

Ukraine - Demographic and Health Survey 2007

Ukrainian Center for Social Reforms, State Statistical Committee of Ukraine

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Sampling

Sampling Procedure

The 2007 Ukraine Demographic and Health Survey (UDHS) was the first survey of its kind carried out in Ukraine. The survey was a nationally representative sample survey of 15,000 households, with an expected yield of about 7,900 completed interviews of women age 15-49. It was designed to provide estimates on fertility, infant and child mortality, use of contraception and family planning, knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections (STI), and other family welfare and health indicators. Ukraine is made up of 24 oblasts, the Autonomous Republic of Crimea, and two special cities (Kyiv and Sevastopol), which together make up 27 administrative regions, each subdivided into lower-level administrative units. The 27 administrative regions were grouped for this survey into five geographic regions: North, Central, East, South and West. The five geographic regions are the five study domains of the survey. The estimates obtained from the 2007 UDHS are presented for the country as a whole, for urban and rural areas, and for each of the five geographic regions.

A men's survey was conducted at the same time as the women's survey, in a subsample consisting of one household in every two selected for the female survey. All men age 15-49 living in the selected households were eligible for the men's survey. The survey collected information on men's use of contraception and family planning and their knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections (STI).

SAMPLING FRAME

The sampling frame used for the 2007 UDHS was the Ukraine Population Census conducted in 2001 (SSC, 2003a), provided by the State Statistical Committee (SSC) of Ukraine. The sampling frame consisted of about 38 thousand enumeration areas (EAs) with an average of 400-500 households per EA. Each EA is subdivided into 4-5 enumeration units (EUs) with an average of 100 households per EU. An EA is a city block in urban areas; in rural areas, an EA is either a village or part of a large village, or a group of small villages (possibly plus a part of a large village). An EU is a list of addresses (in a neighborhood) that was used as a convenient counting unit for the census. Both EAs and EUs include information about the location, type of residence, address of each structure in it, and the number of households in each structure.

Census maps were available for most of the EAs with marked boundaries. In urban areas, the census maps have marked boundaries/locations of the EUs. In rural areas, the EUs are defined by detailed descriptions available at the SSC local office. Therefore, either the EA or the EU could be used as the primary sampling unit (PSU) for the 2007 UDHS. Because the EAs in urban areas are large (an average of 500 households), using EAs as PSUs in urban areas would require a great deal of work to implement the household listing, so it was decided to use the EUs as PSUs in urban areas. In rural areas, the EUs are too small (less than 100 households) to be used as PSUs. At the same time, the EAs are (geographically) too large to be used as PSUs. It was decided therefore that for rural areas the large EAs (300 or more households) would be divided to form two PSUs and the small EAs (less than 300 households) would be single PSUs. This segmentation of the sample was done in the office prior to the selection of the PSUs. Thus, in rural areas, a PSU is either an EA or a part of an EA.

SAMPLE DESIGN AND THE SAMPLING PROCEDURE

The sample for 2007 UDHS was a stratified sample selected in two stages from the 2001 census frame. Stratification was achieved by separating every administrative region into urban and rural areas. Therefore, the 27 regions had been stratified into 53 sampling strata because the city of Kyiv had only urban areas. Samples were selected independently in every stratum by a two stages probability selection. In first stage, a certain number of PSU were selected with probability proportional to the PSU size; the size of the PSU was the number of people enumerated in the 2001 census. Implicit stratifications and proportional allocation would have been achieved at each of the lower administrative levels by sorting the sampling frame according to different administrative units and geographical orders, and by using a probability proportional to size selection at the first stage's sampling.

In the first stage, 500 PSU were selected with probability proportional to the PSU size. A household listing operation was carried out in all of the selected PSUs before the main survey, and the resulting lists of households was served as sampling frame for the selection of households in the second stage. In the second stage, a fixed number of 30 households were selected in each selected PSU with an equal probability systematic selection. Some of the selected PSUs were of large size. In order to minimize the task of household listing, for the selected PSUs which counted more than 300 households in the household listing operation were segmented during the operation. Only one segment was selected for the survey with probability proportional to the segment size. Household listing was conducted only in the selected segment. So a 2007 UDHS cluster is either a PSU or a segment of a PSU. By selecting 30 households per cluster, a total of 15 000 households were selected. A spreadsheet for household selection was prepared in advance and was used for household selection in the central office. The survey interviewers were asked to interview only the preselected households. No replacements and no changes of the preselected households were allowed in the implementing stages in order to prevent bias. All women age

15-49 who slept in a selected household the night before the survey (de facto) were interviewed with the Women's Questionnaire. A subsample of one household in every two selected for the female survey was selected for a male survey. All men aged 15-49 who slept in a selected household the night before the survey were interviewed with the Men's Questionnaire.

Because of the tight budget restrictions, the sample allocation was not a proportional allocation since otherwise some of the small regions would have received a too small sample size. In order that the survey precisions for most of the survey indicators are acceptable at domain level, and that the survey precisions are comparable across study domains, the sampled households were equally allocated to the 5 study domains, that is, 100 PSU and 3000 households per each study domain. The 3000 households in each domain were then allocated to the administrative regions within the domain according to the size of region and by type of residence. The size of a region was the population enumerated in the population census 2001. Result shows the sample allocation of expected completed women and men interviews according to administrative regions and by type of residence. Among the 500 clusters, 310 clusters are in urban areas, 190 clusters are in rural areas.

The sample allocations were calculated based on the facts obtained from the 2001 population census, 1999 Ukraine reproductive Health Survey and empirical knowledge. The average number of women 15-49 per household was 0.686; the average number of men 15-49 per household was 0.668; the household gross response rate was 90 percent; women response rate was 84 percent in urban areas and 89 percent in rural areas; men response rate was 80 percent in both urban and rural areas. The number of households selected in each cluster was 30.

Response Rate

A total of 15,004 households were selected for the sample, of which 14,069 were found at the time of fieldwork. The main reason for the difference is that some of the dwelling units that were occupied during the household listing operation were either vacant or the residents were away for an extended period at the time of interview. Of the households that were found, 95 percent were successfully interviewed. In these households, 7,437 women were identified as eligible for the individual interview. Interviews were completed with 92 percent of these women. Of the 3,523 eligible men identified, 90 percent were successfully interviewed.

Questionnaires

Overview

Three questionnaires were used in the UDHS: a) the Household Questionnaire, b) the Women's Questionnaire, and c) the Men's Questionnaire. The questionnaires were based on the model survey instruments developed by the MEASURE DHS project. The model questionnaires were adapted for use in Ukraine by experts from the UCSR, the SSC, the Ministry of Family Youth and Sports Affairs (MFYSA), the Ministry of Health (MOH) and Macro International Inc. Input was also sought from a number of nongovernmental organizations. Additionally, a module on human trafficking was developed for pilot testing during the 2007 UDHS. The questionnaires were prepared in English and translated into Ukrainian and Russian. The questionnaires were pretested in March 2007.

a) The Household Questionnaire was used to list all usual members and visitors to the household and to collect information on the socioeconomic status of the household. The first part of the Household Questionnaire collected information on age, sex, educational attainment, and the relationship of each household member or visitor to the household head. This information provided basic demographic data on Ukrainian households, and was used to identify the women and men who were eligible for the individual interview (i.e., women and men age 15-49), and to randomly select one man or one woman age 15-49 per household to be interviewed with the domestic violence module. The second part of the Household Questionnaire included questions on housing characteristics (e.g., flooring material, source of water and type of toilet facilities), ownership of a variety of consumer goods, and other questions on the socioeconomic status of the household. The Household Questionnaire was also used to obtain information on human trafficking.

b) The Women's Questionnaire obtained information from women age 15-49 on the following topics:

- Background characteristics
- Pregnancy history
- Abortion history
- Antenatal, delivery, and postnatal care
- Knowledge, attitudes, and use of contraception
- Reproductive and adult health
- Breastfeeding and weaning practices
- Marriage and recent sexual activity
- Fertility preferences
- Attitudes towards unwanted pregnancies, abortion and adoption
- Knowledge of and attitudes toward AIDS and other sexually transmitted diseases
- Knowledge of and attitudes toward tuberculosis
- High blood pressure and medical injections
- Smoking, alcohol and narcotics consumption
- Domestic violence

c) The Men's Questionnaire, administered to men age 15-49, focused on the following topics:

- Background characteristics
- Reproductive health
- Knowledge, attitudes, and use of contraception
- Attitudes toward and use of condoms
- Marriage and recent sexual activity
- Fertility preferences
- Attitudes towards unwanted pregnancies, abortion and adoption
- Employment and gender roles
- Attitudes toward women's status
- Knowledge of and attitudes toward AIDS and other sexually transmitted diseases
- Knowledge of and attitudes toward tuberculosis
- High blood pressure and medical injections
- Smoking, alcohol and narcotics consumption
- Domestic violence

In addition, blood pressure measurements for adult women and men were recorded in their individual questionnaires.

Data Collection

Data Collection Dates

Start	End	Cycle
2007-07	2007-11	N/A

Data Collection Mode

Face-to-face

DATA COLLECTION NOTES

TRAINING OF FIELD STAFF

The main survey training was conducted by the Ukrainian Center for Social Reforms and the State Statistical Committee during a two-week period in July 2007, and was attended by all supervisors, field editors, interviewers, and quality control personnel. The training included lectures, demonstrations, practice interviewing in small groups, examinations and practicing blood pressure measurement using a digital monitor. All field staff participated in one day of field practice.

FIELDWORK

The survey data was collected by twenty-seven teams, each consisting of one or two female interviewers, a male interviewer, and a female team supervisor/editor. Fieldwork began in late July 2007 and was completed in November 2007. Senior DHS technical staff visited teams regularly to review the work and monitor data quality.

Data Collectors

Name	Abbreviation	Affiliation
Ukrainian Center for Social Reforms		
State Statistical Committee of Ukraine		

Data Processing

Data Editing

Data processing of the UDHS began shortly after the beginning of fieldwork. Completed questionnaires were returned regularly from the field to UCSR headquarters in Kyiv, where they were entered and edited by specially trained data processing personnel. Data processing personnel included a supervisor, a questionnaire administrator, several office editors, 20 data entry operators, and a secondary editor. Concurrent data processing allowed the survey technical staff to be able to advise fieldwork teams of problems detected during the data entry. Tables generated to check various data quality parameters were used for this purpose. As a result, specific feedback was given to the teams to improve performance. The data entry and editing phase of the survey was completed in late January 2008.

Data Appraisal

Estimates of Sampling Error

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2007 UDHS 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 UDHS sample was 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 UDHS 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.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers all but one cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2007 UDHS, there were 500 non-empty clusters. Hence, 500 replications were created.

In addition to the standard error, the design effect (DEFT) for each estimate is calculated, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. The relative standard error and confidence limits for the estimates are also calculated.

Sampling errors for the 2007 UDHS are calculated for selected variables considered to be of primary interest for the women's survey and for the men's surveys, respectively. The results are presented in an appendix to the Final Report for the country as a whole, for urban and rural areas, and for each of the 5 geographical regions. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1 of the Final Report. Tables B.2 to B.9 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R2SE), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1). In the case of the total fertility rate and total abortion rate, the number of unweighted cases is not relevant, as there is no known unweighted value for woman-years of exposure to childbearing.

The confidence interval, e.g., as calculated for children ever born, can be interpreted as follows: the overall average from the national sample is 1.118 and its standard error is 0.015. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 1.11820.015. There is a high probability (95 percent) that the true average number of children ever born is between 1.088 and 1.148. For the total sample, the value of the DEFT, averaged over all women variables, is 1.39. This means that, due to multistage clustering of the sample, the average standard error is increased by a factor of 1.39 over that in an equivalent simple random sample.

Other forms of Data Appraisal

Nonsampling 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 Ukraine Demographic and Health Survey (2007 UDHS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Related Materials

Questionnaires

UDHS - Household Questionnaire

Title	UDHS - Household Questionnaire
Author(s)	Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine
Date	2007-07-01
Country	Ukraine
Language	English
Contributor(s)	Macro International Inc.
Description	The Household Questionnaire was used to list all usual members and visitors to the household and to collect information on the socioeconomic status of the household. The first part of the Household Questionnaire collected information on age, sex, educational attainment, and the relationship of each household member or visitor to the household head. This information provided basic demographic data on Ukrainian households, and was used to identify the women and men who were eligible for the individual interview (i.e., women and men age 15-49), and to randomly select one man or one woman age 15-49 per household to be interviewed with the domestic violence module. The second part of the Household Questionnaire included questions on housing characteristics (e.g., flooring material, source of water and type of toilet facilities), ownership of a variety of consumer goods, and other questions on the socioeconomic status of the household. The Household Questionnaire was also used to obtain information on human trafficking.
Filename	UKR_DHS_2007_Questionnaire_Household_En.pdf

UDHS - Woman's Questionnaire

Title	UDHS - Woman's Questionnaire
Author(s)	Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine
Date	2007-07-01
Country	Ukraine
Language	English
Contributor(s)	Macro International Inc.
Description	<p>The Women's Questionnaire obtained information from women age 15-49 on the following topics:</p> <ul style="list-style-type: none"> - Background characteristics - Pregnancy history - Abortion history - Antenatal, delivery, and postnatal care - Knowledge, attitudes, and use of contraception - Reproductive and adult health - Breastfeeding and weaning practices - Marriage and recent sexual activity - Fertility preferences - Attitudes towards unwanted pregnancies, abortion and adoption - Knowledge of and attitudes toward AIDS and other sexually transmitted diseases - Knowledge of and attitudes toward tuberculosis - High blood pressure and medical injections - Smoking, alcohol and narcotics consumption - Domestic violence
Filename	UKR_DHS_2007_Questionnaire_Woman_En.pdf

UDHS - Man's Questionnaire

Title	UDHS - Man's Questionnaire
Author(s)	Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine

Date	2007-07-01
Country	Ukraine
Language	English
Contributor(s)	Macro International Inc.
Description	<p>The Men's Questionnaire, administered to men age 15-49, focused on the following topics:</p> <ul style="list-style-type: none"> - Background characteristics - Reproductive health - Knowledge, attitudes, and use of contraception - Attitudes toward and use of condoms - Marriage and recent sexual activity - Fertility preferences - Attitudes towards unwanted pregnancies, abortion and adoption - Employment and gender roles - Attitudes toward women's status - Knowledge of and attitudes toward AIDS and other sexually transmitted diseases - Knowledge of and attitudes toward tuberculosis - High blood pressure and medical injections - Smoking, alcohol and narcotics consumption - Domestic violence
Filename	UKR_DHS_2007_Questionnaire_Man_En.pdf

Reports

Ukraine Demographic and Health Survey 2007 - Final Report

Title	Ukraine Demographic and Health Survey 2007 - Final Report
Author(s)	Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
Date	2008-09-01
Country	Ukraine
Language	English
Contributor(s)	Macro International Inc.
Filename	http://www.dhsprogram.com/pubs/pdf/FR210/FR210.pdf

Ukraine Demographic and Health Survey 2007 - Key Findings

Title	Ukraine Demographic and Health Survey 2007 - Key Findings
Author(s)	Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
Date	2008-09-01
Country	Ukraine
Language	English
Contributor(s)	Macro International Inc.
Filename	http://www.dhsprogram.com/pubs/pdf/SR147/SR147.pdf

Ukraine Demographic and Health Survey 2007 - Key Findings

Title	Ukraine Demographic and Health Survey 2007 - Key Findings
Author(s)	Ukrainian Center for Social Reforms - State Statistical Committee of Ukraine , Ministry of Health
Date	2008-09-01
Country	Ukraine
Language	Ukrainian
Contributor(s)	Macro International Inc.
Filename	http://www.dhsprogram.com/pubs/pdf/SR147/SR147.u.pdf

Ukraine Demographic and Health Survey 2007 (UDHS) - HIV/AIDS Knowledge and Behavior

Title Ukraine Demographic and Health Survey 2007 (UDHS) - HIV/AIDS Knowledge and Behavior
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language English
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/HF26/HF26.pdf>

Ukraine Demographic and Health Survey 2007 (UDHS) - HIV/AIDS Knowledge and Behavior

Title Ukraine Demographic and Health Survey 2007 (UDHS) - HIV/AIDS Knowledge and Behavior
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language Ukrainian
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/HF26/HF26.u.pdf>

Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Youth

Title Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Youth
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language English
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/OF9/Ukraine.Youth.pdf>

Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Youth

Title Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Youth
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language Ukrainian
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/OF9/OF9.uy.pdf>

Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Women's Empowerment and Status

Title Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Women's Empowerment and Status
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language English
 Contributor(s) Macro International Inc.

Filename <http://www.dhsprogram.com/pubs/pdf/OF9/Ukraine.Women.pdf>

Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Women's Empowerment and Status

Title Ukraine Demographic and Health Survey 2007 (UDHS) - Key Findings on Women's Empowerment and Status
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language Ukrainian
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/OF9/OF9.uw.pdf>

Key Findings on Fertility and Family Planning from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)

Title Key Findings on Fertility and Family Planning from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language English
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/OF9/Ukraine.Fertility.pdf>

Key Findings on Fertility and Family Planning from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)

Title Key Findings on Fertility and Family Planning from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language Ukrainian
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/OF9/OF9.uf.pdf>

Key Findings on Adult Health from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)

Title Key Findings on Adult Health from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)
 Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
 Date 2008-09-01
 Country Ukraine
 Language English
 Contributor(s) Macro International Inc.
 Filename <http://www.dhsprogram.com/pubs/pdf/OF9/Ukraine.Adult.Health.pdf>

Key Findings on Adult Health from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)

Title Key Findings on Adult Health from the 2007 Ukraine Demographic and Health Survey (2007 UDHS)
Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
Date 2008-09-01
Country Ukraine
Language Ukrainian
Contributor(s) Macro International Inc.
Filename <http://www.dhsprogram.com/pubs/pdf/OF9/OF9.ua.pdf>

Press Release - Ukraine Demographic and Health Survey 2007 (UDHS)

Title Press Release - Ukraine Demographic and Health Survey 2007 (UDHS)
Author(s) Ukrainian Center for Social Reforms and State Statistical Committee of Ukraine , Ministry of Health
Date 2008-09-01
Country Ukraine
Language English
Contributor(s) Macro International Inc.
Filename UKR_DHS_2007_Press_Release_En.pdf
