UGANDA DEMOGRAPHIC AND HEALTH SURVEY 2006

PRELIMINARY REPORT

Uganda Bureau of Statistics
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ORC Macro
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I. INTRODUCTION

The 2006 Uganda Demographic and Health Survey (2006 UDHS) was implemented by the Uganda Bureau of Statistics (UBOS). The laboratory at the Biochemistry Department, Makerere University conducted the vitamin A deficiency (VAD) testing. ORC Macro provided technical assistance through the MEASURE DHS program.

This survey is the fourth DHS survey conducted in Uganda. The previous surveys were conducted in 1988, 1995, and 2000-2001. It is the first to cover the entire nation since insecurity restricted data collection activities in each of the previous three surveys.

Data were collected from early May 2006 to early October 2006 on a nationally representative sample of about 10,000 households. All women aged 15-49 years in these households and all men aged 15-54 years in one-third of the households were eligible to be interviewed.

The 2006 UDHS provides data to monitor the population and health situation in Uganda. Specifically, the 2006 UDHS collected information on household characteristics, fertility levels and preferences, awareness and use of family planning methods, childhood mortality, maternal and child health, maternal mortality, breastfeeding practices, nutritional status of women and young children, malaria prevention and treatment, women's status, domestic violence, sexual activity, and awareness and behavior regarding AIDS and other sexually transmitted infections in Uganda. In addition, the 2006 UDHS collected information on vitamin A deficiency (VAD) and anemia levels among women 15-49 years and children 6-59 months.

This preliminary report presents selected results of the 2006 UDHS. A report of the comprehensive analysis of the data will be published in mid-2007. While considered provisional, the results presented here are not expected to differ substantially from those presented in the final report.

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II. SURVEY IMPLEMENTATION

A. Sample Design

The sample was designed so as to allow separate estimates at the national level and for urban and rural areas of the country. The sample design also allowed for specific indicators, such as contraceptive use, to be calculated for each of nine sub-national regions. Portions of the northern region were oversampled in order to provide estimates for two special areas of interest: Karamoja and internally displaced persons (IDP) camps. The following shows the districts included in the regional sampling strata:

Central 1: Kalangala, Masaka, Mpigi, Rakai, Sembabule and Wakiso
Central 2: Kayunga, Kiboga, Luwero, Mubende, Mukono, Nakasongola
Kampala: Kampala
East Central: Bugiri, Busia, Iganga, Jinja, Kamuli, Mayuge
Eastern: Kapchorwa, Mbale, Pallisa, Sironko, Tororo, Kaberamaido, Katakwi, Kumi, and Soroti
North: Apac, Gulu, Kitgum, Lira, Pader, Kotido, Moroto, Nakapiripirit (Estimates for this region include both settled and IDP populations.)

- Karamoja area: Kotido, Moroto, and Nakapiripirit
- IDP: IDP camps in Apac, Gulu, Kitgum, Pader, and Lira districts

West Nile: Adjumani, Arua, Moyo, Nebbi, and Yumbe
Western: Bundibugyo, Hoima, Kabarole, Kamwenge, Kasese, Kibaale, Kyenjojo, and Masindi
Southwest: Bushenyi, Kabale, Kanungu, Kisoro, Mbarara, Ntungamo, and Rukungiri

A representative probability sample of 9,864 households was selected for the 2006 UDHS survey. The sample was selected in two stages. In the first stage, 321 clusters were selected from among a list of clusters sampled in the 2005-2006 Uganda National Household Survey (2005-2006 UNHS). This matching of samples was conducted in order to allow for linking of 2006 UDHS health indicators to poverty data from the 2005-2006 UNHS. The clusters from the Uganda National Household Survey were in turn selected from the 2002 Census sample frame. For the UDHS 2006, an additional 17 clusters were selected from the 2002 Census frame in Karamoja in order to increase the sample size to allow for reporting of Karamoja-specific estimates in the UDHS. Finally, 30 IDP camps were selected from a list of camps compiled by the United Nations Office for the Coordination of Human Affairs (UN OCHA) as of July 2005, completing a total of 368 primary sampling units.

In the second stage, households in each cluster were selected based on a complete listing of households. In the 321 clusters that were included in the UNHS sample, the lists of households used were those generated during the UNHS listing operations April-August 2005. The UNHS sampled ten households per cluster. All ten were purposively included in the UDHS sample. An additional 15 to 20 households were randomly selected in each cluster. The 17 additional clusters in Karamoja were listed, and 27 households were selected in each cluster. The selected IDP camps were divided into segments due to their large size, and then a listing operation was carried out in the selected segment, with 30 households selected in each camp from the segment listed.

All women age 15-49 who were either permanent residents of the households in the 2006 UDHS sample or visitors present in the household on the night before the survey were eligible to be interviewed. In addition, in a sub-

sample of one-third of all the households selected for the survey, all men aged 15-54 were eligible to be interviewed if they were either permanent residents or visitors present in the household on the night before the survey. Indicators such as total fertility rate, childhood mortality rates, and the maternal mortality ratio require a larger sample size than other indicators. These indicators are all calculated from the data provided by female respondents only. For this reason, the number of male respondents required in the sample is lower than the number of female respondents.

B. Questionnaires

Three questionnaires were administered for the 2006 UDHS: the Household Questionnaire, the Women's Questionnaire, and the Men's Questionnaire. The content of the questionnaires was based on the model questionnaires developed for the MEASURE DHS Program. UBOS adapted the questionnaires to reflect the population and health issues relevant to Uganda through a series of meetings with various stakeholders from government ministries and agencies, non-governmental organizations and international donors. The questionnaires were then translated into six local languages (Ateso-Karamojong, Luganda, Lugbara, Luo, Runyankore-Rukiga, and Runyoro-Rutoro) and pretested during January and February 2006.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. The main purpose of the Household Questionnaire was to identify women and men who were eligible for the individual interview. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. For children under age 18, survival status of the parents was determined. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor of the house, ownership of various durable goods, and ownership and use of mosquito nets. Care and support services received by orphans and other vulnerable children were also collected in the Household Questionnaires. Finally, the Household Questionnaire was used to document the respondents' decision as to whether to volunteer to give blood samples for vitamin A deficiency (VAD) testing as well as to record the height, weight, and hemoglobin measurements of women aged 15-49 years, men aged 15-54 years, and children aged 6-59 months.

The Women's Questionnaire was used to collect information from all women age 15-49. These women were asked questions on the following topics:

- Background characteristics (education, residential history, media exposure, etc.)
- Birth history and childhood mortality
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal and childbirth care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Woman's work and husband's background characteristics
- Awareness and behavior regarding AIDS and other sexually transmitted infections (STIs)
- Maternal mortality
- Domestic violence

The Men's Questionnaire was administered to all men age 15-54 living in every third household in the 2006 UDHS sample. The Men's Questionnaire collected much of the same information found in the Women's Questionnaire, but was shorter because it did not contain a detailed reproductive history or questions on maternal and child health or nutrition, or maternal mortality.

C. Training of Field Staff

UBOS recruited and trained staff to serve as supervisors, field editors, male and female interviewers, field coordinators, and health technicians. They all participated in the main interviewer training held in Entebbe April 2-28. UBOS, ORC Macro, and invited experts from government ministries led the five-week training which included lectures, presentations, practical demonstrations, and practice interviewing in small groups, as well as two days of field practice. Participants were shown brands of contraceptives, vitamin A and iron folate supplements, and common antimalaria drugs, and they were taught how to test salt for iodine using test kits provided by UNICEF. During the training, special attention was paid to identifying brands of mosquito nets. Information sheets with photos of net material and net labels developed by the Malaria Consortium were presented and distributed to the trainees. Samples of common brands of nets were also shown. Salt samples were also tested for their iodine levels. The health technicians received training in anthropometry, hemoglobin testing and in the collection of dried blood spot (DBS) samples from a finger prick for the vitamin A deficiency (VAD) testing.

D. Fieldwork

Fifteen data collection teams consisting of three female interviewers, one male interviewer, a supervisor, a field editor, a health technician and a driver began fieldwork on May 5, 2006. Fieldwork was completed by early October 2006. Fieldwork supervision was coordinated from UBOS headquarters; four regional coordinators routinely visited teams to review their work and monitor data quality. Additionally, close contact between the UBOS headquarters and the teams was maintained through field visits by senior staff and ORC Macro staff. Regular communication was also maintained through cell phones. Community mobilization was performed in the sampled clusters in order to raise awareness of the nature and purpose of the study. Fieldwork was conducted in five separate field trips. Between trips, all teams met in Kampala to discuss problems with fieldwork logistics or data collection and to receive feedback and training reinforcement from UBOS staff.

A regular schedule was established in order to retrieve questionnaires and blood samples from the field. Dried blood spot samples for VAD were dried overnight in light-proof boxes and then stored in portable refrigerators run on the vehicle batteries in order to prevent degradation of retinol binding protein (RBP) in the samples. Blood samples were brought in from the field and transported to the laboratory at the Biochemistry Department, Makerere University where they were stored in a -20 C freezer until they were tested.

E. Data Processing

The processing of the 2006 UDHS data began soon after the start of fieldwork. Completed questionnaires were returned periodically from the field to the UBOS data processing center, first in Entebbe and later in Kampala, where they were entered and edited by 15 data processing personnel who were specially trained for this task. The data processing personnel included a supervisor, a questionnaire administrator, who kept track of the

questionnaires received from each cluster, an office editor, data entry operators, and a secondary editor. The concurrent processing of the data was an advantage since field check tables were generated to monitor various data quality parameters. 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 mid-October 2006.

III. PRELIMINARY FINDINGS

A. Response Rates

Table 1 shows household and individual response rates for the 2006 UDHS. A total of 9,864 households were selected for the sample, of which 9,099 were found to be occupied during data collection. Of these existing households, 8,870 were successfully interviewed, giving a household response rate of 98 percent.

In these households, 9,006 women were identified as eligible for the individual interview. Interviews were completed with 8,531 women, yielding a response rate of 95 percent. Of the 2,760 eligible men identified in the selected sub-sample of households, 91 percent were successfully interviewed. Response rates were higher in rural than urban areas, with the rural-urban difference in response rates most marked among eligible men.

Table 1. Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence, Uganda 2006

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	1,637	8,227	9,864
Households occupied	1,496	7,603	9,099
Households interviewed	1,390	7,480	8,870
Household response rate	92.9	98.4	97.5
Individual interviews: women			
Number of eligible women	1,577	7,429	9,006
Number of eligible women interviewed	1,450	7,081	8,531
Eligible women response rate	91.9	95.3	94.7
Individual interviews: men			
Number of eligible men	479	2,281	2,760
Number of eligible men interviewed	391	2,112	2,503
Eligible men response rate	81.6	92.6	90.7

B. Characteristics of Respondents

The distribution of women age 15-49 and men age 15-54 by background characteristics is shown in Table 2. Sixty percent of women and 54 percent of men were below age 30, reflecting the young age structure of the Ugandan population.

Three in five women are currently married or living together with men as if married are 58 percent of men. Throughout this report, “currently married” refers to women or men who are formally married or living with their partner as if married. Almost four in ten men (37 percent) in the sample have never been married compared with one-quarter of women, a result of men’s later age at marriage. Women are more than twice as likely as men to be divorced, separated or widowed.

Women are more than three times as likely as men to have never attended school. Furthermore, men are more likely than women to have attended secondary school or higher (30 percent of men compared with 21 percent of women).

Table 2. Background characteristics of respondents

Percent distribution of women and men by background characteristics, Uganda 2006

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	22.7	1,936	1,948	23.8	595	582
20-24	20.0	1,710	1,662	16.0	402	397
25-29	16.6	1,413	1,410	14.0	350	351
30-34	14.3	1,217	1,228	14.2	355	358
35-39	11.0	940	959	12.4	311	318
40-44	8.6	735	722	8.4	210	226
45-49	6.8	580	602	6.5	162	154
50-54	na	na	na	4.7	118	117
Marital status						
Never married	23.8	2,028	2,058	36.8	921	912
Married	48.7	4,152	4,186	51.4	1,286	1,301
Living together	13.9	1,185	1,176	6.1	153	142
Divorced/separated	9.4	804	757	5.1	128	131
Widowed	4.3	363	354	0.6	15	17
Residence						
Urban	16.9	1,442	1,450	16.5	413	391
Rural	83.1	7,089	7,081	83.5	2,090	2,112
Region						
Central 1	10.6	905	824	11.3	283	255
Central 2	9.0	770	759	9.8	245	241
Kampala	8.5	722	846	8.9	222	228
East Central	9.8	836	908	8.8	221	251
Eastern	13.5	1,148	917	13.3	334	285
North	15.5	1,322	1,664	14.1	353	460
West Nile	5.5	471	726	5.1	129	201
Western	14.9	1,271	931	15.9	399	292
Southwest	12.7	1,086	956	12.7	318	290
North Sub-regions						
IDP	5.9	504	688	6.2	155	232
Karamoja	3.4	286	537	2.6	65	111
Education						
No education	19.3	1,650	1,768	5.2	131	150
Primary	59.3	5,062	4,922	65.0	1,626	1,604
Secondary+	21.3	1,819	1,841	29.8	746	749
Religion						
Catholic	42.4	3,614	3,785	42.1	1,055	1,072
Protestant	34.5	2,945	2,823	37.1	930	909
Pentecostal	8.1	687	635	5.1	128	123
SDA	1.9	163	152	2.0	51	41
Muslim	11.2	956	970	11.8	296	298
Others	1.9	163	160	1.7	44	60
Missing	0.0	4	6	0.0	0	0
Total	100.0	8,531	8,531	100.0	2,503	2,503

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.
na = Not applicable

C. Education

Table 3 provides net and gross attendance ratios by school level, sex, residence, and region. The net attendance ratio (NAR) is an indicator of participation in schooling among those of official school age. The gross attendance ratio (GAR) is an indicator of participation in schooling among those of any age, expressed as a percentage of the official school age population. The difference between the ratios indicates the incidence of overage and underage attendance. Children are considered to be attending school currently if they attended at any time during the current school year.

Table 3. School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de facto household population by sex and level of schooling; and the gender parity index (GPI), according to background characteristics, Uganda 2006

Background characteristic	Net attendance ratio[1]			Gender Parity Index[3]	Gross attendance ratio[2]			Gender Parity Index[3]
	Male	Female	Total		Male	Female	Total	
PRIMARY SCHOOL								
Residence								
Urban	89.8	86.5	88.0	0.96	124.6	116.6	120.2	0.94
Rural	81.6	80.6	81.1	0.99	119.5	114.3	116.9	0.96
Region								
Central 1	82.1	83.8	83.0	1.02	115.9	111.9	113.8	0.97
Central 2	83.6	84.1	83.8	1.01	120.8	113.2	117.0	0.94
Kampala	85.8	86.6	86.2	1.01	114.8	113.0	113.8	0.98
East Central	84.8	86.0	85.4	1.01	116.2	117.5	116.8	1.01
Eastern	86.5	88.2	87.4	1.02	128.6	123.5	126.0	0.96
North	76.5	72.0	74.2	0.94	111.1	98.8	104.8	0.89
West Nile	82.7	77.2	80.1	0.93	128.6	119.8	124.3	0.93
Western	80.8	79.4	80.1	0.98	121.2	119.5	120.4	0.99
Southwest	83.2	79.8	81.5	0.96	124.5	120.6	122.6	0.97
North Sub-regions								
IDP	85.6	82.1	83.9	0.96	126.2	108.2	117.4	0.86
Karamoja	44.5	42.1	43.3	0.95	61.7	57.9	59.7	0.94
Total	82.3	81.2	81.8	0.99	120.0	114.6	117.3	0.95
SECONDARY SCHOOL								
Residence								
Urban	35.8	34.8	35.3	0.97	57.4	42.9	49.4	0.75
Rural	13.5	13.1	13.3	0.97	20.0	15.7	17.9	0.79
Region								
Central 1	25.2	32.0	28.6	1.27	30.9	38.6	34.7	1.25
Central 2	25.3	20.3	23.2	0.80	30.0	23.7	27.3	0.79
Kampala	42.2	45.2	43.9	1.07	60.6	52.8	56.2	0.87
East Central	17.1	20.6	19.0	1.21	30.4	26.1	28.0	0.86
Eastern	12.6	11.8	12.2	0.93	20.9	13.9	17.5	0.66
North	5.9	4.0	5.0	0.68	13.7	5.8	9.8	0.42
West Nile	16.6	4.9	11.1	0.30	26.7	9.3	18.5	0.35
Western	8.7	8.1	8.4	0.93	18.3	10.3	14.3	0.56
Southwest	12.3	13.7	13.0	1.12	18.0	15.6	16.8	0.87
North Sub-regions								
IDP	5.1	0.9	3.2	0.17	9.8	1.3	6.0	0.13
Karamoja	0.0	2.1	1.2	-	5.7	2.6	4.0	0.46
Total	16.2	16.4	16.3	1.01	24.7	19.9	22.3	0.81

[1] The NAR for primary school is the percentage of the primary-school-age (6-12 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school-age (13-18 years) population that is attending secondary school. By definition the NAR cannot exceed 100 percent.

[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of overage and underage students at a given level of schooling, the GAR can exceed 100 percent.

[3] The Gender Parity Index for primary school is the ratio of the primary school NAR(GAR) for females to the NAR(GAR) for males. The Gender Parity Index for secondary school is the ratio of the secondary school NAR(GAR) for females to the NAR(GAR) for males.

The results of the 2006 UDHS show that among primary-school-age children, a total of 82 percent are currently attending school, including 88 percent of urban children and 81 percent of rural children. At primary school ages, the overall gender parity index (GPI) is 0.99, indicating there are slightly more boys than girls attending school. Attendance varies by region. Among the nine regions, North has the lowest proportion of primary-school-age children attending primary school (74%). Karamoja, which is classified as a sub-population of the North region, has an NAR of only 43 percent. The national and regional gross attendance ratios, with the exception of the North and Karamoja, all exceed 100 percent, meaning that there are more students attending primary school than there are primary-school-age children. This most likely indicates a large number of overage students attending primary school.

School attendance at the secondary level is much lower than primary school attendance. Only 16 percent of secondary-school-age children are currently attending secondary school. Thirty-five percent of secondary-school-age children in urban areas are attending secondary school, compared with only 13 percent of those in rural areas. The secondary school NAR ranges from 44 percent in Kampala to 5 percent in North. Within the North region, the sub-populations in IDP camps and Karamoja have especially low NARs: 3 percent and 1 percent, respectively. Although the overall NAR for secondary school slightly favors girls with a GPI of 1.01, there are several regions in which girls age 13-18 have much lower secondary school attendance than boys, including Central 2, North, and West Nile. In IDP camps the GPI for the secondary female to male NAR is only 0.17. The GPI for Karamoja cannot be calculated because the sample did not include any males age 13-18 who were attending secondary school.

D. Family Planning

Information about knowledge and use of contraceptive methods was collected from female respondents by asking them to mention any ways or methods by which a couple can delay or avoid a pregnancy. For each method the respondent did not mention spontaneously, the interviewer described the method and then asked if the respondent knew it. For each method known, the respondent was asked if she had ever used it. Finally, women were asked if they (or their partner) were currently using a method. Contraceptive methods are grouped into two types in the table: modern and traditional. Modern methods include female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, lactational amenorrhea method (LAM), and emergency contraception. Traditional methods include periodic abstinence, withdrawal, and folk methods.

Table 4 shows key differentials in the current use of contraception by method according to selected background characteristics as reported by currently married women. The overall contraceptive prevalence rate (CPR) among currently married women is 24 percent, with 18 percent of currently married women using a modern method. The most commonly used modern method is injectables (10%), followed by the pill (3 %).

Use of both modern and traditional methods increases with educational attainment. Over one-third of women with some secondary education or higher use a modern method, compared with 9 percent of women with no education. In general, women do not begin to use contraception until they have had at least one child.

Contraceptive use varies by residence and region. For example, women residing in the urban areas of Uganda are more than twice as likely as those in the rural areas to use a modern contraceptive method (37% versus 15%). Use of modern contraceptive methods ranges from zero in Karamoja to 40 percent in Kampala.

Table 4. Current use of contraception

Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, Uganda 2006

Background characteristic	Any method	Modern method									Any tradi-tional method	Traditional method			Not currently using	Total	Number of women
		Any modern method	Female sterili-zation	Male sterili-zation	Pill	IUD	Inject-ables	Implants	Male condom	LAM		Periodic absti-nence	With-drawal	Folk method			
Age																	
15-19	11.4	8.3	0.0	0.0	1.4	0.0	4.3	0.0	2.6	0.0	3.1	2.0	1.1	0.0	88.6	100.0	380
20-24	21.7	16.2	0.2	0.0	3.1	0.0	10.8	0.1	2.1	0.0	5.5	2.7	1.9	0.9	78.3	100.0	1,148
25-29	23.8	18.4	0.2	0.1	3.9	0.2	12.0	0.2	1.8	0.0	5.4	2.5	2.1	0.8	76.2	100.0	1,136
30-34	27.2	21.7	2.3	0.2	4.1	0.3	12.8	0.6	1.2	0.2	5.5	2.6	1.9	0.9	72.8	100.0	993
35-39	25.1	19.3	3.3	0.2	2.0	0.3	11.5	0.9	1.2	0.0	5.8	2.8	2.6	0.5	74.9	100.0	734
40-44	28.6	20.3	8.6	0.0	2.4	0.0	6.9	0.6	1.8	0.0	8.3	4.1	1.8	2.4	71.4	100.0	538
45-49	22.8	15.0	7.4	0.0	0.5	0.1	5.4	0.0	1.6	0.0	7.8	3.2	3.3	1.3	77.2	100.0	408
Residence																	
Urban	43.1	36.5	3.3	0.1	7.6	0.6	19.0	0.8	5.1	0.0	6.7	2.6	3.7	0.4	56.9	100.0	696
Rural	20.8	15.1	2.3	0.1	2.2	0.1	8.9	0.3	1.2	0.0	5.7	2.8	1.8	1.0	79.2	100.0	4,641
Region																	
Central 1	33.9	24.7	1.9	0.3	7.3	0.5	12.5	0.6	1.7	0.0	9.2	4.1	4.0	1.1	66.1	100.0	505
Central 2	36.0	30.0	5.0	0.6	3.7	0.0	16.5	0.3	3.6	0.4	6.0	1.4	2.6	2.0	64.0	100.0	470
Kampala	47.6	39.7	2.9	0.2	9.8	1.4	18.8	0.3	6.2	0.0	7.9	2.1	5.0	0.8	52.4	100.0	309
East Central	23.4	16.9	2.9	0.0	3.5	0.0	8.2	0.8	1.5	0.0	6.5	2.4	1.2	2.9	76.6	100.0	552
Eastern	20.1	16.6	3.3	0.0	0.5	0.0	11.5	0.1	1.3	0.0	3.5	2.8	0.6	0.1	79.9	100.0	824
North	10.9	8.1	1.7	0.0	0.5	0.0	5.0	0.0	0.8	0.0	2.8	2.3	0.2	0.3	89.1	100.0	915
West Nile	13.7	10.5	0.8	0.0	0.4	0.0	7.5	0.2	1.5	0.0	3.2	2.7	0.5	0.0	86.3	100.0	308
Western	20.6	13.9	0.9	0.0	3.1	0.2	8.3	0.2	1.3	0.0	6.8	4.2	1.7	0.8	79.4	100.0	799
Southwest	26.8	18.1	2.6	0.0	2.7	0.0	11.2	0.8	0.8	0.0	8.7	2.2	5.4	1.1	73.2	100.0	656
North Sub-regions																	
IDP	11.6	8.0	2.0	0.0	1.2	0.0	4.0	0.0	0.8	0.0	3.6	3.2	0.0	0.4	88.4	100.0	368
Karamoja	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	0.5	0.0	99.4	100.0	210
Education																	
No education	13.2	9.1	1.9	0.0	1.2	0.0	5.6	0.1	0.2	0.0	4.1	2.0	1.3	0.8	86.8	100.0	1,315
Primary	22.4	17.2	2.3	0.0	2.4	0.0	10.5	0.3	1.5	0.1	5.2	2.7	1.5	1.0	77.6	100.0	3,211
Secondary+	45.6	34.7	3.4	0.4	7.6	0.8	16.6	0.9	5.0	0.0	10.9	4.5	5.4	1.0	54.4	100.0	811
Living children																	
0	6.1	4.1	0.2	0.0	1.3	0.0	0.0	0.0	2.5	0.0	2.0	1.4	0.6	0.0	93.9	100.0	332
1-2	22.2	16.5	0.6	0.3	3.9	0.1	8.8	0.2	2.6	0.0	5.7	2.5	2.3	0.9	77.8	100.0	1,515
3-4	25.0	20.0	1.7	0.0	3.2	0.2	12.7	0.5	1.7	0.0	4.9	2.6	1.5	0.8	75.0	100.0	1,457
5+	26.7	19.6	4.6	0.0	2.3	0.2	11.2	0.3	0.9	0.1	7.1	3.3	2.5	1.3	73.3	100.0	2,033
Total	23.7	17.9	2.4	0.1	2.9	0.2	10.2	0.3	1.7	0.0	5.8	2.8	2.1	0.9	76.3	100.0	5,337

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method.

E. Fertility

Fertility data were collected in the 2006 UDHS by asking each woman interviewed for a history of her live births. The information obtained included the month and year of each birth. These data are used to calculate two of the most widely used measures of current fertility, the total fertility rate (TFR) and its component age-specific fertility rates. The TFR, which is the sum of the age-specific fertility rates, is interpreted as the number of children the average woman would bear in her lifetime if she experienced the currently observed age-specific fertility rates throughout her reproductive years.

According to the results of the 2006 UDHS, the TFR calculated for the three years preceding the survey is 6.7 births (Table 5). The rural TFR (7.1 children per woman) is higher than the urban TFR (4.4 children per woman). The general fertility rate is 230 births per 1,000 women of reproductive age, and the crude birth rate is 44.9 births per 1,000 population.

Table 5. Current fertility

Age-specific and cumulative fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by urban-rural residence, Uganda 2006

	Residence		
Age group	Urban	Rural	Total
15-19	103	164	152
20-24	196	338	309
25-29	202	328	305
30-34	185	270	258
35-39	133	198	190
40-44	60	99	94
45-49	0	32	29
TFR	4.4	7.1	6.7
GFR	155	246	230
CBR	41.0	45.4	44.9

Note: Rates for age group 45-49 may be slightly biased due to truncation.
TFR: Total fertility rate for ages 15-49, expressed per woman
GFR: General fertility rate (births divided by the number of women age 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

F. Fertility Preferences

Several questions were asked in the survey concerning individual fertility preferences. These questions included: a) whether the respondent wanted another child and b) if so, when he or she would like to have the next child. The answers to these questions allow an estimation of the potential demand for family planning services either to limit or space births.

Table 6 indicates that 39 percent of married women and 29 percent of married men age 15-49 say that they want to have no more children. These individuals, together with those who say they would like to wait at least two years before having their next child, are considered to be in need of family planning. Nearly equal proportions of women and men, 74 percent and 71 percent, respectively, want to delay the birth of their next child or want to have no more children.

Fertility preferences are closely related to the number of living children. In general, as the number of living children increases, the desire to have another child decreases. For example, 55 percent of currently married women with five living children say they want to have no more children or have been sterilized, compared with 5 percent of women with one child. In general, men have higher fertility preferences than women. The higher the number of living children, the greater the difference between the preferences of men and women. Around one-third of men and women with one living child want another child soon; however, among men and women with five living children, more than twice as many men want another child soon as do women (22% compared to 9%).

The 2006 UDHS assessed demand for family planning through measuring unmet need. Women with unmet need for family planning are defined as those who reported they do not want to have more children or want to wait two or more years before having another child, but who are not using contraception. Total demand for family planning is comprised of unmet need plus women who are currently using contraception.

Table 6. Fertility preferences by number of living children

Percent distribution of currently married women age 15-49 and currently married men age 15-54 by desire for children, according to number of living children, Uganda 2006

Desire for children	Number of living children							Total 15-49	Total 15-54
	0	1	2	3	4	5	6+		
				WOMEN[1]					
Have another soon[2]	77.2	30.9	20.8	16.6	11.8	9.4	3.3	16.2	na
Have another later[3]	5.9	58.4	55.9	52.3	36.2	28.3	11.5	35.3	na
Have another, undecided when	2.1	2.0	1.7	2.1	1.0	0.5	0.2	1.2	na
Undecided	2.0	2.4	3.5	3.2	4.4	5.1	4.2	3.8	na
Want no more	0.4	5.1	14.7	22.6	41.7	52.2	73.1	38.6	na
Sterilized[4]	0.3	0.1	1.6	1.6	1.8	2.9	5.0	2.5	na
Declare infecund	11.5	1.1	1.5	1.6	2.7	1.5	2.6	2.3	na
Missing	0.6	0.0	0.3	0.1	0.2	0.0	0.1	0.1	na
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	na
Number of women	207	698	797	767	727	644	1,496	5,337	na
				MEN[5]					
Have another soon[2]	89.1	32.7	27.9	19.4	20.5	22.0	11.2	21.8	21.1
Have another later[3]	0.0	61.0	57.3	56.9	46.5	38.9	26.5	41.9	39.9
Have another, undecided when	0.0	0.4	2.0	3.8	1.3	0.3	2.2	1.7	1.7
Undecided	0.0	0.9	0.9	0.6	5.9	1.2	6.7	3.5	3.4
Want no more	4.9	2.7	9.2	18.5	24.6	37.6	51.4	29.2	31.6
Sterilized[4]	0.0	0.0	1.4	0.0	0.7	0.0	0.9	0.6	0.9
Declare infecund	4.5	2.4	1.5	0.6	0.0	0.0	1.0	1.0	1.3
Missing	1.6	0.0	0.0	0.4	0.4	0.0	0.0	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	38	162	186	153	184	168	451	1,343	1,439

[1] Includes current pregnancy
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both male and female sterilization
[5] Number of living children includes wife's current pregnancy
na = Not applicable

Table 7 shows unmet need, met need and total demand for family planning by background characteristics. Overall four in ten currently married women age 15-49 have unmet need for family planning services, 24 percent have met need and 64 percent have demand for family planning. Unmet need for spacing is higher than unmet need for limiting (25 percent versus 16 percent). Younger women are more likely to have unmet need for spacing births whereas older women are more likely to need family planning to limit the number of children they have.

Unmet need is higher in rural areas than urban areas, and it varies by region. Women in Kampala have the lowest unmet need for family planning (23%) while those in West Nile have the highest (47%). Unmet need is also high among women living in IDP camps (58%). Level of educational attainment is associated with unmet need. Women with no education are most likely to have unmet need for family planning (45%), followed by women with primary education (42%), and then women with secondary education or higher (27%).

The total demand for family planning (64 %) has increased substantially since the 2000-2001 UDHS, in which only 45 percent of women were in need of family planning for spacing or limiting births. The percentage of demand for family planning that is satisfied has decreased from 45 percent in 2000-2001 to 37 percent in 2006.

Table 7. Unmet need and the demand for family planning among currently married women

Percentage of currently married women age 15-49 with unmet need for family planning, percentage with met need for family planning, the total demand for family planning, and the percentage of the demand for contraception satisfied, by background characteristics, Uganda 2006

Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning[3]			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	32.8	1.1	33.8	11.4	0.0	11.4	44.2	1.1	45.2	25.2	380
20-24	33.3	2.0	35.3	19.2	2.5	21.7	52.5	4.4	56.9	38.0	1,148
25-29	32.5	7.2	39.7	16.2	7.6	23.8	48.7	14.8	63.5	37.4	1,136
30-34	26.0	17.1	43.1	10.0	17.2	27.2	36.0	34.3	70.3	38.7	993
35-39	16.7	31.4	48.2	4.6	20.6	25.1	21.3	52.0	73.3	34.3	734
40-44	6.6	39.8	46.3	0.7	27.9	28.6	7.2	67.7	74.9	38.2	538
45-49	3.3	33.3	36.6	0.8	22.0	22.8	4.1	55.3	59.4	38.4	408
Residence											
Urban	18.5	8.5	27.0	22.7	20.4	43.1	41.2	29.0	70.2	61.5	696
Rural	25.4	17.2	42.6	9.2	11.5	20.8	34.6	28.7	63.3	32.8	4,641
Region											
Central 1	23.1	12.5	35.6	14.8	19.1	33.9	37.8	31.6	69.5	48.8	505
Central 2	20.2	15.3	35.5	15.1	20.9	36.0	35.3	36.2	71.5	50.4	470
Kampala	13.0	9.5	22.5	25.6	22.0	47.6	38.5	31.5	70.0	67.9	309
East Central	25.6	17.9	43.5	9.5	13.9	23.4	35.1	31.8	66.9	34.9	552
Eastern	26.2	19.4	45.6	9.5	10.5	20.1	35.7	29.9	65.7	30.6	824
North	29.5	16.5	46.0	5.2	5.6	10.9	34.7	22.1	56.8	19.1	915
West Nile	34.0	13.4	47.4	7.1	6.6	13.7	41.1	20.0	61.1	22.4	308
Western	23.1	17.5	40.5	12.4	8.2	20.6	35.5	25.7	61.2	33.7	799
Southwest	21.1	15.9	37.0	9.5	17.3	26.8	30.6	33.2	63.8	42.0	656
North Sub-regions											
IDP	37.3	20.7	58.0	4.6	7.0	11.6	41.8	27.7	69.5	16.6	368
Karamoja	16.1	7.7	23.8	0.0	0.6	0.6	16.1	8.3	24.4	2.3	210
Education											
No education	21.6	23.0	44.6	3.8	9.4	13.2	25.4	32.4	57.8	22.8	1,315
Primary	26.8	15.5	42.3	10.5	11.9	22.4	37.3	27.5	64.8	34.6	3,211
Secondary+	19.8	7.2	27.0	24.7	20.9	45.6	44.5	28.1	72.7	62.8	811
Total	24.5	16.1	40.6	11.0	12.7	23.7	35.5	28.8	64.2	36.9	5,337

[1] Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrheic women who are not using family planning and whose last birth was mistimed, and fecund women who are neither pregnant nor amenorrheic and who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are fecund women who are not using any method of family planning and say they are unsure whether they want another child or who want another child but are unsure when to have the birth unless they say it would not be a problem if they discovered they were pregnant in the next few weeks. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrheic women whose last child was unwanted, and fecund women who are neither pregnant nor amenorrheic and who are not using any method of family planning and who want no more children. Excluded from the unmet need category are pregnant and amenorrheic women who became pregnant while using a method (these women are in need of a better method of contraception).

[2] Using for spacing is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for limiting is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

[3] Nonusers who are pregnant or amenorrheic and women whose pregnancy was the result of a contraceptive failure are not included in the category of unmet need, but are included in total demand for contraception (since they would have been using had their method not failed).

G. Malaria

Malaria is a leading public health concern in Uganda, especially among pregnant women and children under the age of five. Use of mosquito nets, particularly insecticide-treated nets (ITN), indoor residual spraying, prevention of malaria during pregnancy through intermittent preventive treatment (IPT), and prompt, effective treatment of fever with artimisinin combination therapy (ACT) are the primary health interventions used to reduce malaria transmission and malaria-associated mortality.

Table 8 shows key malaria indicators for the country as a whole. Although 34 percent of Ugandan households report owning a mosquito net, only half of them (16 percent of all households) own an ITN. Just 11 percent of children under age five and pregnant women slept under an ITN the night before the survey.

Table 8. Malaria indicators

Possession and use of mosquito nets, preventive malaria treatment during pregnancy, and treatment of children with fever using antimalarial drugs, by urban-rural residence, Uganda 2006

Malaria indicators	Residence		
	Urban	Rural	Total
Mosquito nets			
Percentage of households with at least one mosquito net (treated or untreated)	60.6	29.4	34.3
Percentage of households with at least one insecticide- treated net (ITN)[1]	26.0	14.0	15.9
Percentage of children under 5 who slept under a mosquito net the night before the survey	49.6	18.1	21.6
Percentage of children under 5 who slept under an insecticide-treated net (ITN) the night before the interview[1]	21.4	8.2	9.7
Percentage of pregnant women age 15-49 who slept under a mosquito net the night before the interview	49.2	21.8	24.5
Percentage of pregnant women age 15-49 who slept under an insecticide-treated net (ITN) the night before the interview [1]	22.9	8.7	10.1
Preventive malaria treatment during pregnancy			
Percentage of last births in the 5 years preceding the survey for which the mother took antimalarial drugs for prevention during the pregnancy	58.8	48.4	49.8
Percentage of last births in the 5 years preceding the survey for which the mother got intermittent preventive treatment (IPT) during an antenatal visit [2]	18.2	16.3	16.6
Treatment of fever			
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs	57.8	62.1	61.8
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs the same day/next day after developing fever	26.3	29.2	29.0
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took Coartem the same/next day after developing fever	0.3	1.1	1.1
Number of households	1,389	7,481	8,870
Number of children under five years of age	910	7,437	8,347
No. of pregnant women age 15-49	102	917	1,019
Number of last births in the five years preceding the survey	664	4,370	5,035
Number of living children under age five years with fever in the two weeks preceding the survey	217	2,921	3,138

[1] An insecticide-treated net (ITN) is a permanent net that does not require any treatment, a pretreated net obtained within the last six months or a net that has been soaked with insecticide within the past six months.
[2] Intermittent preventive treatment is preventive treatment with at least two doses of SP/Fansidar during antenatal visit.

Pregnant women who carry the malaria parasite may be at risk of serious problems such as low birth weight, stillbirth, and spontaneous abortion. As a protective measure, the World Health Organization recommends that pregnant women receive intermittent preventive treatment (IPT) using two doses of sulfadoxine-pyrimethamine (SP) during the second and early in the third trimester of pregnancy. In Uganda, while mothers of half of the last live births in the five years preceding the survey took antimalarial drugs for prevention during pregnancy, only 17 percent received complete IPT during an antenatal visit for their last live birth.

Since the major manifestation of malaria is fever, in the individual interview mothers were asked whether their children under age five had had a fever in the two weeks preceding the survey. If reported, the mother was asked if the child was given any drugs. Among children who had fever in the two weeks preceding the survey, 62 percent took an antimalarial drug. However, less than half of those (29% of children with fever) received the antimalarial the same day as onset of symptoms or the next day.

As of April 2006, Uganda changed its recommendation for the first-line treatment for malaria to artemisinin combination therapy (ACT) with Coartem. Table 8 shows that 1 percent of children with fever took Coartem on the same day or day following the onset of fever. Because the 2006 UDHS fieldwork was carried out immediately after the policy change, the low coverage of Coartem is to be expected.

Urban households are twice as likely as rural households to own at least one mosquito net (61% compared with 29%). Ownership of ITNs is also higher in urban areas. One in four urban households owns at least one ITN compared with 14 percent of rural households. Ownership of mosquito nets and ITNs varies by region. Kampala has by far the highest proportion of households owning at least one mosquito net (66%). Over 40 percent of households own at least one net in East Central and Eastern while less than 25 percent of households own at least one net in Western and Southwest.

The regional pattern of ownership of ITNs differs from the pattern of ownership of any mosquito net. The region with the highest proportion of households with at least one ITN is North, with almost one in three households owning at least one ITN. The high rate of ITN ownership among households in IDP camps (42%) contributes to high ITN ownership in the North region. The proportion of households owning at least one ITN is also above the national average in Kampala (23%), West Nile (22%), and Eastern (18%). ITN ownership is lowest in Central 1 where 8 percent of households in own at least one ITN.

Table 9. Household ownership of mosquito nets

Percentage of households with at least one mosquito net (treated or untreated) and with at least one insecticide-treated net (ITN), by background characteristics, Uganda 2006

Background characteristic	Percentage with at least one mosquito net	Percentage with at least one insecticide-treated mosquito net (ITN)[1]	Number of households
Residence			
Urban	60.6	26.0	1,389
Rural	29.4	14.0	7,481
Region			
Central 1	35.7	8.4	1,029
Central 2	28.9	10.7	920
Kampala	65.6	22.9	663
East Central	27.8	10.8	863
Eastern	44.1	18.4	1,168
North	41.5	28.8	1,385
West Nile	28.8	22.2	473
Western	20.0	10.6	1,289
Southwest	23.1	11.3	1,081
North Sub-regions			
IDP	53.1	41.8	594
Karamoja	13.5	5.9	328
Total	34.3	15.9	8,870

[1] An insecticide-treated net (ITN) is 1) a factory-treated net that does not require any further treatment, or 2) a pretreated net obtained within the past 12 months, or 3) a net that has been soaked with insecticide within the past 12 months.

H. Child Health

The 2006 UDHS obtained information on a number of key child health indicators, including immunization of young children and treatment practices when a child is ill.

Vaccination of Children

According to the World Health Organization a child is considered fully vaccinated if he or she has received a BCG vaccination against tuberculosis; three doses of DPT vaccine to prevent diphtheria, pertussis and tetanus, at least three doses of polio vaccine, and one dose of measles vaccine. These vaccinations should be received during the first year of life. The UDHS 2006 collected information on the coverage for these vaccinations among all children under age five.

Information on vaccination coverage was obtained in two ways—from health cards and from verbal reports of mothers. All mothers were asked by interviewers to show the health cards on which their children's vaccinations are recorded. If the card was available, the interviewer copied into the questionnaire the dates on which each vaccination was received. If a vaccination was not recorded on the health card, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present a health card for her child, she was asked to recall whether the child had received BCG, polio, DPT and measles. If she indicated that the child had received the polio or DPT vaccines, she was asked about the number of doses that the child received.

Taking into consideration the vaccination schedule, Table 10 presents information on vaccination coverage for children age 12-23 months. By this age, children should be fully vaccinated against the major preventable childhood illnesses. Coverage levels include data from both health cards and verbal reports of mothers. Forty-six percent of children age 12-23 months were fully vaccinated. Nine in ten children received BCG, DPT 1, and polio 1. However, the proportion of children who received the second and third doses of DPT and polio declined significantly. Only around four in five children received second doses of DPT and polio. The proportions of children age 12-23 months who received DPT 3 and polio 3 dropped to 64 percent and 59 percent, respectively. Two in every three children were vaccinated against measles.

Only 7 percent of children received no immunizations at all. Receiving no vaccines at all was most common in the central region, with 17 percent of children in Central 1 and 10 percent of children in Central 2 receiving no vaccinations. Full immunization was higher in urban areas where 51 percent of children received all vaccinations than in rural areas where 46 percent of children received all vaccinations. Full immunization is highest in Western region, where just over half of children received all vaccinations.

Full immunization varies by mother's education, rising from 39 percent among children of mothers with no education, to 46 percent among children of mothers with primary education, to 58 percent among children of mothers with secondary and higher education.

Table 10. Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card seen, by background characteristics, Uganda 2006

Background characteristic	BCG	DPT[1] 1	DPT[1] 2	DPT[1] 3	Polio[2] 0	Polio[2] 1	Polio[2] 2	Polio[2] 3	Measles	All[3]	No vaccinations	Percentage with a vaccination card	Number of children
Sex													
Male	89.9	88.4	79.6	62.7	46.4	89.6	81.0	58.2	67.1	45.5	6.7	64.1	813
Female	91.1	91.3	82.1	65.1	43.4	91.1	81.6	60.4	69.1	47.0	6.6	62.0	777
Residence													
Urban	92.0	92.7	83.3	67.2	68.9	93.1	83.5	59.5	76.7	51.1	5.8	62.5	156
Rural	90.4	89.5	80.5	63.5	42.4	90.0	81.1	59.2	67.1	45.7	6.8	63.1	1,434
Region													
Central 1	76.8	75.9	68.1	51.7	20.5	79.1	68.2	51.8	59.9	41.4	17.4	54.9	160
Central 2	88.4	87.1	77.6	63.0	36.8	87.0	79.5	59.4	67.2	48.6	10.3	61.9	127
Kampala	91.0	91.0	82.0	68.3	65.7	91.0	80.5	56.2	71.3	46.8	6.8	61.0	74
East Central	88.9	88.2	75.8	60.2	41.1	88.3	74.5	53.8	58.3	41.9	6.9	63.6	190
Eastern	95.1	92.6	84.4	66.6	60.4	92.3	82.9	61.9	63.6	46.8	3.6	73.3	267
North	96.3	95.9	85.6	67.1	59.2	97.0	90.5	56.4	79.2	46.5	1.1	59.1	260
West Nile	96.4	96.3	86.7	61.1	65.7	95.6	82.8	58.2	64.9	46.4	3.0	76.6	85
Western	91.7	91.6	85.4	70.7	35.8	93.0	84.5	65.7	75.3	51.0	5.5	58.1	239
Southwest	86.5	87.0	78.2	61.3	27.7	86.2	81.0	64.9	67.4	45.5	9.9	62.1	189
North Sub-regions													
IDP	97.1	96.4	92.0	84.1	74.6	94.9	89.9	60.9	84.8	53.6	1.4	61.6	101
Karamoja	95.8	96.4	85.1	66.1	62.3	97.3	87.1	62.8	79.4	48.2	2.2	48.8	58
Mother's education													
No education	89.7	86.6	78.4	58.2	38.8	87.2	77.9	54.2	64.1	39.0	8.5	55.7	323
Primary	89.9	90.0	80.1	63.6	43.0	90.2	80.9	58.7	66.4	46.0	6.8	65.4	1,045
Secondary+	94.6	93.5	87.9	73.6	62.9	95.3	87.9	69.2	81.7	57.9	3.3	62.7	222
Total	90.5	89.8	80.8	63.9	45.0	90.3	81.3	59.3	68.1	46.2	6.7	63.1	1,590

[1] Includes children who received either DPT or DPT-HepB-Hib
[2] Polio 0 is the polio vaccination given at birth.
[3] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

Childhood Illnesses

Acute respiratory illness (ARI) and dehydration from severe diarrhea are major causes of childhood mortality. Prompt medical attention for children experiencing symptoms of these illnesses is, therefore, crucial in reducing child deaths. To obtain information on how childhood illnesses are treated, mothers were asked (for each child under five years) whether in the two weeks before the survey the child had experienced a cough with short, rapid breathing that was chest-related (symptoms of ARI), fever, or diarrhea.

Data from the 2006 UDHS show that 15 percent of children under five had symptoms of ARI and 41 percent had fever in the two weeks preceding the survey (data not shown). Table 11 shows that almost half of children (45%) had symptoms of ARI or fever in the two weeks before the interview. Almost three-quarters of these children were taken to a health facility or provider.

The prevalence of symptoms of ARI or fever ranges from 25 percent of children under age five in Kampala to 55 percent in North and 56 percent in Eastern. Over 60 percent of children with such symptoms were taken to a health facility or provider in every region. Children with symptoms of ARI or fever were least likely to receive

health care in East Central and Eastern (65%), and most likely to receive care in North and Central 1 (83%).

Table 11. Treatment for acute respiratory infection or fever

Percent of children under five years who had symptoms of acute respiratory infection (ARI) and/or fever in the two weeks preceding the survey, and among those, the percentage for whom treatment was sought from a health facility or provider, by background characteristics, Uganda 2006

	Among children under age five:		Among children under age five with symptoms of ARI or fever:	
Background characteristic	Percentage with symptoms of ARI[1]/fever in the two weeks preceding the survey	Number of children	Percentage for whom treatment was sought from a health facility/ provider[2]	Number of children with ARI or fever
Age in months				
<6	34.4	801	70.5	276
6-11	56.7	789	78.5	448
12-23	56.3	1,590	77.3	895
24-35	48.2	1,528	75.2	736
36-47	40.7	1,467	69.7	597
48-59	33.8	1,489	65.8	504
Sex				
Male	44.5	3,765	74.3	1,675
Female	45.7	3,898	72.7	1,780
Residence				
Urban	29.8	872	75.1	260
Rural	47.1	6,791	73.4	3,196
Region				
Central 1	44.0	733	83.4	323
Central 2	39.3	659	79.7	259
Kampala	24.7	387	73.9	96
East Central	48.5	829	65.3	402
Eastern	56.4	1,222	65.3	689
North	55.2	1,310	82.5	723
West Nile	38.7	409	67.3	158
Western	39.9	1,185	68.6	473
Southwest	36.0	928	76.2	334
North Sub-regions				
IDP	66.0	539	84.8	356
Karamoja	40.9	292	76.5	119
Mother's education				
No education	46.7	1,714	70.3	800
Primary	46.2	4,874	74.4	2,254
Secondary+	37.3	1,076	74.8	401
Total	45.1	7,664	73.5	3,456

[1] Symptoms of ARI (cough accompanied by short, rapid breathing that is chest-related) are considered a proxy of pneumonia.
[2] Excludes pharmacy, shop, and traditional practitioner

Table 12 shows the prevalence of diarrhea and diarrhea treatment practices among children under five in the two weeks preceding the survey. The administration of oral rehydration therapy (ORT) is a simple means of counteracting the effect of dehydration brought on by diarrhea. During ORT, the child is given either a solution

made by mixing water with a commercially prepared packet of oral rehydration salts (ORS), a homemade sugar-salt-water solution or other recommended homemade fluid, or simply by increasing the amount of fluids given to the child.

In the 2006 UDHS, mothers were asked whether children under five had diarrhea in the two weeks preceding the survey. For children with diarrhea, mothers were asked what had been done to treat the diarrhea. One in four children had diarrhea in the two weeks preceding the survey (Table 12). Seven in ten children with diarrhea were taken to a facility or provider, 40 percent of children were given solution prepared from ORS packets and 43 percent were given some form of ORT.

Table 12. Prevalence and treatment of diarrhea

Percentage of children under five years who were sick with diarrhea in the two weeks preceding the survey, and among children with diarrhea, percentage for whom treatment was sought from a health facility or provider, percentage given a solution made from oral rehydration salt (ORS) packets, and percentage given any oral rehydration therapy (ORT), by background characteristics, Uganda 2006

	Among children under age five:		Among children under age five with diarrhea:			
Background characteristic	Percentage with diarrhea in the two weeks preceding the survey	Number of children	Percentage for whom treatment was sought from a health facility/ provider[1]	Percentage given solution from ORS packet	Percentage given any ORT[2]	Number of children
Age in months						
<6	17.9	801	55.1	16.1	19.3	143
6-11	45.3	789	74.3	46.5	48.7	358
12-23	42.1	1,590	74.5	45.0	48.8	669
24-35	24.8	1,528	68.5	38.8	45.2	378
36-47	16.4	1,467	68.3	31.6	34.9	241
48-59	12.4	1,489	64.3	37.2	39.8	185
Sex						
Male	26.8	3,765	71.4	41.4	44.3	1,008
Female	24.8	3,898	68.9	37.8	42.5	966
Residence						
Urban	19.7	872	68.9	41.4	47.5	172
Rural	26.5	6,791	70.3	39.4	43.0	1,802
Region						
Central 1	23.4	733	73.3	32.6	37.0	171
Central 2	20.7	659	66.4	38.0	50.5	136
Kampala	16.5	387	70.8	36.2	42.0	64
East Central	22.7	829	57.8	33.7	37.0	188
Eastern	26.4	1,222	71.2	41.9	46.8	323
North	35.5	1,310	88.5	55.8	58.6	465
West Nile	22.4	409	63.8	36.0	42.0	92
Western	21.1	1,185	67.1	32.9	34.0	250
Southwest	30.6	928	51.9	27.3	28.2	284
North Sub-regions						
IDP	44.3	539	91.4	68.4	69.6	239
Karamoja	28.7	292	81.1	52.6	53.6	84
Mother's education						
No education	30.7	1,714	74.3	45.1	47.5	526
Primary	25.6	4,874	68.8	37.7	42.0	1,249
Secondary+	18.5	1,076	67.8	37.4	41.6	199
Total	25.8	7,664	70.2	39.6	43.4	1,974

[1] Excludes pharmacy, shop, and traditional practitioner
[2] Includes ORS, recommended home fluids, and increased fluids

There is regional variation in the prevalence of diarrhea. Children under age five in North were more than twice

as likely to have had diarrhea in the two weeks preceding the survey as were children in Kampala (36 percent compared with 17 percent). The proportion of children with diarrhea for whom treatment was sought ranges from 52 percent in Southwest to 89 percent in North. There is regional variation in the proportion of children with diarrhea who were given ORT. Less than three in ten children with diarrhea in Southwest were given any ORT, compared with almost six in ten children in North.

Tables 11 and 12 show that children in IDP camps are more likely than other children to be taken to a health facility or provider when they have symptoms of ARI/fever or diarrhea. Eighty-five percent of children in camps with symptoms of ARI or fever are taken to a health facility or provider, as are 91 percent of children with diarrhea.

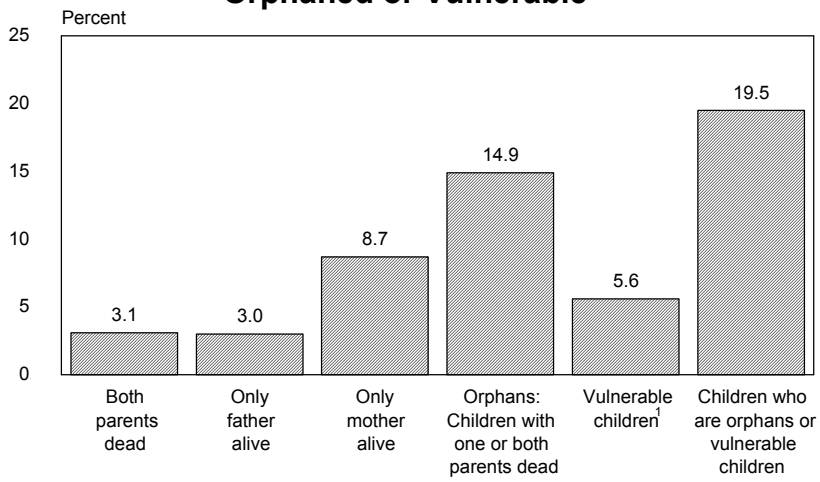
I. Orphanhood and Vulnerability

One consequence of the HIV epidemic is an increasing number of children under age 17 who are orphans or vulnerable children (OVC). The 2006 UDHS included questions on the survival status of all parents of children under age 18 in the sampled households. In addition, a series of questions was asked to ascertain whether any children in the household were vulnerable. Any child with one or both parents deceased is considered an orphan. A child is defined as vulnerable if he or she has a parent who has been chronically ill for three of the past 12 months, who lives in a household with a chronically ill adult, or who lives in a household where an adult died in the past 12 months. By this definition, a child classified as vulnerable may also happen to have one or both parents deceased. However, a child with one or both parents deceased is not considered vulnerable unless they satisfy one of the three conditions described above. A total of 25,706 children under the age of 18 were identified in the households in the UDHS sample.

Figure 1 shows the proportion of children under 18 in Uganda who are orphans or vulnerable children. Fifteen percent of children are orphans, 6 percent of children are vulnerable, and one in five children is orphaned or vulnerable.

Figure 2 shows the percentage of children under 18 currently attending school by OVC status. A child is considered to be currently attending school if he or she attended school at any time during the school year ongoing at the time of the survey. Results of the 2006 UDHS show that among primary- school-age children, roughly equal proportions of OVC and non-OVC are currently attending school. However, among secondary-school-age children, orphans and OVC are less likely than non-OVC children to currently attend school (75 percent compared with 83 percent).

Figure 1 Percentage of Children Age 0-17 Who Are Orphaned or Vulnerable

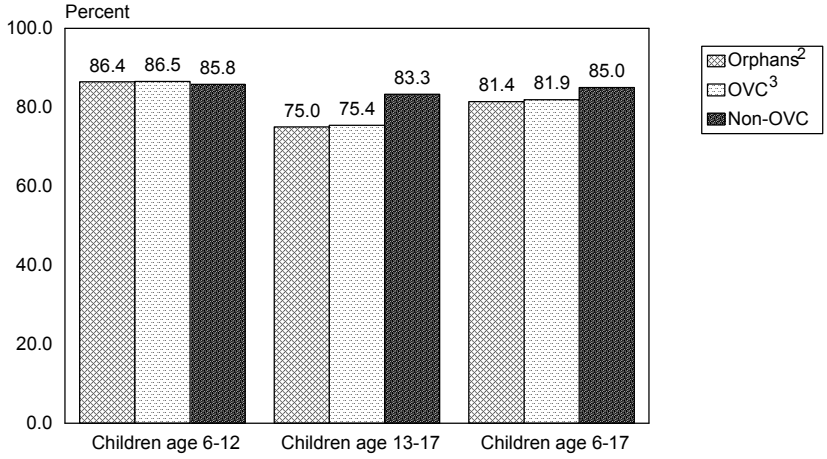


Note: Subgroups of orphans do not sum to the total because of rounding. A child may classify as both an orp and a vulnerable child. Therefore, the orphans and vulnerable chldren categories do not sum to the orphans vulnerable children total.

[1] Vulnerable child: a child who has a very sick parent OR lives in a household where an adult has been very sick OR died in the past 12 months

UDHS 2006

Figure 2 Percentage of Orphaned and Vulnerable Children Currently Attending School[1]



[1] Currently attending school means the child attended at any time during the current school year

[2] Orphan: Any child with one or both parents dead

[3] Orphan or vulnerable: a child with one or both parents dead, OR who has a parent who has been chronically ill for three of the past 12 months, OR who lives in a house with a chronically ill adult, OR who lives in a household where an adult died in the past 12 months

UDHS 2006

J. Nutrition

Breastfeeding

Breast milk is the optimal source of nutrients for infants. Children who are exclusively breastfed receive only breast milk. Exclusive breastfeeding is recommended during the first six months of a child's life because it limits exposure to diseases as well as provides all of the nutrients that a baby requires. Table 13 shows the breastfeeding practices of mothers of children under three years of age.

Breastfeeding is nearly universal in Uganda for children under six months of age. Almost nine in ten children age 12-17 months are still breastfed, as are three in five children age 18-23 months. Exclusive breastfeeding, on the other hand tends to be lower. Though high among children less than two months of age (84 percent), exclusive breastfeeding drops markedly to 65 percent among children age 2-3 months. Overall, only 60 percent of children under six months are exclusively breastfed.

After the age of six months, children need complementary foods in order to satisfy their nutritional requirements. Almost four in five children age 6-8 months receive complementary foods. Among children age 9-11 months, this percentage rises to 90 percent. Around one in five children age 12-23 months are fed with a bottle. This practice is regarded as an exposure of children to risk of infection.

Table 13. Breastfeeding status by age

Percent distribution of youngest children under three years living with the mother by breastfeeding status and percentage of children under three years using a bottle with a nipple, according to age in months, Uganda 2006

Age in months	Breastfeeding and consuming: Not breast-feeding	Exclusively breastfed	Plain water only	Non-milk liquids/ juice	Other milk	Comple-mentary food	Total	Number of youngest children under three years	Percentage using a bottle with a nipple[1]	Number of all children under three years
0-1	0.0	84.3	9.2	0.3	4.2	2.1	100.0	225	2.7	228
2-3	0.9	64.7	4.6	1.9	13.8	14.1	100.0	294	11.1	299
4-5	0.2	34.8	8.7	3.1	18.0	35.2	100.0	269	18.9	273
6-8	1.1	10.8	4.0	2.2	4.1	77.7	100.0	396	25.6	403
9-11	3.2	1.9	3.0	0.2	2.1	89.5	100.0	371	23.8	386
12-17	11.7	0.4	1.2	0.1	0.5	86.1	100.0	778	20.6	803
18-23	39.5	0.4	0.5	0.3	0.5	58.8	100.0	705	19.5	786
24-35	83.7	0.1	0.0	0.0	0.0	16.2	100.0	884	15.5	1,528
0-3	0.5	73.2	6.6	1.2	9.6	8.9	100.0	519	7.5	527
0-5	0.4	60.1	7.3	1.9	12.5	17.9	100.0	789	11.4	801
6-9	1.7	8.4	4.0	1.9	3.9	80.2	100.0	523	26.8	534
12-15	8.9	0.4	1.4	0.0	0.4	88.9	100.0	546	21.0	553
12-23	24.9	0.4	0.9	0.2	0.5	73.1	100.0	1,482	20.1	1,590
20-23	45.6	0.5	0.4	0.4	0.3	52.7	100.0	460	19.0	515

Note: Breastfeeding status refers to a 24-hour period (yesterday and the past night). Children classified as breastfeeding and consuming plain water only consume no supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, water-based liquids/juice, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and water-based liquids and who do not receive complementary foods are classified in the water-based liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

[1] Based on all children under three years

Nutritional Status of Children

Under nutrition places children at increased risk of illness and death and has also been shown to be related to impaired mental development. Anthropometry provides important indicators of children's nutritional status. One in three households in the 2006 UDHS sample, height and weight measurements were obtained for all children born in the five years before the survey. The height and weight data are used to compute three summary indices of nutritional status: height-for-age; weight-for-height; and weight-for-age. These three indices are expressed as standard deviation units from the median for the international reference population recommended by the World Health Organization. Children who fall more than two standard deviations below (-2 SD) the reference median are regarded as undernourished, while those who fall more than three standard deviations below (-3 SD) the reference median are considered severely undernourished. Table 14 shows the nutritional status of children under five in Uganda by background characteristics.

Children whose height-for-age is below minus two standard deviations from the median of the reference population are considered stunted or short for their age. Stunting is the outcome of failure to receive adequate nutrition over an extended period and is also affected by recurrent or chronic illness. Thirty-two percent of children under five are short for their age; 12 percent are severely stunted.

Table 14. Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Uganda 2006

Background characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	
Age in months							
<6	2.2	8.2	1.3	2.1	0.4	3.5	235
6-8	2.7	10.5	0.0	6.0	1.5	11.9	143
9-11	10.9	26.1	3.8	18.1	13.7	36.5	145
12-17	10.0	34.4	1.4	13.1	8.8	36.2	297
18-23	13.7	42.4	2.2	11.1	6.4	26.8	281
24-35	15.2	33.5	0.5	4.0	4.7	22.8	536
36-47	12.4	36.3	0.4	1.4	3.1	15.0	526
48-59	15.3	38.4	0.3	0.8	2.7	16.2	520
Sex							
Male	13.4	34.1	0.9	6.1	4.6	20.8	1,359
Female	10.4	30.3	1.0	4.5	4.5	19.9	1,325
Residence							
Urban	6.9	22.4	1.6	5.5	3.2	13.7	274
Rural	12.5	33.3	0.9	5.3	4.7	21.1	2,410
Region							
Central 1	12.4	33.3	1.5	4.5	4.6	17.8	273
Central 2	5.9	24.3	0.0	2.3	3.0	12.4	250
Kampala	5.0	18.7	2.3	6.9	2.6	11.6	129
East Central	8.2	30.3	1.8	9.3	7.0	27.1	308
Eastern	8.9	29.0	0.0	2.2	2.6	16.4	406
North	15.8	34.0	0.8	5.5	7.6	28.0	400
West Nile	11.3	32.5	0.7	4.9	4.6	22.1	155
Western	14.0	34.1	0.3	4.0	3.0	17.6	422
Southwest	18.6	43.1	2.1	9.4	4.9	23.8	342
North Sub-regions							
IDP	11.4	31.2	0.8	5.1	4.6	23.6	171
Karamoja	27.4	47.6	0.5	9.1	18.2	48.9	88
Mother's education[2]							
No education	12.3	35.9	1.1	6.3	6.7	25.6	554
Primary	12.3	33.5	1.0	5.0	4.1	20.4	1,578
Secondary+	4.9	16.3	0.7	5.5	2.4	9.9	337
Missing	100.0	100.0	0.0	0.0	0.0	0.0	2
Mother's status							
Mother interviewed	11.0	31.5	1.0	5.4	4.4	20.1	2,405
Mother not interviewed, but in household	23.1	43.0	0.0	1.8	7.1	22.7	65
Mother not interviewed, not in household[3]	17.9	37.2	0.3	5.1	5.5	22.6	208
Total	11.9	32.2	0.9	5.3	4.6	20.4	2,684

Note: Table is based on children who stayed in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO International Reference Population. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

[1] Includes children who are below -3 standard deviations (SD) from the International Reference Population median

[2] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire

[3] Includes children whose mothers are deceased

Children whose weight-for-height is below minus two standard deviations from the median of the reference population are considered wasted or thin. Wasting represents the failure to receive adequate nutrition in the period immediately before the survey, and typically is the result of recent illness episodes, especially diarrhea, or

of a rapid deterioration in food supplies. In Uganda, 5 percent of children were wasted at the time of the survey.

Children whose weight-for-age is below minus two standard deviations from the median of the reference population are considered underweight. This measure reflects the effects of both acute and chronic undernutrition. One in five children is underweight.

Nutritional statistics vary by background characteristics. Especially striking are differences by place of residence and mother's education. For example, rural children are almost 50 percent more likely to be stunted and 54 percent more likely to be underweight than urban children. By region, the proportion of children who are underweight ranges from 12 percent in Kampala to 28 percent in the North. In the special region of Karamoja, this proportion rises to 49 percent.

Results on nutritional status by mother's level of educational attainment indicate that women with secondary education or higher are less likely to have children who are stunted or underweight than women who have no education or primary education. The impact of weaning can be seen in children around the age of nine months: all three nutritional measures deteriorate significantly between children age 6-8 months and children age 9-11 months.

K. Maternal Care

Proper care during pregnancy and delivery are important for the health of both the mother and the baby. In the 2006 UDHS, women who had given birth in the five years preceding the survey were asked a number of questions about maternal health care. For the last live birth in that period, mothers were asked whether they had obtained antenatal care during the pregnancy and whether they had received tetanus toxoid injections during pregnancy. For each birth in the same period, the mothers were also asked what type of assistance they received at the time of childbirth and where the birth took place. Table 15 presents the information on these key maternal care indicators.

Antenatal Care and Tetanus Toxoid

Antenatal care from a trained provider is important to monitor the pregnancy and to diagnose and treat complications in pregnancy. According to the 2006 UDHS results, 94 percent of women who gave birth in the five years preceding the survey received antenatal care (ANC) from a health professional at least once. Urban women were slightly more likely to receive ANC at least once than rural women (97% compared to 93%). Although there are slight variations in use of ANC by region, the percentage of women who have at least one ANC visit is 90 percent or higher in every region. ANC coverage is lowest in Central 1 (90%) and Southwest (91%).

Tetanus Toxoid injections are given during pregnancy to prevent neonatal tetanus, a major cause of infant deaths. Table 15 indicates that 68 percent of women who gave birth during the five years before the survey were protected against neonatal tetanus for their last birth.

Table 15. Maternity care indicators

Among women who had a live birth in the five years preceding the survey, percentage who received antenatal care from a health professional for the last live birth and percentage whose last live birth was protected against neonatal tetanus, and among all live births in the five years before the survey, percentage delivered by a health professional and percentage delivered in a health facility, by background characteristics, Uganda 2006

Background characteristic	Percentage with antenatal care from a health professional[1] for last birth	Percentage whose last live birth was protected against neonatal tetanus[2]	Number of women	Percentage delivered by a health professional	Percentage delivered in a health facility	Number of births
Mother's age at birth						
<20	94.5	65.3	777	49.9	48.8	1,436
20-34	93.7	69.0	3,427	41.9	41.0	5,857
35+	92.0	68.9	831	33.3	32.1	1,131
Residence						
Urban	97.2	69.7	668	80.0	78.7	953
Rural	93.0	68.2	4,367	37.3	36.3	7,470
Region						
Central 1	89.7	57.8	497	51.8	50.6	814
Central 2	93.1	71.5	428	50.6	51.1	710
Kampala	96.7	70.0	298	89.7	89.6	417
East Central	92.7	68.9	510	55.6	54.2	905
Eastern	95.1	67.6	755	41.1	39.5	1,317
North	93.6	72.3	872	30.9	29.9	1,474
West Nile	98.7	75.8	289	34.5	33.5	462
Western	93.8	68.1	772	31.2	29.8	1,309
Southwest	91.4	66.2	615	32.1	31.3	1,013
North Sub-regions						
IDP	93.2	79.6	355	34.3	34.6	612
Karamoja	92.0	72.7	187	18.1	15.4	322
Education						
No education	90.1	67.3	1,087	26.0	25.0	1,910
Primary	94.0	66.7	3,156	40.8	39.5	5,358
Secondary+	96.4	76.7	792	74.9	74.9	1,155
Total	93.5	68.4	5,035	42.1	41.1	8,423

[1] Doctor, nurse, or midwife

[2] Includes mothers with two injections during the pregnancy of the last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within ten years of the last live birth), or five or more injections prior to the last live birth

Childbirth Care

Proper medical attention and hygienic conditions during childbirth can reduce the risk and severity of complications and infections that can cause the death or serious illness of the mother and/or the baby. About four in ten women give birth in a health facility. Regional differences are marked. The likelihood of giving birth in a health facility ranges from 15 percent in Karamoja to 90 percent in Kampala. Younger women and women with higher education are more likely than other women to utilize health facilities when giving birth.

References

Uganda Bureau of Statistics (UBOS). (Forthcoming). *Uganda National Household Survey 2005-2006*. Kampala, Uganda: Uganda Bureau of Statistics.

Uganda Bureau of Statistics (UBOS) and ORC Macro. 2001. *Uganda Demographic and Health Survey 2000-2001.* Entebbe, Uganda and Calverton, Maryland, USA: Uganda Bureau of Statistics and ORC Macro.

Ministry of Health (MOH) [Uganda] and ORC Macro. 2006. *Uganda HIV/AIDS Sero-behavioural Survey 2004-2005*. Calverton, Maryland, USA: Ministry of Health and ORC Macro.