errors. Non-sampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2007 Jordan Population and Family Health Survey (2007 JPFHS) to minimize this type of error, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2007 JPFHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the standard error for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2007 JPFHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the 2007 JPFHS is a Macro SAS procedure. This procedure used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

Note: See detailed description of sample design in APPENDIX B of the survey report

## Other forms of Data Appraisal

### Data Quality Tables

- Household age distribution
- Age distribution of eligible and interviewed women
- Completeness of reporting
- Births by calendar years
- Reporting of age at death in days
- Reporting of age at death in months

Note: See detailed tables in APPENDIX C of the survey report.



## Related Materials

### Questionnaires

#### 2007 Jordan Population and Family Health Survey (JPFHS) - Questionnaire

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Title 2007 Jordan Population and Family Health Survey (JPFHS) - Questionnaire  
 Author(s) Department of Statistics (DOS), Jordan Macro International Inc., Calverton, Maryland, USA  
 Date 2007-01-01  
 Country Jordan  
 Language English  
 Filename Jordan\_2007\_DHS\_questionnaire.pdf

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### Reports

#### 2007 Jordan Population and Family Health Survey (JPFHS) - Report

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Title 2007 Jordan Population and Family Health Survey (JPFHS) - Report  
 Author(s) Department of Statistics (DOS), Jordan Macro International Inc., Calverton, Maryland, USA  
 Date 2008-08-01  
 Country Jordan  
 Language English  
 Description This report summarizes the findings of the 2007 Jordan Population and Family Health Survey (JPFHS) carried out by the Department of Statistics (DoS).  
 Filename <http://www.dhsprogram.com/pubs/pdf/FR209/FR209.pdf>

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#### 2007 Jordan Population and Family Health Survey (JPFHS) - Key Findings

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Title 2007 Jordan Population and Family Health Survey (JPFHS) - Key Findings  
 Author(s) MEASURE DHS  
 Date 2008-08-01  
 Country Jordan  
 Language English  
 Filename <http://www.dhsprogram.com/pubs/pdf/SR143/SR143.pdf>

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#### 2007 Jordan Population and Family Health Survey (JPFHS) - General Fact Sheet

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Title 2007 Jordan Population and Family Health Survey (JPFHS) - General Fact Sheet  
 Author(s) MEASURE DHS  
 Date 2008-08-01  
 Country Jordan  
 Language English  
 Filename <http://www.dhsprogram.com/pubs/pdf/GF12/GF12.pdf>

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