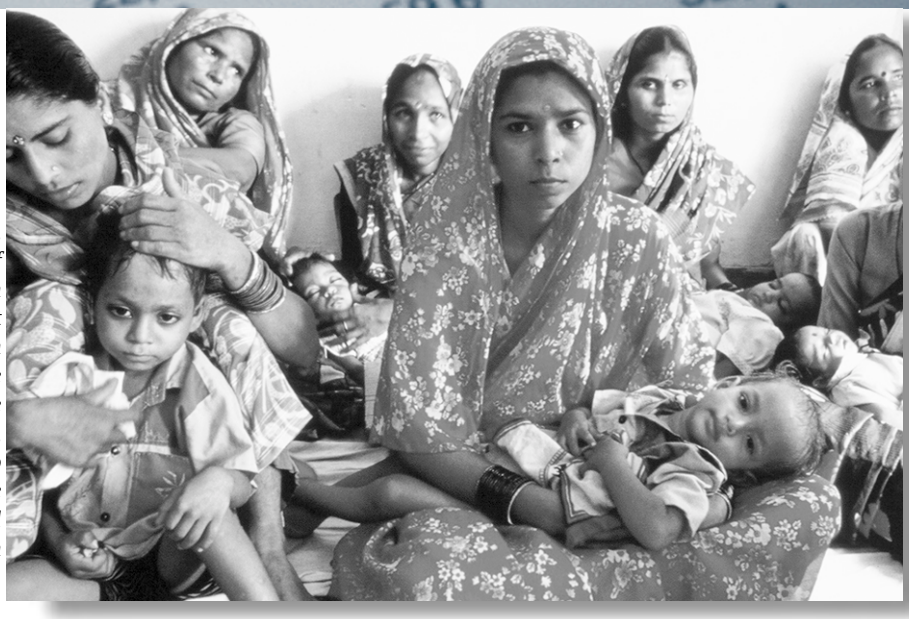
Volume 3, Number 1
Spring 2001

DHS+ Dimensions

A semiannual newsletter of the Demographic and Health Surveys project



In India, one out of three women and almost half the children under age three are undernourished, according to findings from the Indian National Family Health Survey.

MEASURE DHS+
www.measuredhs.com

Contents

Fertility Falls in Colombia 3
Egypt: Measures of Maternal Health 4
DHS Tests Vitamin A Levels 5
Summary of DHS Surveys 6
Tanzania Seminar Addresses Mortality 8
DHS Contributes to MICS Surveys 9
DHS+ Visitors and Events 10
Publications Update 11
Selected DHS Statistics 12

India Survey Reveals High Levels of Malnutrition Among Mothers and Children

Alarming levels of malnutrition among Indian children and their mothers was a major topic in New Delhi last November at the national seminar for the second Indian National Family Health Survey (NFHS-2). Inadequate nutrition takes a heavy toll on families: malnutrition can be a factor in maternity-related complications and infant deaths, and it can also compromise children's physical and mental development.

Women's nutritional status

Survey findings indicate that more than one out of three women is undernourished. Nutritional problems are particularly serious for rural women, illiterate women, and poorer women. The states having the highest levels of undernutrition among women are Orissa (48 percent) and West Bengal (44 percent). At the same time, obesity is a growing problem among urban women and women with at least a high school education. About one-fourth of them are considered obese.

Anemia levels

Anemia is also widespread among women and children. By means of of blood tests measuring hemoglobin levels, NFHS-2 determined that 52 percent of ever-married women age 15-49 and 74 percent of young children are anemic. Ane-

Continued on page 2

mia is a serious concern for women because it can be an underlying cause of maternal and infant death. It can also increase the risk of premature delivery and low birth weight. In young children, anemia can impair development and increase susceptibility to infectious diseases.

Children's nutritional status

In India, almost half of children under 3 years of age are underweight, a measure of short- and long-term undernutrition. A similar percentage of children are undernourished to the extent that their growth has been stunted (46 percent). Undernutrition, which is most serious among children age 12-35 months, may reflect poor feeding practices, lack of sufficient food, or recent episodes of illness. Undernutrition afflicts a range of children, from 21 percent in Sikkim to the 55 percent in Madhya Pradesh who are underweight.

Infant feeding practices

To help prevent undernutrition, infants should be given breast milk exclusively until they reach about 4 to 6 months of age. In India, however, fewer than 60 percent of infants under the age of 4 months are breastfed. Furthermore, even though almost all children are breastfed, only 37 percent of their mothers give them the first breast milk (colostrum)—a practice recommended because it provides infants with natural immunity. Finally, starting at 6 months, infants need solid or mushy foods in addition to breast milk. Only one-third of infants age 6-9 months receive both breast milk and complementary food. In Bihar, Uttar Pradesh, and Rajasthan, fewer than 20 percent of children receive timely complementary feeding.

Iodization of salt

Another nutritional concern is the prevalence of iodine deficiency and the low use of iodized salt. Iodine deficiency can lead to miscarriages, brain disorders, cretinism, and retarded psychomotor development. Only about 4 out of 10 households in rural areas use adequately iodized salt. The use of iodized salt varies dramatically by state—fewer than 30 percent of households in Tamil Nadu and Andhra Pradesh but 90 percent of households in Mizoram and Himachal Pradesh use adequately iodized salt.

Other topics

In addition to nutritional data, NFHS-2 provides information on household living conditions, educational attainment, women's status and health, family planning, immunization, child health, and AIDS awareness. During the seminar, discussion also centered on changes that have taken place throughout the country since NFHS-1, which was conducted in 1992-93.

Contraceptive prevalence

NFHS-2 found that nearly half of currently married women use contraception—an increase from 41 percent at the time of NFHS-1. Three out of four users rely on sterilization, overwhelmingly female sterilization. Despite expressing a desire to space the births of their children, only 3 percent of women use the condom, and 2 percent each use the pill or IUD. If the unmet need for family planning were met (that is, if the potential demand from women who want to space or limit their number of births but are not using contraception were satisfied), the rate of contraceptive use in India would rise from 48 percent to 64 percent.

Safe motherhood

The percentage of mothers who receive three or more antenatal checkups as recommended (44 percent) is almost unchanged from the percentage recorded for NFHS-1. Most women not receiving checkups believe them unnecessary. But there has been an increase in the proportion of pregnant women receiving two or more doses of tetanus toxoid vaccine (from 55 percent to 67 percent) and iron and folic acid supplementation (from 52 percent to 58 percent).

Childhood immunization

Although strides have been made in programs to immunize children, only 42 percent of children ages 12-23 months have received all of the recommended childhood vaccinations. Yet that coverage is up from the 36 percent reported at the time of NFHS-1. Only 14 percent of children have not received any vaccinations at all, a notable improvement over 30 percent in NFHS-1. The largest increases in immunization coverage have been for polio vaccinations—a result undoubtedly due to the success of the Pulse Polio Immunization Campaigns; still 37 percent of young children had not received the recommended three doses by the time of NFHS-2. The coverage of polio immunizations will have to be broadened if polio is to be eradicated from India in the near future.

Childhood mortality

One out of every 11 children in India dies before reaching age 5. The fact that childhood mortality is particularly high for children born less than 2 years after a previous birth, indicates that children would have a much better chance of surviving if births were spaced further apart. Continuing discrimination against girls (in health care and other areas) is evidenced by the statistic that at ages 1 through 4, girls have almost a 50 percent greater chance of dying than boys the same age.

NFHS-2, conducted during 1998-99, interviewed a nationally representative sample of more than 90,000 ever-married women age 15-49. The national seminar, and a press briefing to disseminate the survey results, were covered by more than 125 members of the press, including 13 television networks.

More details of the survey results are available in the full survey report, which is available on the NFHS Web site (www.nfhsindia.org).

Latest Colombia Survey Finds Fertility in Decline

After a decade of relatively constant fertility, the latest Demographic and Health Survey conducted in Colombia in 2000indicates an important decline in the rate of childbearing. The 2000 Columbia DHS, the fourth in a series of national-level surveys carried out in Colombia, provides a basis for making comparisons and for determining national trends in fertility, contraceptive use, maternal and child health, and numerous other topics.

According to the latest survey, a woman in Colombia will have an average of 2.6 children during her reproductive years. That figure represents a decline in total fertility from a level of 3 children per woman in 1993-95 and 3.2 children in 1984-86. Regional variations in fertility have also declined, to less than one child. The Oriental region has the highest fertility level (2.8 children per woman), while Bogotá has the lowest level (2.4 children per woman). Larger disparities, however, are evident in relation to mothers' education level. There remains a difference of 2.5 children between women with no education and those with higher education, and a difference of 1.2 children between those who have primary and those who have secondary levels of education.

Despite the overall fertility decline in Colombia, there has been an increase in childbearing among adolescents, or women age 15-19, throughout the country. The increase is especially notable in the Oriental and Bogotá regions. According to the 2000 DHS, 15 percent of adolescents are already mothers and 4 percent are pregnant with their first child, for a total of 19 percent of adolescents who have begun childbearing. In 1990, only 13 percent of adolescents were mothers or were pregnant with their first child. Adolescent fertility is higher in rural areas; it diminishes with increased education.

A factor linked to the overall fertility decline in Colombia is the steady increase in the use of modern contraceptives among women in union during the past 10 years. The 2000 DHS indicates that 77 percent of women in union are currently using a contraceptive method.

A factor linked to declining fertility in Colombia is the steady increase in modern contraceptive use among women in union during the past decade.

Modern contraceptive use among women in union has been on the increase from 55 percent in 1990 to 59 percent in 1995 to 64 percent in 2000. Female sterilization is the method most used (27 percent), followed by the pill and IUD (12 percent each). Use of both the condom and injectables doubled (from 3 to 6 percent and 2 to 4 percent, respectively) while the use of traditional methods remained unchanged.

The 2000 survey found a small difference in contraceptive prevalence between urban and rural areas of Colombia (78 percent versus 75 percent). The difference increases the use of modern methods is viewed by residence—particularly IUD, condom and injectable. With relation to sterilization and the pill, the level of use in rural versus urban areas is practically the same; the use of traditional methods is more common in rural areas. By region, the highest levels of contraceptive use are found in Oriental and Bogotá. The Atlantic region continues to show the lowest level of contraceptive use (71 percent), although it has increased by 17 percentage points during the last 10 years.

The majority of women (59 percent) who are married or in union and use a method of family planning do not want any more children. The use of contraception to space births is limited to fewer than 20 percent of users and is higher among younger women. The desire to not have more children grows rapidly with increasing age of the mother and with the number of living children, from 8 percent among women without children to 76 percent among women who have two. More than 90 percent of women who have three children do not want more.

In Colombia, 6 percent of women who are married or in union are considered to have an unmet need for family planning (that is, they are not using family planning but they either want to wait 2 or more years for the next birth or want no more children), primarily for birth spacing. This statistic indicates that if programs were completely effective, the level of contraceptive use would rise from the current levels of 77 percent to 83 percent of women. The unmet need is highest on the two coasts of the country and among women with the lowest levels of education.

Photo here

MEASURE *DHS+* assists countries worldwide in the collection and use of data to monitor and evaluate population, health, and nutrition programs. Funded by the U.S. Agency for International Development (USAID), MEASURE *DHS+* is implemented by Macro International Inc., an Opinion Research Corporation company (ORC Macro), in Calverton, Maryland, with the Population Council and the East-West Center. *DHS+ Dimensions* is published twice a year to provide information about the program and the status of *DHS+* surveys. Send correspondence to MEASURE *DHS+*, ORC Macro, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, USA (Tel.: 301-572-0200; Fax: 301-572-0999; www.measuredhs.com). Project Director: Martin Vaessen.

Egypt headline here

During the past decade, maternal health has been one of the major focuses of the health program in Egypt. The 2000 Egypt Demographic and Health Survey (2000 EDHS) provides detailed information on the extent to which women are obtaining medical care during pregnancy, at the time of delivery, and in the postpartum period. The survey results may also be compared to findings from the five earlier DHS surveys conducted in Egypt to determine trends across time in key maternal care indicators.

Care during pregnancy

Medical care that is administered during pregnancy and at childbirth reduces the risks of illness and death for both the mother and the child. Overall, women in Egypt saw a medical provider for at least some type of care during the pregnancy related to 85 percent of all births that occurred during the 5-year period prior to the 2000 EDHS. Women reported having received antenatal care, or care sought specifically to monitor a pregnancy, for half of the births. Many women did not have regular care, and in the case of only about a third of births did mothers see a provider for four (the recommended minimum number) antenatal-care visits.

Women receive tetanus toxoid injections during pregnancy for the prevention of neonatal tetanus, a major cause of death among infants. Overall, women had one or more tetanus toxoid injection for 72 percent of births in the 5 year period before the survey.

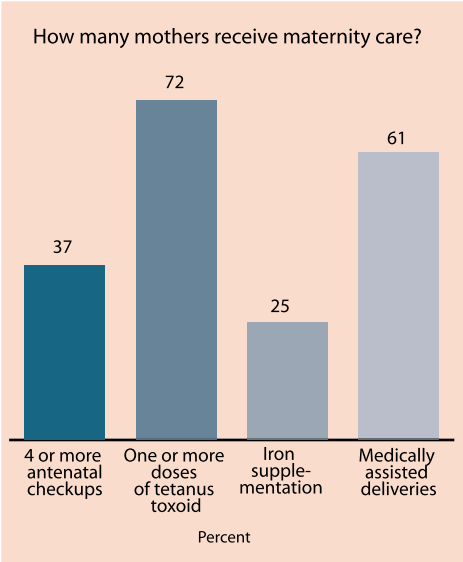
Content of pregnancy care

Although about half of women in Egypt sought pregnancy care, the care that they received often lacked routine screening and advice so important in detecting and preventing complications. For example, women reported having been weighed and having had their blood pressure monitored in the case of only about half the births in which a medical provider was seen for pregnancy care. Pregnant women had urine and blood samples taken in two out of five births, the mother's height was measured in about a quarter of the births, and iron tablets / syrup were received or bought in around a quarter of the births. Mothers were given advice about potential pregnancy complications in 15 percent of the births ; they were told by the provider where to seek assistance if they experienced problems in the case of 12 percent of the births.

Delivery care and postnatal care

Trained medical personnel assisted at 6 out of 10 births during the 5 years preceding the 2000 EDHS. Traditional birth attendants called *Days* assisted with most of the remaining deliveries. Somewhat fewer than half of all deliveries took place in a health facility, with delivery care provided somewhat more often at private than at governmental facilities.

Receiving care after delivery is very important for both mother and child, especially when a birth takes place in the home without medical assistance. In Egypt, postnatal care was reported as having been received less often than in 1 out of 10 deliveries that took place outside of a health facility.



Differentials in coverage

Regular maternal care is a feature of around half of urban births, compared to a quarter of rural births. The coverage of maternity care services is especially low in rural Upper Egypt, where mothers receive regular antenatal care for fewer than a fifth of the births and slightly less than two-fifths of deliveries are medically assisted. Mothers with a secondary or higher education are more than three times as likely to receive regular antenatal care and are more than twice as likely to have been assisted at delivery by trained medical personnel than less-educated mothers.

Trends in coverage

The coverage of maternity care services has improved since the late 1980s. The sixfold increase in tetanus-toxoid- injection coverage during the period—from 11 percent at the time of the 1988 EDHS to 72 percent at the time of the 2000 survey—is particularly notable. The rate of medically assisted deliveries has also risen considerably, from a level of 35 percent in 1988 to 61 percent in 2000.

DHS Surveys Expand To Include Testing for Vitamin A Deficiency

New capability allows for important assessment of micronutrient levels in populations

A widespread public health problem in many developing countries is vitamin-A deficiency (VAD), an essential food nutrient important for normal sight, growth, and development, is found in some foods in very small quantities. Deficiency of the vitamin is associated with total vision loss as well as other vision impairments, including night blindness. VAD is believed to be the single most important cause of blindness among children in developing countries; it is also linked with increased susceptibility to severe infections and malnutrition.

Prevention measures against VAD involve ensuring that the diet includes foods rich in vitamin A. Exclusively breastfeeding infants for the first 4 to 6 months of life is another important step toward ensuring infants adequate amounts of the nutrient. In many countries where VAD is common, supplementation programs are implemented in which vitamin-A capsules are provided to vulnerable groups, such as children and lactating mothers.

Vitamin A deficiency, believed to be the single most important cause of blindness among children in developing countries, is also linked with increased susceptibility to severe infection and malnutrition.

The DHS survey has recently been expanded to allow the opportunity to document levels of VAD in a representative sample of a given population. The results will help Ministries of Health design effective intervention programs and monitor progress toward their goals.

Various methods are available for estimating the magnitude of VAD in a population. The widely accepted method of assessing the vitamin-A status of a given population is to measure the serum retinol. The technique involves collecting, transporting, storing and analyzing blood specimens from various population groups.

As part of the 2000 Uganda DHS, serum retinol will be measured via dried blood spots (DBS), which are collected on special filter paper. The blood spots are obtained through a finger or heel prick. Craft Technologies in North Carolina will conduct the analysis of the DBS.

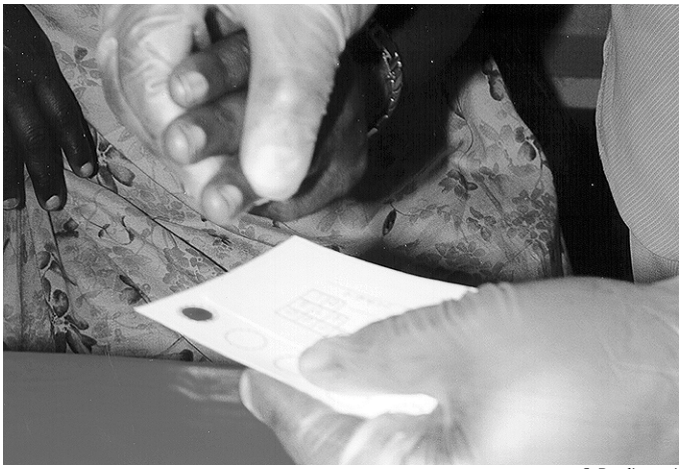
The Uganda survey will mark the first time that DHS has used a biochemical marker to measure the level of vitamin-A status in a population. Previous surveys used a functional indicator, night blindness, to estimate the extent of VAD.

The extent of vitamin-A deficiency does not show a uniform distribution across age groups in a population, because some segments are more vulnerable than others. Infants less than 6 months of age who are exclusively breastfed, by well-nourished mothers, are less at risk than older children. On the other hand, lactating mothers are highly vulnerable, because they need to meet both their own vitamin-A needs and those of their infants. Adult males are generally considered not at risk for VAD.

For those reasons, children up to 6 years of age and women age 15-49 years are key subjects for the DHS vitamin-A testing. In Uganda, a subsample of 1,250 women age 15-49 and 1,250 children below 6 years of age will be systematically selected for vitamin-A testing.

Trained health technicians will identify eligible subjects by means of the household schedule. After reading out a consent form to the subjects, the technicians will collect a few drops of blood on filter paper. The blood-spotted filter papers will be allowed to dry in special boxes overnight. The next day, the blood-spotted filter-paper cards will be stored with drying agents in plastic bags, which in turn will be kept inside a portable refrigerator. Every 2 weeks, the samples in the refrigerators will be transferred to a central laboratory for storage. The central laboratory will then ship the samples, packed in dried ice, to North Carolina via a special courier service.

Besides conducting vitamin-A testing, the survey team will collect information on important household characteristics, such as types of foods usually consumed by members and the history of vitamin-A supplementation during the 6 months preceding the survey.



S. Poedjastoeti

A trained health technician uses filter paper to collect a blood sample that will be carefully dried and stored for VAD testing.

Summary of Demographic and Health Surveys

COUNTRY SURVEY	IMPLEMENTING ORGANIZATION
ASIA	
Bangladesh 2000	Mitra & Associates/NIPORT
1997	Mitra & Associates/NIPORT
1994	Mitra & Associates/NIPORT
Cambodia 2000	National Institute of Statistics/MOH
1998[1]	SAWA Cam./Nat. Inst. of Public Health
India 1998-2000*	Various organizations
1999	International Inst. for Population Sciences
1993	International Inst. for Population Sciences
Indonesia 1997	Central Bureau of Statistics/NFPCB/MOH
1994	Central Bureau of Statistics/NFPCB/MOH
1991	Central Bureau of Statistics/NFPCB/MOH
1987	Central Bureau of Statistics/NFPCB
Kazakhstan 1999	Academy of Preventive Medicine
1995	National Institute of Nutrition
Kyrgyz Republic 1997	Inst. of Obst. & Ped., MOH
Myanmar 1996[2]	Settlmt. and Land Rec. Dep., Min. of Agr.
Nepal 1996	Ministry of Health/New ERA
1987 (In-Depth)	New ERA
Pakistan 1991	National Institute of Population Studies
Philippines 1998	National Statistics Office/Dept. of Health
1993	National Statistics Office
Sri Lanka 1987	Dept. of Cen. & Stat., Min. of Plan Impl.
Thailand 1987	Inst. of Pop. Studies, Chulalongkorn U.
Turkmenistan 2000	MCH/MOH and MIT
Uzbekistan 1996	Inst. of Obst. & Gynec., MOH
Vietnam 1997[3]	Nat. Comm. on Pop. and Fam. Planning
LATIN AMERICA & CARIBBEAN	
Bolivia 1998	Instituto Nacional de Estadística
1994	Instituto Nacional de Estadística
1989	Instituto Nacional de Estadística
Brazil 1996	Soc. Civil Bem-Estar Familiar no Brasil
1991 (NE)	Soc. Civil Bem-Estar Familiar no Brasil
1986	Soc. Civil Bem-Estar Familiar no Brasil
Colombia 2000	PROFAMILIA
1995	PROFAMILIA
1990	PROFAMILIA
1986	Corp. Cen. Reg. de Pob./Min. de Salud
Dominican Rep. 1999	CESDEM
1996	CESDEM/PROFAMILIA
1991	PROFAMILIA

COUNTRY SURVEY	IMPLEMENTING ORGANIZATION
LATIN AMERICA & CARIBBEAN	
1986	Consejo Nacional de Población y Familia
1986 (Exp.)	Consejo Nacional de Población y Familia
Ecuador 1987	Cen. de Estud. de Pob. y Paternidad Responsible
El Salvador 1985	Asociación Demográfica Salvadoreña
Guatemala 1999 (Interim)	Instituto Nacional de Estadística
1997 (In-Depth 1)*	Instituto Nacional de Estadística
1997 (In-Depth 2)*	Instituto Nacional de Estadística
1995	Instituto Nacional de Estadística
1987	Inst. de Nutrición de Cent. y Panamá
Haiti 2000	Institut Haïtien de l'Enfance
1994	Institut Haïtien de l'Enfance
Mexico 1987	Dir. Gen. de Plan. Fam., Sec. de Salud
Nicaragua 1997	Instituto Nacional de Estadísticas y Censos
Paraguay 1990	Centro Paraguayo de Estudios de Población
Peru 2000	Instituto Nacional de Estadística
1996	Instituto Nacional de Estadística
1992	Instituto Nacional de Estadística
1986	Instituto Nacional de Estadística
1986 (Exp.)	Instituto Nacional de Estadística
Trinidad & Tobago 1987	Family Planning Association of Trinidad/Tobago
NEAR EAST/NORTH AFRICA/EUROPE	
Armenia 2000	Nat. Stat. Service/MOH
Egypt 2000	National Population Council
1998 (Interim)	El-Zanaty & Associates
1997 (Interim)	El-Zanaty & Associates
1997 (In-depth)*	National Population Council
1995	National Population Council
1992	National Population Council
1988	National Population Council
Jordan 1997	Department of Statistics
1990	Department of Statistics
Morocco 1995 (Panel)	Ministère de la Santé Publique
1992	Ministère de la Santé Publique
1987	Ministère de la Santé Publique
Mauritania 2000	Office Nat. de la Statistique
Tunisia 1988	Office Nat. de la Fam. et de la Population
Turkey 1998	Hacettepe Inst. of Population Studies
1993	Hacettepe Inst. of Population Studies/MOH
Yemen 1997	Central Statistical Organization
1991	Central Statistical Organization

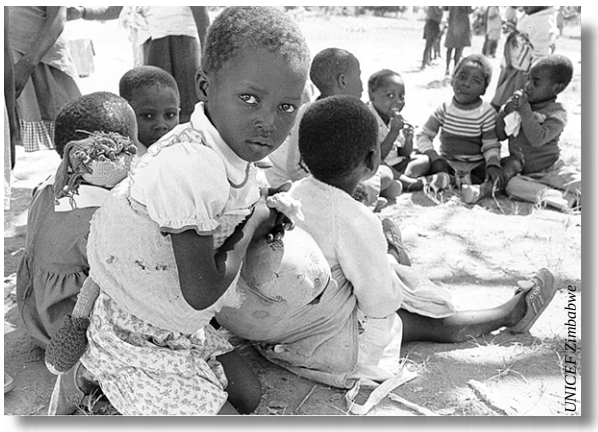
COUNTRY SURVEY	IMPLEMENTING ORGANIZATION
SUB-SAHARAN AFRICA	
Benin 1996	Institut National de la Statistique
Botswana 1988	Ministry of Health
Burkina Faso 1999	Inst. Nat. de la Statistique et la Démo.
1992	Inst. Nat. de la Statistique et la Démo.
Burundi 1987	Dép. de la Pop., Min. de l'Intérier
Cameroon 1998	Bur. Cen. Recensements et Études de Pop.
1991	Min. du Plan et de l'Amén. du Terr.
Central African Rep. 1994	Dir. des Stat. Dém. et Sociales
Chad 1997[3,4]	Bureau Central du Recensement
Comoros 1996[4]	Centre National de Doc. et de Rech. Sci.
Côte d'Ivoire 1994	Inst. National de la Statistique
Eritrea 1995	National Statistics Office
Ethiopia 2000	Central Statistical Authority
Gabon 2000	Direction Générale de la Stat
Ghana 1998	Ghana Statistical Service
1993	Ghana Statistical Service
1988	Ghana Statistical Service
Guinea/Conakry 1999	Direction Nationale de la Statistique
Kenya 1999 (SPA)*	National Council for Population and Dev.
1998	National Council for Population and Dev.
1993	National Council for Population and Dev.
1989	National Council for Population and Dev.
Liberia 1986	Min. of Planning & Economic Affairs
Madagascar 1997[4]	Dir. de la Dem. et de la Statistique Sociale
1992	Centre Nat. de Recherches sur l'Env.
Malawi 2000	National Statistical Office
1996 (KAP)	National Statistical Office
1992	National Statistical Office
Mali 2000	CPS/MSSPA et DNSI
1996[5]	CPS/MSSPA et DNSI
1987	Inst. de Sahel: USED/CERPOD
Mauritania 2000[3,4]	Office Nat. de la Statistique
Mozambique 1997	Instituto Nacional de Estatística
Namibia 1992[3]	Min. of Health and Social Services
Niger 1998	Care International
1992	Dir. de la Stat. et des Comptes Nat.
Nigeria 1999[6]	Nat. Pop. Commission
1990	Federal Office of Statistics
Ondo State, Nigeria 1986	Ministry of Health, Ondo State
Rwanda 2000	Office National de la Population
1992	Office National de la Population

COUNTRY SURVEY	IMPLEMENTING ORGANIZATION
SUB-SAHARAN AFRICA	
Senegal 1999	SERDHA
1997 (Interim)	Min. de l'Economie et des Finances
1993	Dir. de la Prévision et de la Stat.
1986	Min. de l'Economie et des Finances
South Africa 1998	Dept. of Health/Med. Research Council
Sudan 1990	Dept. of Stat., Min. of Fin. & Econ. Plan.
Tanzania 1999	National Bureau of Statistics
1996	Bureau of Statistics, Planning Comm.
1995 (In-Depth)*	Bureau of Statistics, Planning Comm.
1994 (KAP)	Bureau of Statistics, Planning Comm.
1992	Bureau of Statistics, Planning Comm.
Togo 1998	Direction de la Statistique
1988	Unité de Recherche Dém., U. du Benin
Uganda 2000	Uganda Bureau of Statistics
1995 (In-Depth)*	Inst. Stat. & Applied Econ., Makerere U.
1995	Dept. of Stat., Min. Fin. & Econ. Plan.
1988	Ministry of Health
Zambia 1996	Central Statistical Office
1992	University of Zambia
Zimbabwe 1999	Central Statistical Office
1994	Central Statistical Office
1988	Central Statistical Office

1 Funded by ADB and the World Bank
2 Funded by UNDP
3 Funded by the World Bank
4 Funded by UNFPA
5 Funded directly by USAID/Mali
6 Limited technical assistance

***India:**	12 Uttar Pradesh Benchmark Surveys
***Guatemala 1:**	Health Expenditure Survey
***Guatemala 2:**	Health Provider Survey
***Egypt:**	Reasons for Nonuse in Upper Egypt
***Kenya:**	Service Provision Assessment
***Tanzania:**	Estimation of Adult and Childhood Mortality in a High HIV/AIDS Population
***Uganda:**	Negotiating Reproductive Outcomes

UNICEF Tanzania


UNICEF Zimbabwe

Tanzania: Several Factors Contribute to High Levels of Mortality

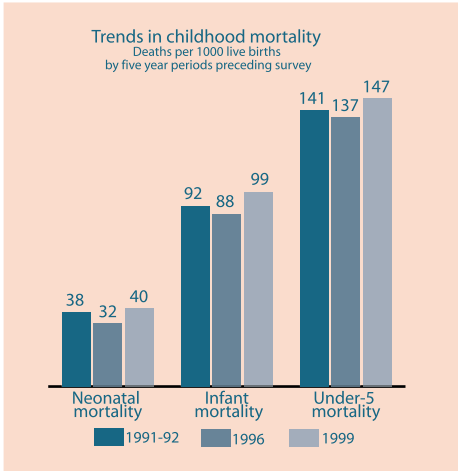
On December 5, 2000, a national dissemination seminar was held in Dar es Salaam to mark the official release of the results of the 1999 Tanzania Reproductive and Child Health Survey (TRCHS). The 1999 TRCHS is the fourth in a series of national sample surveys conducted in Tanzania over the past decade.

The Honorable Anna Abdallah, minister of health, opened the dissemination seminar with a speech in which she pointed out the steady decline in the proportion of births delivered at health facilities since 1992. The situation, she said is "a challenge for which reasons are yet to be sought and appropriate solutions given." She also referred to the recent rise in under-five mortality in Tanzania, where the proportion of children who die before their first birthday has increased from 137 deaths per 1,000 live births in 1996 to 147 per 1,000 in 1999. Minister Abdallah termed the mortality rate "alarmingly and unacceptably high," and urged her audience to "find ways to ensure that it declines to lower levels."

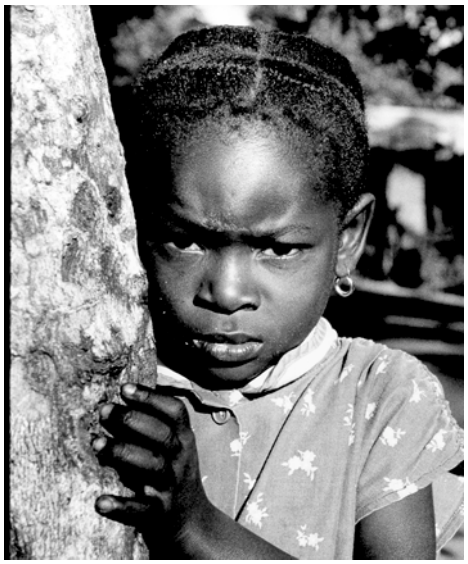
Declines in the levels of antenatal care and medical assistance during delivery, as well as in the proportion of births protected against tetanus and other major childhood illnesses, are among factors that may have contributed to the slight increase in childhood mortality since the last survey.

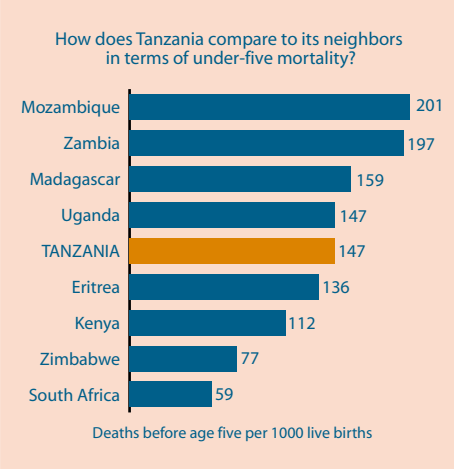
Maternal health care

Results from the 1999 TRCHS show that not only are fewer babies being delivered by trained medical personnel but also there has been a shift in antenatal-care providers, from nurses and midwives to less-trained health aides. A closer look at the data reveals that the proportion of births assisted by trained medical personnel (doctors, nurses, and midwives) in Tanzania has declined from 44 percent in 1991-92 to 36 percent in 1999. A possible reason for that decline is the fact that the proportion of births delivered in health facilities had also been declining during the period, in favor of deliveries taking place at home (where receiving medical assistance is far less likely).



Although virtually all women in Tanzania do receive some medical care during pregnancy, they need to start seeking care earlier and more frequently if they are to receive its full benefit. Overall, 70 percent of women had four or more medical visits during pregnancy, with the first visit occurring between the fifth and the sixth month (later than is recommended). To protect their children from neonatal tetanus, more pregnant women need to receive the recommended two doses of the tetanus toxoid vaccine . Currently, 83 percent of pregnant women receive at least one tetanus toxoid injection, a decline from the 92 percent observed in 1996. The proportion receiving two doses of the vaccine also declined, from 74 to 61 percent, during the same period.





Immunization and treatment of childhood illnesses

Fully immunized children have better chances of survival, because they are protected from several serious childhood diseases (tuberculosis, measles, diphtheria, pertussis, tetanus, and polio). Almost 7 out of 10 Tanzanian children age 12-23 months are considered fully vaccinated; 5 percent have received no immunizations.

Other major threats to the survival of children are diarrhea and acute respiratory infection (ARI). When a child is sick with diarrhea or with a cough accompanied by fast breathing, immediate treatment is required. According to the 1999 TRCHS, two-thirds of children suffering from such illnesses were taken to a health facility or a provider for treatment.

Nutritional status of children

Childhood nutrition is a serious concern in Tanzania. The level of stunting among children has remained high for the past decade. The 1999 TRCHS results show that 44 percent of children under age 5 are considered too short for their age, a finding that puts the country among those with the highest levels of stunting in the sub-Saharan African countries where DHS surveys have been conducted. According to the World Health

continued on page 9

continued from page 8

Organization's worldwide classification for prevalence of malnutrition, the rate stunting is considered "very high" in Tanzania and the proportion of children who are underweight is "high" at 29 percent.

After they reach six months of age, children should eat vitamin-A-rich foods or receive vitamin-A supplements. In Tanzania, only one out of seven children age 6-59 months was reported to have received a supplement during the 6 months prior to the survey. An increase in supplementation would provide Tanzanian children with better odds in fighting deficiency of the nutrient and the associated health risks.

HIV/AIDS

A final consideration is that the HIV / AIDS epidemic may have played a part in the recent increase in childhood death rates. Despite adults' universal knowledge of HIV / AIDS, which indicates that efforts to educate them about the disease have been successful, the use of condoms should continue to be promoted as a means of protection from infection. It is encouraging to note that condom use with non-regular partners (partners other than a spouse or a regular partner) has increased for women (24 percent in 1999), although not for men (34 percent).

After her introductory comments, the minister of health listened to the first seminar presentation, which compared the 1999 TRCHS results to those from other countries in East and Southern Africa where DHS surveys were conducted. The comparison indicated that Tanzania will need to improve its overall record on the health status of its women and children if it aims to reach the levels its neighbors have attained. To widesly disseminate and explain the survey findings may be an important first step towards reaching the goals presented by the Ministry of Health and discussed by seminar participants. As a start, several journalists both attended the dissemination seminar and wrote related articles that were published in the main newspapers of the country or did stories that were broadcast on both television and radio.

Measuring the Contribution of DHS to MICS

UNICEF's end-of-decade project requires member countries of the United Nations to compile and report data on the state of their children. Many countries are able to derive the required indicators from existing data sources. To assist the countries lacking the necessary data, UNICEF developed the second round of the multiple indicator cluster surveys (MICS). The MICS project provided the countries with the materials and training they needed to gather the desired data.

Drawing on the experience gained during the first round of MICS, UNICEF focused on three areas: data collection, data processing, and data analysis, providing help in two stages. First, UNICEF developed a set of standard materials (such as sampling guidelines and questionnaires) that countries could adapt to their own data needs. Second, UNICEF organized and staffed workshops to train the people charged with executing MICS surveys in their countries. The goal was to present three workshops—one on each topic—in each region where countries are conducting MICS surveys.

MEASURE *DHS+* staff assisted in all three components of the MICS project. Some regions relied on DHS country monitors as data-collection-workshop facilitators. Members of the DHS data processing team were present during analysis workshops to help the analysts manipulate the data. The greatest of DHS's contributions, though, was in the data processing. DHS staff members developed the MICS data-processing system using UNICEF's data processing guidelines and drawing on the experience they had gained during the DHS program. The system allows users to tightly control data processing. When used properly, it delivers the highest quality of data possible.

To ensure that the system would be used properly, DHS data processing staff developed extensive documentation and made presentations at the regional workshops. The training workshops focused on the hardware, software, programming, and theoretical aspects of the MICS data processing system. Hardware and software presentations focused on setting up the necessary equipment. Programming presentations included a review of the standard programs and hands-on assistance in modifying them to fit each country's needs.

Perhaps the most important part of the workshops was discussion of theoretical issues. Spending time on this often-overlooked subject is essential if high-quality data are to be produced by a survey. Most of the workshop participants were skilled in hardware, software, and programming tasks when they arrived at the workshop. But few of them had spent time considering the importance of consistent and documented editing, or double-entry of data. In lively, fascinating discussions, both the participants and the presenters learned a great deal.

The UNICEF-sponsored effort to collect information about the state of the world's children is intended to provide decisionmakers with the data that they need to design and implement effective interventions. The MICS project has an important role in that effort, and DHS staff have made an important contribution to its success.

MEASURE DHS+ staff member Guillermo Rojas makes a presentation at a MICS data-processing workshop held in Bloudan, Syria,.in April 2000.

Nick Hill

MEASURE *DHS+* Visitors and Events

July 2000

■ **Mr. S.N. Mitra** and **Mr. Ahmed Al-Sabir** from Bangladesh visited ORC Macro to finalize the final report of the 2000 Bangladesh Demographic and Health Survey.

■ **Mr. James Kaphuka** from Malawi visited ORC Macro to receive training in data processing for the 2000 Malawi Demographic and Health Survey.

August 2000

■ The national dissemination seminar for the **1999 Kenya Service Provision Assessment (KSPA)** was held in Nairobi, Kenya on August 17. Over 150 participants attended the seminar.

September 2000

■ **Ms. Fatma El-Zanaty** from Egypt visited ORC Macro to work on the final report of the 2000 Egypt Demographic and Health Survey.

■DHS staff members provided training at the **MICS Analysis and Report Writing Workshop** held in Broumana, Lebanon, September 4-9.

October 2000

■DHS staff members participated in the the **MICS Analysis and Report Writing Workshops** held in Dakar, Senegal, October 2-7 and in Istanbul, Turkey, October 23-28.

November 2000

■ The **MICS Analysis and Report Writing Workshops** for East Africa and Latin America and the Caribbean were held in Nairobi, Kenya, November 6-11 and Bogota, Colombia, November 15-20. DHS staff assisted with both workshops.

■ *DHS+* participated in the annual meeting of the **American Public Health Association (APHA)**, held November 12-16 in Boston, Massachusetts.

■ A 2-day national seminar on the **India National Family Health Survey (NFHS-2)** was held in New Delhi on November 16-17. The seminar was preceded by a press briefing on the findings of the survey on November 15.

■ **Ms. Gezu Birham**, **Mr. Amare Isaias**, and **Mr. Girma Kassie** from Ethiopia visited ORC Macro to work on the final report of the 2000 Ethiopia Demographic and Health Survey.

December 2000

■ The **1999 Tanzania Reproductive and Child Health Survey (TRCHS)** National Dissemination Seminar was held in Dar es Salaam, Tanzania, on December 5. The seminar was followed by a 1-day Program Managers's Workshop held at the Ministry of Health on December 7. The main objective of the workshop was to assist program managers in interpreting and using available data from the 1999 TRCHS and identify their needs for further analysis and dissemination. The workshop, organized for the first time by MEASURE *DHS+*, was hosted in conjuction with staff from MEASURE Communication.

Indian Minister of Health and Family Welfare, Dr. C.P. Thakur, displays a copy of the final report of the second National Family Health Survey (NFHS-2), which was officially released at the national seminar held on November 16-17 in New Delhi.

A. Cross

Participants in the 1999 Tanzania Reproductive and Child Health Survey (TRCHS) National Dissemination Seminar listen to presentations on the survey findings and take part in discussions.

DHS Publications on the Web!

Most Internet shoppers have seen the shopping-cart feature that allows them to purchase items with a quick click of the mouse on the websites of online retailers. With a revised publications section on our Web site, DHS publications are now equally simple to order.

Through the new shopping cart feature available on www.measuredhs.com/pubs, users may browse and select multiple publications and checkout when they have completed their selection. Although specific quantities of publications may be limited, DHS publications remain free to registered users.

Users can now search and browse publications by

- *searching* on words in the title or abstract, or by selecting the country, language, year, or publication type
- *browsing* by publication type
- *choosing* one of the new DHS publications highlighted in the What's New section of the Search & Browse page,

For each publication, users choose from the following options

- view an *abstract* about the publication
- access a free download of the publication in Portable Document Format (*PDF*)
- *order* the publication online.

For more information or instructions on the new DHS publication online ordering system, please visit our Web site at

www.measuredhs.com/pubs

Publications may also be ordered through our catalog or by contacting the publications department. To request a publications catalog, please contact

Demographic and Health Surveys
Attn: Publications Clerk
ORC Macro
11785 Beltsville Drive, Suite 300
Calverton, MD 20705-3119 USA
Tel.: 301-572-0958
Fax: 301-572-0999
E-mail: reports@macroint.com
Web: www.measuredhs.com

What's New in Print?

Country Reports

Colombia	2000 Final Report (Spanish)
Egypt	2000 Final Report (???)
Ethiopia	2000 Final Report (English) 2000 Key Findings (English)
India	1998-99 Final Report (English) 1998-99 Key Findings (English)
Kenya	1999 SPA Final Report (English)
Nigeria	1999 Final Report (English)
Tanzania	1999 Final Report (English) 1999 Key Findings (English/ Swahili)
Zimbabwe	1999 Final Report (English) 1999 Key Findings (English)

Other Publications

Zimbabwe Nutrition Chartbook (English)
Nigeria Fact Sheet
Ethiopia Wall Chart

Look for these publications coming soon!

Bangladesh 1999-2000 Final Report (English)
Senegal 1999 Final Report (French)

Selected Statistics From DHS Surveys

REGION/ SURVEY COUNTRY	VITAL RATES: Total Fertility Rate[a]	VITAL RATES: Total Wanted Fertility Rate[a]	VITAL RATES: IMR/ Under-5 Mortality[b]	USE OF CONTRACEPTION (Currently Married Women 15-49): %Currently Using Any Method[c]	USE OF CONTRACEPTION: %Currently Using Any Modern Method[d]	MATERNAL CARE (Births in Last 5 Yrs.): %Women Receiving Antenatal Care[e]	MATERNAL CARE: %Women Receiving Assistance at Delivery From Professional[e]	CHILD HEALTH INDICATORS: Median Duration (Months) of Breast-feeding[f]	CHILD HEALTH INDICATORS: % Children 0-35 Months Stunted[g]	CHILD HEALTH INDICATORS: % Children Fully Immunized[h]
ASIA										
Bangladesh 2000	3.3	††	66/94	54	43	33	13	††	45	60
Indonesia 1997	2.8	2.4	46/58	57	55	82	43	24	†	55
Kazakhstan 1999	2.1	1.9	62/71	66	53	94	99	7	10[i]	81
Kyrgyz Republic 1997	3.4	3.7	61/72	60	49	97	98	17	25	82
Nepal 1996	4.6	2.9	79/118	29	26	39[j]	10[j]	31	48	43
Philippines 1998	3.7	2.7	35/48	47	28	86	56	13	†	73
Uzbekistan 1996	3.3	3.1	49/59	56	51	95[j]	98[j]	17	31	85
Vietnam 1997	2.7[b]	2.4	28/38	75	56	71	77	17	†	57
LATIN AMERICA/CARIBBEAN										
Bolivia 1998	4.2	2.5	67/92	48	25	65[j]	57[j]	18	26[k]	26
Brazil 1996	2.5	1.8	39/49	77	70	81[l]	78[l]	7	11[i]	73
Colombia 1995	3.0	2.2	28/36	72	59	83	85	11	13	66
Dominican Republic 1996	3.2	2.5	47/57	64	59	98	96	8	11[i]	39
Guatemala 1999	5.0	4.1	45/59	38	31	60	41	20	42	60
Haiti 1994	4.8	3.0	74/131	18	13	68	46	18	27	30
Nicaragua 1997	3.9	2.8	40/50	60	57	82	65	12	25	73
Peru 1996	3.5	2.2	43/59	64	41	66	55	20	26[i]	63
NEAR EAST/NORTH AFRICA										
Egypt 2000	3.5	††	56/69	56	54	53	61	††	††	92
Jordan 1997	4.4	2.9	29/32	53	38	96	97	12	8	21
Morocco 1995	3.3	2.2	62/80	50	42	45	40	15	21[m]	85
Turkey 1998	2.6	1.9	43/52	64	38	68	81	†	†	46
Yemen 1997	6.5	4.5	90/121	21	10	34	22	18	52[i]	28
SUB-SAHARAN AFRICA										
Benin 1996	6.3[b]	5.0[b]	94/167	16	3	80[j]	64[j]	23	25	56
Burkina Faso 1999	6.8	6.0	105/219	12	5	61	31	27	37[i]	29
Cameroon 1998	5.2	4.6	77/151	19	7	79	58	18	29	36
Chad 1997	6.6	6.3	103/194	4	1	32	24	21	40[m]	11
Comoros 1996	5.1[b]	3.7[b]	77/104	21	11	85[j]	52[j]	20	34	55
Eritrea 1995	6.1	5.7	66/136	8	4	49[j]	21[j]	22	38	41
Ethiopia 2000										
Ghana 1998	4.5[b]	4.2[b]	56/107	22	13	81	39	22	26	51
Guinea 1999	5.5	5.0	98/177	6	4	71	35	22	26[i]	32
Kenya 1998	4.7	3.5	74/112	39	31	92	44	21	33	65
Madagascar 1997	6.0	5.2	96/159	19	10	78	47	21	48	36
Mali 1996	6.7	6.0	123/238	7	5	47[j] 40[j]	22	30	32	
Mozambique 1997	5.6	5.9	135/201	6	5	71	44	22	36	47
Niger 1998	7.5	7.2	123/274	8	5	40	44	21	41	18
Senegal 1997	5.7	4.6	68/139	13	8	82	47	21	†	†
South Africa 1998	2.9	††	45/59	62	61	94	84	††	††	63
Tanzania 1999	5.6	4.8	99/147	25	17	49	36	21	44	68
Togo 1998	5.4	4.2	80/146	24	7	82	59	24	22[i]	31
Uganda 1995	6.9	5.6	81/147	15	8	91[n]	38[n]	20	38	47
Zambia 1996	6.1	5.3	109/197	26	14	96	47	20	42[i]	67
Zimbabwe 1999	4.0	††	65/102	54	50	93	83	††	27	75

† = Not available from survey data.
†† = Not available until publication of final report.
a Based on 3 years preceding survey (women 15-49).
b Based on 5 years preceding survey.
c Excludes prolonged abstinence.
d Excludes periodic/prolonged abstinence, withdrawal, "other."
e Care provided by medically trained personnel.
f Children <3 years old (any breastfeeding).
g Height-for-age z-score is below –2 SD based on the NCHS/CDC/WHO reference population.
h Children 12-23 months (BCG, measles, 3 doses each DPT/polio).
i Children 0-59 months old.
j Based on births in the preceding 3 years.
k Children 3-35 months old.
l Care provided by doctor.
m From 1992 ENPS-II.
n Based on births during the preceding 4 years.

For more indicators, and to build custom tables with DHS data, visit the STATcompiler at www.measuredhs.com