Uzbekistan Health Examination Survey

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Analytical and Information Center
Ministry of Health
Republic of Uzbekistan

State Department of Statistics
Ministry of Macroeconomics and Statistics
Republic of Uzbekistan

ORC Macro
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MEASURE DHS+

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This report summarizes the findings of the 2002 Uzbekistan Health Examination Survey (UHES) carried out by the Analytical and Information Center (Ministry of Health) in partnership with the State Department of Statistics, Ministry of Macroeconomics and Statistics, Republic of Uzbekistan. ORC Macro provided financial and technical assistance for the survey through the USAID-funded MEASURE *DHS+* program, which is designed to assist developing countries to collect data on fertility, family planning, and maternal and child health.

Additional information about the UHES may be obtained from the Analytical and Information Center, Ministry of Health of the Republic of Uzbekistan, 12 Navoi Street, Tashkent, Uzbekistan 700011 (Tel: 712-67-62-44; fax: 712-67-62-31) or State Department of Statistics, Ministry of Macroeconomics and Statistics, 63, Buyuk Ipak Yuli, Tashkent, Uzbekistan, 700077 (Tel: 712-672367; fax 712-677816). Additional information about the MEASURE *DHS+* project may be obtained by contacting: MEASURE *DHS+*, ORC Macro, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705 (telephone 301-572-0200; fax 301-572-0999; e-mail: reports@orcmacro.com; internet: www.measuredhs.com).

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FOREWORD

Uzbekistan, as is the case with other post-Soviet countries, is experiencing a complicated period that is characterized by the formation of new relationships and a new philosophy (world outlook). The country is confidently moving forward with reforms to provide stable and balanced development in all of the spheres of public life.

It is my pleasure to introduce the preliminary results of the 2002 Uzbekistan Health Examination Survey (UHES), conducted on the national level through the joint efforts of many organizations and specialists. The 2002 UHES was conducted by Uzbekistani specialists working in the health care system with technical assistance from ORC Macro. Survey funding was provided by USAID and UNICEF/Uzbekistan.

This preliminary report documents the changes that have occurred in the medical-demographic situation of Uzbekistan since the 1996 Uzbekistan Demographic and Health Survey. Additional information is provided concerning issues of both male and female adult health: lifestyle practices, knowledge and attitudes towards tuberculosis, HIV/AIDS, STDs, risk factors for cardiovascular diseases, and information about respiratory, digestive, and dental diseases.

I would like to express my gratitude to the Regional Office of USAID for its constant support during the implementation of the survey, to UNICEF for its attention and support, and to ORC Macro for the excellent technical assistance provided by its staff.

I must also express my deep appreciation to the Cabinet of Ministers of the Republic of Karakalpakstan, to the Khokimyats and to the Khokimyats' Departments of Health Care, the Ministry of Health of the Republic of Karakalpakstan, the National Department of Statistics of the Republic of Uzbekistan, to the staff of the Republican Analytical and Information Center of the Ministry of Health and its regional offices, and the Scientific Institute of Dermatological and Venereal Diseases, which assisted in the implementation of the survey.

This report will serve as a valuable source of information and a guide for the successful realization of the health care reforms and for solution of the tasks of social development that are being undertaken in Uzbekistan.

F. G. Nazirov, Professor
Minister of Health, Republic of Uzbekistan
National Director of the 2002 UHES

SUMMARY OF FINDINGS

F.G. Nazirov and J. Sullivan

The 2002 Uzbekistan Health Examination Survey (UHES) is a nationally representative survey of 5,463 women age 15-49 and 2,333 men age 15-59. Fieldwork was conducted from September to December 2002.

The Ministry of Health (MOH) sponsored the 2002 UHES. The United States Agency for International Development and the United Nations Children's Fund (UNICEF) provided funding for the survey and the United Nations Development Program (UNDP) provided administrative support. The Analytical and Information Center of the Ministry of Health and the Department of Statistics of the Ministry of Macroeconomics and Statistics implemented the survey. The MEASURE *DHS+* program provided technical support.

NEW DATA

This is the second national survey conducted under the auspices of the MOH with technical assistance from the Demographic and Health Surveys program. In addition to the reproductive and child health topics covered in the 1996 Uzbekistan Demographic and Health Survey (UDHS), the current survey included extensive data relevant to adult health (e.g., data on blood pressure, smoking habits, chronic illnesses, HIV/AIDS, and tuberculosis).

Also new in the 2002 UHES was the collection of venous blood samples and vaginal swabs to measure levels of cholesterol, hepatitis B, diabetes, and chlamydia in the adult population of Tashkent City. Biodata were also collected from children in Tashkent City to measure exposure to lead and from children in Ferghana Oblast to measure vitamin A status.

FERTILITY

Levels and trends. For the calendar period 2000-2002, the 2002 UHES indicated a total fertility rate (TFR) of 2.9 children per woman. This estimate is a substantial decline from the estimate of the 1996 UDHS for the period 1990-1992, 4.0 children per woman. Based on these estimates, fertility has declined by one child per woman (25 percent) during the last decade.

Age at first marriage and first birth. Marriage marks the point in a woman's life in Uzbekistan when she first experiences sexual relations and begins the process of family building. The survey data indicate that the age at entry into marriage and age at first birth have increased in recent years. Among women age 20-24, the proportion ever married was 87 percent in the 1996 UDHS but only 69 percent in the 2002 UHES. Similarly, among women age 20-24, the proportion that had a first birth was 60 percent in the 1996 UDHS but only 54 percent in the 2002 UHES.

Adolescent fertility. Teenage childbearing, especially childbearing under age 18, is associated with relatively high levels of morbidity and mortality for both the mother and her child. One effect of the recent increase in the age at marriage has been a reduction in adolescent fertility. While 10 percent of women age 15-19 had begun childbearing at the time of the 1996 UDHS (had a first birth or were pregnant), only 4 percent had done so at the time of the 2002 UHES.

Fertility differentials. The TFR for rural women (3.2 children per woman) is more than half a child greater than the TFR for urban women (2.5 children per woman). Fertility levels were also higher in all regions outside Tashkent City than in the capital city and higher among less educated than more educated women.

Birth intervals. Many studies have shown that children born too close to a previous birth have an increased risk of dying. This is particularly the case when the interval between births is less than 24 months. The 2002 UHES found that one-fourth of all second and higher order births occur within 24 months of the previous birth.

FAMILY PLANNING

Knowledge. Knowledge of contraceptive methods is high. Among all women age 15-49, knowledge of at least one method is 91 percent. Among currently married women, 99 percent reported knowledge of at least one method.

The most commonly known method is the IUD (98 percent of currently married women). The pill, injectables, and condom were the next most commonly known methods, (85, 78, and 68 percent, respectively, of currently married women).

Ever use. Among currently married women, 85 percent reported using a method of contraception at some time in their life. Older women are more likely than younger women to have used contraception.

Current use. Among currently married women, two-thirds (68 percent) reported they are currently using a contraceptive method. Sixty-three percent are using a modern method, and another 5 percent are using a traditional method. The IUD is by far the most commonly used method; more than half of currently married women (52 percent) use the IUD. No other method of contraception accounts for more than 4 percent of use. Thus, the practice of family planning in Uzbekistan places high reliance on the IUD, although other methods are widely known.

Prevalence of contraceptive use is similar in urban (66 percent) and rural (69 percent) areas and across all education categories of respondents (between 63 and 69 percent).

Trends in current use. The period between the 1996 UDHS and the 2002 UHES witnessed a substantial increases in the use of contraception. Between the two surveys, contraceptive use among currently married women increased from 56 to 65 percent.[1] This is a relative increase of 16 percent. Particularly noteworthy are the increases among women 20-24 and 25-29, the ages when fertility rates are highest. The relative increase in contraceptive use was 25 percent for these age groups.

INDUCED ABORTION

Abortion rates. The total abortion rate (TAR) in Uzbekistan for the period 2000-2002 was 0.9 abortions per woman. This TAR is somewhat lower than the recent survey estimates for Kazakhstan 1999 (1.4) and the Kyrgyz republic 1997 (1.6) and about the same as for Turkmenistan 2000 (0.9). The TAR does not differ greatly between urban and rural areas (1.1 and 0.9 abortions per woman, respectively).

Time trends. Between 1991-1993 and 2000-2002, the 2002 UHES survey indicated a modest decline in the TAR (i.e., from 1.1 to 0.9 abortions per woman).

CHILD HEALTH

Breastfeeding and supplemental feeding. Breastfeeding is the cultural norm in Uzbekistan; the 2002 UHES found that 99 percent of infants less than two months of age are breastfed. The median duration of breastfeeding is lengthy (20 months). However, the median duration of exclusive breastfeeding (i.e., without food or liquid) is short (0.6 months). The World Health Organization (WHO) recommends that infants be exclusively breastfed for the first six months because breast milk provides all the necessary nutrients, while reducing exposure to disease agents.

Nutritional status. In the 2002 UHES, the height and weight of children less than five years of age were measured. These data were used to determine nutritional status. In a well-nourished population, it is expected that about 2 percent of children will be moderately/severely stunted (short for their

[1] Analysis of trends in the prevalence of contraceptive use requires that the same set of contraceptive methods be examined in both surveys. This required that the current use statistic in the 2002 UHES be discounted for the use of the lactational amenorrhea method, female condoms, and emergency contraception. Accordingly, for comparison with the 1996 UDHS, the rate shown for the 2002 UHES is 65 percent rather than 68 percent.

age) and moderately/severely wasted (underweight relative to their height). For all of Uzbekistan, the 2002 UHES found that 21 percent of children are moderately/severely stunted and 7 percent are moderately/severely wasted.

The results from the 2002 UHES indicate that nutritional status of children in Uzbekistan has improved since 1996. In the 1996 UDHS, 31 percent of children age 0-35 months were stunted, compared with 23 percent in the 2002 UHES, and 12 percent were wasted, compared with 6 percent in the 2002 UHES. [2]

Prevalence of anemia. Measurement of the anemia status of children age 6-59 months was included in the 2002 UHES. Testing of blood samples (using the Hemocue system, as in the 1996 UDHS) found that 49 percent of children have some degree of anemia: mild (26 percent), moderate (22 percent), or severe (1 percent). The level of any anemia was considerable lower in Tashkent City (20 percent) than in the other regions (between 46 and 58 percent).

Comparison with the 1996 UDHS indicated no change in anemia levels. The 1996 UDHS found that 60 percent of children age 6-34 months had some degree of anemia (58 percent in the 2002 UHES).

Health care utilization. Mothers were asked to describe the place where their children most often went for health care. The source of health care is largely determined by residence. In urban areas, the vast majority of children (88 percent) received health care at a polyclinic, while in rural areas, a majority (57 percent) received care at a rural medical center. In urban areas, nearly all children (98 percent) were usually seen by a doctor when receiving health care. In the rural areas, most children (90 percent) were also usually seen by a doctor, and the rest (10 percent) were seen by a feldsher or nurse.

Lead exposure, Tashkent City. Children are exposed to lead from a variety of sources, including paint, industrial pollutants, and gasoline emissions. Exposure among children can result in health problems ranging from behavioral changes to impaired cognitive development and, at high levels of lead poisoning, death. Lead levels of children were measured in micrograms per deciliter (µg/dl). Lead levels of 10.0 to 19.9 µg/dl can have deleterious effects on children. Levels above 20.0 µg/dl can result in symptoms ranging from irritability to sporadic vomiting. Levels above 100.0 µg/dl are life threatening.

The survey found lead levels of 10.0 µg/dl or higher among 6 percent of children, with virtually all cases being in the range of 10.0 to 19.9 µg/dl. Although these levels are considered only moderately elevated, they can have substantial and long-lasting effects on children. Accordingly, attention should be directed to determining the source of lead poisoning in Tashkent City and formulating plans for its elimination.

Vitamin A status, Ferghana Oblast. Vitamin A deficiency (VAD) can cause blindness in children, lead to a weakened immune system, and predispose a child to prolonged illness from infection. A serum retinol concentration of less than 10.0 µg/dl indicates severe VAD, while a level of 10.0 to 19.9 µg/dl indicates moderate VAD.

In Ferghana Oblast, 53 percent of children had serum retinal levels less than 20.0 µg/dl: 9 percent were severely deficient and 44 percent were moderately deficient. The international health community considers VAD a public health problem when 15 percent or more of a tested population have retinol levels of less than 20.0 µg/dl.

These findings are consistent with earlier findings from the Muynak District of the Karakalpakstan where 41 percent of children under age five had serum retinol levels of less than 20 µg/dl. Thus, consideration should be given to providing vitamin A supplementation for the preschool children in Ferghana Oblast (and elsewhere in Uzbekistan) as well as to education programs designed to improve diets.

INFANT MORTALITY

Infant mortality data were collected in the 2002 UHES according to the international definition of a live birth (i.e., a child that breathes or shows any sign of life irrespective of the duration of preg-

[2] In the 1996 UDHS, only children under age three were measured for height and weight and tested for anemia status. Thus, comparisons between the 1996 and 2002 surveys are restricted to children under age three.

nancy). Infant deaths are deaths of live-born children under one year of age (WHO, 1993).

Mortality rates. For the five-year period preceding the 2002 UHES (1998-2002), the estimated infant mortality rate (IMR) was 62 per 1,000 live births. The estimated neonatal and postneonatal mortality rates were 34 and 28 per 1,000, respectively.

There are substantial differences in IMR estimates between population subgroups. Rates are higher in rural areas (75 per 1,000) than in urban areas (43 per 1,000) and higher among women with a primary/middle education (95 per 1,000) than among women with a higher education (29 per 1,000). Infant mortality is more than twice as high among births occurring after a birth interval of less than 24 months (80 per 1,000) than after a birth interval of 36-47 months (32 per 1,000)

Other IMR estimates. The IMR estimate of 62 per 1,000 live births is of the same order of magnitude as the recent estimate from the 2000 Uzbekistan Multiple Indicator Cluster Survey (MICS) (52 per 1,000). Both of these estimates are substantially higher than the IMRs of the MOH based on registered events—19 per 1,000 for 1998-2002.

The IMR reported by the MOH is based on a definition of live birth developed during the Soviet era. According to that definition, a pregnancy that ends at less than 28 weeks of gestation is considered premature if it does not survive seven days and is classified as a late miscarriage (even though it may have survived for several days). Thus, some events classified as late miscarriages in the MOH system would be classified as live births and infant deaths according to the definitions used in the 2002 UHES. Thus, IMRs from the 2002 UHES can be expected to be somewhat higher than the MOH rates.

Source of the difference. Whether definitional differences or a more general tendency to underreport infant deaths in the registration system is the source of the differences between IMR estimates has important implications. Definitional differences can only impact the mortality rates for the early neonatal period (i.e., mortality rates for under seven days). But the majority of the difference between the IMR estimates from the 2002 UHES and the MOH (63 percent of the difference) arises from the period from seven days to the end of infancy. This is compelling evidence of generalized underreporting of infant deaths in the registration system.

ADULT HEALTH

Nutritional status. Overnutrition (overweight and obesity) is a worldwide health problem. Overweight and obese individuals are at an increased risk for multiple chronic diseases, including hypertension, diabetes, heart disease, and stroke.

The height and weight of adult respondents were measured and converted to body mass index (BMI) values, allowing classification of respondents as thin, normal, overweight, or obese. The distributions by BMI were similar for women and men; approximately 5 percent of women and men were thin, 65 percent were of normal weight, and a significant proportion (about 30 percent) were overweight/obese.

As expected, the percentage of respondents who were overweight/obese increased with age and reached alarming levels at age 35 and older. Among both women and men age 40 and older, more than 50 percent were overweight/obese and for women, about one-third of these were in the obese category. This indicates that many older individuals have an unhealthy lifestyle (i.e., low levels of physical activity and unsound dietary habits), predisposing them to disease and presenting a serious health challenge for Uzbekistan.

Hypertension. Adult blood pressure measurement was part of the 2002 UHES. Respondents were classified as hypertensive if they were taking antihypertensive drugs, if their systolic blood pressure exceeded 140 mmHg (millimeters of mercury), or if their diastolic blood pressure exceeded 90 mmHg.

Among both women and men, 8 percent were classified as hypertensive. However, a substantially greater proportion of women (74 percent) than men (48 percent) had a blood pressure reading in the optimal range (less than 120/80 mmHg), indicating a

female health advantage with respect to this indicator.

Substantial differences were found in the rates of hypertension by education, age, and BMI. The level of hypertension among overweight/obese women and men (16 and 14 percent, respectively) was two to three times higher than among normal weight women and men (4 and 6 percent, respectively).

A first step toward bringing hypertension under control is awareness by individuals of their condition and awareness of its implications in terms of premature disability and death. This suggests a need to strengthen health education about the adverse consequences of high blood pressure and the need for monitoring blood pressure, particularly among older and overweight/obese individuals.

Smoking. Cigarette smoking is a known risk factor for cardiovascular disease, and cancer, and contributes to the severity of emphysema, bronchitis, and pneumonia. Less than 1 percent of women reported that they currently smoke cigarettes, and slightly more than that (1.3 percent) reported that they had smoked at some time. Alternatively, among men, cigarette smoking was a well-established cultural habit. Twenty-one percent of men reported that they currently smoke, and 41 percent reported that they had smoked at some time.

Since the mid-1990s, several tobacco control measures have been initiated in Uzbekistan. Cigarette packages must carry a health warning; the sale of cigarettes to minors is prohibited; and advertising cigarettes in cinemas and in the mass media is banned. Nevertheless, additional health education programs, targeted towards men, that promote the benefits of never starting to smoke and of stopping cigarette use, should be initiated.

Self-reported illness. At the national level, self-reporting of chronic illness was more common among female than male respondents. Goiter and anemia, health problems that primarily affect women, were the most frequently reported health problems (14 and 11 percent of women, respectively, but less than 2 percent of men). Other commonly reported illnesses were kidney disease (6 percent of women and 4 percent of men), arthritis (4 percent of both women and men), and gastritis (4 percent of men).

The reporting of chronic illness was far higher in the Western region (i.e., the Aral Sea Area) than elsewhere. Among women, the reported rates of goiter (40 percent), anemia (52 percent), and kidney disease (22 percent) were especially high in the Western region. There is ample evidence from the MOH of adverse health conditions in the Western region, and this survey confirms the need for special attention in terms of health programs and efforts to resolve the environmental problems of the Aral Sea Area.

It should be noted that goiter and anemia are illnesses that can be greatly reduced by programs of nutritional intervention (e.g., supplementation and/or food fortification with iodine and iron).

Tuberculosis. Tuberculosis is a serious health problem in Uzbekistan and in much of the former Soviet Union. However, if treated, it is completely curable. Hence, public education concerning the transmission, symptoms, and prognosis of tuberculosis are important parts of a control program.

Most respondents had heard of tuberculosis (more than 80 percent of both women and men). Sixty percent of women and 55 percent of men were able to correctly identify the mode of tuberculosis transmission (through the air when coughing). The most commonly cited symptom that would convince a respondent to seek medical assistance was coughing (with and without sputum). However, a majority of respondents either had not heard of tuberculosis or were unaware that it can be completely cured (53 percent of women and 54 percent of men). These last statistics indicate that tuberculosis education programs could be strengthened.

Adult Biomarker Studies in Tashkent City

Several special studies were conducted in Tashkent City that required venous blood samples from adults and vaginal swabs from ever-married women. These studies were restricted to respondents in Tashkent City due to funding constraints.

Lipids profiles. Cholesterol and triglycerides are known risk factors for cardiovascular disease, the leading cause of death among adults in Uzbekistan. Lipids levels were measured in terms of milligrams

per deciliter (mg/dl). Risk categories for total cholesterol were as follows: desirable (less than 200 mg/dl), borderline high (200-239 mg/dl), and high (240 mg/dl or greater).

The survey found similar risk profiles for women and men. Total cholesterol was in the desirable range for approximately 90 percent of both women and men, in the borderline high range for about 8 percent, and in the high range for about 2 percent. The percentage of study participants in the high total cholesterol levels are among the lowest reported in the world, so that further researching confirming these results is required.

The usefulness of total cholesterol as risk indicator is diminished because it includes lipoproteins that are both beneficial (high-density lipoprotein [HDL] cholesterol) and detrimental (low-density lipoprotein [LDL] cholesterol). A preferred indicator is the ratio of total cholesterol to HDL cholesterol. Individuals with a risk ratio in excess of 6.0 are considered to have an elevated risk for cardiovascular disease. The survey found that 6 percent of women and 13 percent of men had risk ratios in excess of 6.0.

Among both women and men, the percentage in the elevated-risk range was positively associated with age and BMI value. For example, 9 percent of men of normal weight were in the elevated-risk range compared with 20 percent of overweight/obese men.

Hepatitis B. Hepatitis B is viral disease that can result in damage to the liver. Approximately 10 percent of infected persons develop chronic hepatitis, and a small proportion will develop slow but progressive liver damage.

Prevalence rates of hepatitis B were obtained by testing blood serum for the hepatitis B surface antigen. Detection of the antigen indicates that a person is both infected and infectious. The survey found that 3 percent of women and 6 percent of men tested positive for the antigen.

Diabetes. Diabetes is a group of diseases that are characterized by elevated blood glucose levels due to defects in insulin secretion or insulin action. Diabetes prevalence rates were determined by measuring glycosylated hemoglobin as a percent of total hemoglobin. Individuals were classified as nondiabetic (under 6 percent), borderline (between 6.0 and 7.9 percent), and uncontrolled diabetic (8.0 percent and higher).

The survey found that more than 90 percent of both women and men were in the nondiabetic range. An additional 5 percent of women and 7 percent of men were borderline, and 1 percent of women and 3 percent of men were in the uncontrolled range.

The percentage of respondents classified as borderline and uncontrolled diabetics increases with age and BMI value. Levels of borderline/uncontrolled diabetes were especially high among overweight/obese men (15 percent).

Chlamydia. Chlamydia, a common sexually transmitted infection (STI), is often asymptomatic in women. If untreated, a woman remains infected, which can lead to pelvic inflammatory disease, chronic pelvic pain, ectopic pregnancy, and infertility. At the time of delivery, chlamydia can be passed to the newborn, resulting in conjunctivitis and pneumonia.

Ever-married female respondents in Tashkent City were tested for chlamydia. Ten percent tested positive, and less than half of these women reported having any symptoms. These findings present a significant challenge for doctors and nurses. Because symptoms are often mild and go unnoticed by women, medical practitioners must be especially vigilant to detect chlamydia (and other asymptomatic STIs) when treating their patients.

HIV/AIDS and Sexually Transmitted Infections

There are currently few persons infected with human immunodeficiency virus (HIV) in Uzbekistan (well under 1 percent of the adult population), and most of these are the result of injecting drug use. This low level of HIV infection provides an opportunity to put a program of education in place before the disease spreads to the general population and becomes widely transmitted through sexual relations. However, the recent rapid increase in HIV cases in Uzbekistan indicates that this opportunity will not be available for long.

HIV/AIDS knowledge and attitudes. Awareness of acquired immune deficiency syndrome (AIDS) is high. Ninety percent of women and 95 percent of men reported having heard of AIDS. However, only 69 percent of women and 80 percent of men believe that there is a way to avoid becoming infected. The most frequently cited way to avoid infection is by limiting sexual relations to one partner (61 percent of women and 69 percent of men) and by condom use (43 percent of women and 65 percent of men).

Adult sexual behavior. Less than 1 percent of currently married women reported having a sexual partner other than their husband (or cohabiting partner) in the past year, compared with 6 percent of currently married men. No unmarried women reported having sexual relations with more than one partner in the last year while 3 percent of unmarried men did so. All adult men who reported ever having had sex were asked if they had ever paid for sex. Approximately 3 percent of men reported that they paid for sex in the past year. The rate of condom use during the last paid sexual encounter was only 41 percent.

Sexually transmitted infections. All adults interviewed were asked if they had heard about STIs apart from HIV/AIDS. Thirty-nine percent of women and 64 percent of men were aware of non-HIV STIs. Among the currently married, awareness is modestly higher (43 percent for women and 72 percent for men). The low awareness level among women is an important finding because women are susceptible to serious health consequences of certain untreated STIs, and these infections can be transmitted to an infant in utero or during delivery.

UZBEKISTAN 2002
Aral Sea
The Autonomous Republic of Karakalpakstan
KAZAKHSTAN
Tashkent Oblast
Namangan Oblast
Navoi Oblast
TASHKENT CITY
Andizhan Oblast
KYRGYZSTAN
Aidarkul Lake
Khorezm Oblast
Syrdarya Oblast
Ferghana Oblast
Bukhara Oblast
Jizzakh Oblast
TURKMENISTAN
Samarkhand Oblast
Kashkadarya Oblast
TAJIKISTAN
Surkhandarya Oblast
AFGHANISTAN

INTRODUCTION 1

F.G. Nazirov and G. Semenov

1.1 GEOGRAPHY AND POPULATION

Uzbekistan is a landlocked country located in Central Asia between two major rivers, the Amudarya and the Syrdarya. The territory of Uzbekistan covers 448,900 square kilometers and is bordered by Kazakhstan to the north, Kyrgyzstan and Tajikistan to the south and east, Afghanistan to the south, and Turkmenistan to the west.

Uzbekistan is a presidential democracy. The president is elected by popular vote for a seven-year term. The last election was held on 9 January 2000.

Uzbekistan consists of 12 administrative regions (oblasts), the Autonomous Republic of Karakalpakstan, and Tashkent City. Each region is further broken down into administrative areas called rayons. There are 162 rayons, and 118 cities and towns in Uzbekistan.

With a population in excess of 25 million, Uzbekistan is the third most populous country of the former Soviet Union after Russia and the Ukraine. Approximately 63 percent of the population resides in rural areas. The country is characterized by a high rate of population growth, mainly due to the high (although declining) birth rate (20 per 1,000 population in 2001 as opposed to 29 per 1,000 in 1995) and relatively low death rate (5.3 per 1,000 population in 2001). As a result of high fertility and population growth rates, Uzbekistan has a young population: 36 percent of the population are under 15 years of age, while the population over 65 years of age is relatively small at about 4 percent (State Department of Statistics, 2002).

Life expectancy in Uzbekistan has declined steadily since the collapse of the Soviet Union, especially among men. In 2001, life expectancy was 72.6 years for women and 67.6 years for men, a difference of five years.[1] Uzbekistan has a double burden of diseases, with the majority of all deaths being due to cardiovascular diseases, but with respiratory, digestive, and infectious diseases also being prevalent, viral hepatitis, tuberculosis, and sexually transmitted infections are of particular concern.

The population density of Uzbekistan is 56 persons per square kilometer. However, the population is unevenly distributed among the regions. The population is mainly concentrated in the grasslands and in the industrialized urban areas. The capital of Uzbekistan, Tashkent City, with a population of more than two million, is the largest city in Central Asia.

Uzbekistan is a multinational country. According to the 1989 Population Census, people of more than 130 nationalities live in Uzbekistan. The majority are Uzbeks, constituting more than 80 percent of the population. Other significant ethnic groups are Russians, Tajiks, Kazakhs, and Tatars. The Uzbek language belongs to the Turkic group of languages. Family ties are strong, especially among Uzbeks living in rural areas, and this plays an important role in the formation of their values, attitudes, behavior, and goals.

[1] These statistics on life expectancy are based on data from the national registration system provided to he World Health Organization. The figures may be overestimated because the infant mortality rate (which is a primary determinant of life expectancy at birth) from the 2002 Uzbekistan Health Examination Survey data is significantly higher than the official infant mortality rate from the registration system (see Chapter 8).

1.2 History of Uzbekistan

In ancient times, the people of Uzbekistan were mainly nomadic and involved in agriculture and cattle herding. As early as the fifth and sixth centuries B.C., centralized states were established throughout the territory of Uzbekistan. This early period also witnessed the rise of the great ancient cities of Samarkand, Kyuzelgir, and Kalagyr.

During the sixth century, the territory of Uzbekistan was conquered by Turkic tribes that introduced their language and culture. Arab invasions in the seventh and eighth centuries brought Islam, which unified many settled and seminomadic Turkic-speaking tribes and led to the formation of the Uzbek nation. The period from the ninth and thirteenth century was marked by a renaissance during which trade, craftsmanship, science, and poetry flourished in Uzbekistan.

In the beginning of the thirteenth century, Central Asia was invaded by Genghis Khan, who dominated Central Asia for several centuries. In 1370, Tamerlan (Timur), a descendent of Genghis Khan, came to power and created an empire that extended from the Middle East to India.

After the collapse of Tamerlan's dynasty in the Eighteenth century, three states were established in the territory of Uzbekistan: Bukhara Emirate, Kokand Khanate, and Khiva Khanate. In the second half of the nineteenth century, the Russian Empire established a protectorate over Khiva Khanate and Bukhara Emirate, and incorporated Kokand Khanate as part of its Turkestan administrative unit. The Russian conquest played an important role in cultural and economic development by breaking the region's economic isolation and introducing industries, technology, and advanced culture.

The First Russian Revolution in 1905-1907 had a strong political impact in the region, initiating nationalistic movements that later became a major force against Tsarist Russia. In 1924, the Soviet Government granted Uzbekistan the status of Soviet Socialist Republic, incorporating the Republic into the Soviet Union. This event led to industrial development, eradication of illiteracy, granting of women's rights, and the introduction of a Western health care system. The system of compulsory secondary education, introduced during the Soviet era, has been a keystone of the Republic's development.

During World War II, many industries were evacuated from Russia and European parts of the Soviet Union and brought to Uzbekistan. These industries were the basis for postwar economic development of Uzbekistan. As a Soviet Republic, Uzbekistan relied for many years on a planned economic system that was tightly controlled by the central Soviet Government.

With the collapse of the Soviet Union in 1991, Uzbekistan became a sovereign republic and joined the United Nations. Under transition from a centrally planned economy to a market economy, Uzbekistan is now experiencing rapid social and economic changes. This process has produced disruption in some sectors of the economy.

1.3 Economy

Uzbekistan is self-sufficient in terms of agricultural products. However, during the Soviet era, cotton production was the number one priority for meeting the strategic objectives of the Soviet Government. In some areas of Uzbekistan, this policy required that 85 to 90 percent of the arable land be devoted to cotton production. This had a severe impact on the other sectors of agriculture. Currently, the Government of Uzbekistan is rectifying this imbalance and is promoting development in such areas as livestock farming, production of crops, grapes, melons, and silkworm breeding. However, cotton is still the main agricultural crop. With 42 percent of all arable land devoted to cotton, it is a main source of foreign exchange.

Uzbekistan is rich in mineral resources and has substantial energy reserves, both oil and gas. During the last two decades, Uzbekistan developed national industries in copper, machinery, chemical fertilizers, petroleum products, and hydroelectric plants. Under the new economic policy of attracting foreign investments, joint enterprises have been launched with Korean, Italian, Turkish, American, and other foreign firms.

1.4 Health Care System

1.4.1 Facilities and Human Resources

The health care system in Uzbekistan was developed as part of the Soviet system with the objective of providing adequate access to health services to all citizens. With these goals, a nationwide network of more than 6,000 primary, secondary, and tertiary health care facilities was created under the control of the Ministry of Health (MOH). The health care system in Uzbekistan is almost all state-owned. Throughout the country, health services are provided free of charge, including antenatal care, delivery assistance, neonatal and pediatric services, immunizations, family planning, and specialized health care. However, some health professionals offer private fee-for-service health care. Almost all hospitals have some beds operated on a self-financing basis through fee-for-service payments by patients (Ilkhamov and Jakubowski, 2001).

In Uzbekistan, almost all health professionals (81,400 physicians and 263,100 midlevel professionals in 2001) are government employees. However, the distribution of physicians is uneven between urban (47 per 10,000 population) and rural areas (23 per 10,000 population) (State Department of Statistics, 2002). Health professionals are paid on a salary basis. The average salary is low, and additional income is generated through informal payments made by patients, although there is no reliable data on this practice. It is estimated that in recent years 30,000 health professionals left the state health care system, including 7,000 physicians (Ilkhamov and Jakubowski, 2001).

1.4.2 Health Care Reforms

Since 1991, the Ministry of Health has undertaken targeted health care reforms. The 1991-1998 reform priorities were focused on the development of national policies, health care financing, resource allocation, and improvement of maternal and child health care services, including family planning. A new form of outpatient day-care treatment was introduced in 1992. Introduction of these services has led to the elimination of 104,200 hospital beds as of 2001 (Ilkhamov and Jakubowski, 2001). In 1997, Uzbekistan adopted a program on healthy lifestyle, which focuses on prevention of smoking and promotion of physical activity and healthy nutrition.

The 1998-2005 reform priorities include a plan and a timetable for establishment of a national network of emergency medical care centers; a plan for establishing of a network of rural medical centers (selsky vrachebny punkt [SVPs]), that will eventually replace feldsher-midwifery posts (feldshersko-accouchersky punkt [FAPs]),[2] rural outpatient clinics, and rural hospitals; further development of the private health care sector; the introduction of high education for nurses; and provisions for monitoring the implementation of reforms. The Ministry of Health is developing a list of illnesses that will be covered by treatment under the State budget, including treatment protocols and a maximum length of stay in State health facilities. After 2005, health services not covered by the government package, such as elective procedures and specialized dental care, will be funded by the patient, his employer, or by insurance coverage.

[2] A feldsher is the health professional trained in nursing and midwifery with extended training in diagnosis and pharmacology. Feldshers are authorized to provide basic treatment and to prescribe a restricted number of drugs at FAPs with no assigned doctor.

The new SVPs are currently being introduced throughout Uzbekistan. SVPs are designed to serve a population of between 4,000 and 6,000 people and are staffed with one to five physicians (specialized in internal medicine, gynecology, and pediatrics) and four to eight nurses and auxiliary personnel. These facilities provide primary health care, vaccination, reproductive health care, surveillance of people at special risk, and education on a healthy lifestyle.

1.4.3 Primary, Secondary, and Tertiary Health Care

Primary health care in Uzbekistan is provided by outpatient polyclinics, the recently introduced SVPs, primary health facilities at large enterprises, women's consulting centers (a primary source of family planning services in urban areas), and delivery hospitals. The main focus of these institutions is disease prevention, antenatal care services, delivery assistance, and family planning services.

On the secondary level, health services are provided by specialized dispensaries, departments of polyclinics, and hospitals in which screening programs are carried out to identify individuals with early manifestations of disease and to prevent disease progression.

Tertiary health services in Uzbekistan are provided within the departments of regional, municipal, and district general hospitals, specialized hospitals, dispensaries, and clinical research institutes. The clinical treatment offered at these facilities is aimed at minimizing the effect of disease and disability.

1.4.4 Maternal and Child Health Care

Maternal and child health services in Uzbekistan are mostly provided through primary and secondary health care institutions. Almost all deliveries occur at the delivery hospitals and, in rare cases, at regular hospitals or at SVPs or FAPs in rural areas. Antenatal care is provided mainly by doctors at the women's consulting centers (a department of urban polyclinics), rural hospitals and rural ambulatories, SVPs, and FAPs. Antenatal care starts early in pregnancy (usually during the first trimester) and continues on a monthly basis throughout the pregnancy.

Child health care is initially provided during the first week following delivery, while a woman and her newborn stay in the delivery hospital. After discharge from the delivery hospital, a child is visited at home by a nurse who conducts a physical examination of the child and provides counseling on child care to the mother. Additional pediatric services are mainly provided by primary health care facilities. A mother is required to take her child for regular checkups and vaccination at the polyclinic or outpatient clinic several times during the first two years of life. Doctors at the polyclinic can refer children to a specialized pediatrician and for hospitalization, as necessary.

The child vaccination schedule in Uzbekistan requires that BCG and oral polio vaccines be given in the delivery hospital during the first few days of life. Revaccination with oral polio vaccine is usually done at 2, 3, 4, 16, and 18 months and 6-7 years of age. The vaccination schedule for diphtheria, pertussis, and tetanus toxoid (DPT) is similar to the schedule for the polio vaccination, except that the first DPT vaccine is given at 2 months of age. Measles vaccinations are given at 9 and 16 months of age. In 1991, hepatitis B vaccination was introduced throughout the country. The first dose is given at birth; the second and third doses are given at 2 and at 9 months (Ministry of Health, 1993).

1.4.5 Family Planning Services

The Ministry of Health is responsible for providing family planning services throughout the country. The main goal of the family planning policy is to ensure low-risk pregnancy and safe motherhood, and to reduce complications due to closely spaced pregnancies and pathological conditions among women of reproductive age.

The Ministry of Health manages a broad spectrum of activities, including intensive family planning education of the population and supplying contraceptives throughout the country. The private sector is also involved in marketing contraceptives. The Ministry of Health considers family planning as part of maternal health care and requires counseling on the selection and use of contraceptive methods by health professionals with skills in obstetrics and gynecology. For the past decade, women in Uzbekistan have relied primarily on the intrauterine device for contraception, almost to the exclusion of other methods.

Induced abortion is legal in Uzbekistan if done during the first 12 weeks of pregnancy.[3] These procedures are typically preformed at the outpatient departments of general hospitals or delivery hospitals. Abortion services may be free of charge, but lately fee-for-service facilities offering mini-abortions by the vacuum aspiration technique have become available. However, since the mid-1990s, the Ministry of Health has promoted the use of family planning methods as a substitute for reliance on induced abortion.

1.4.6 Tuberculosis DOTS Program

The Western region of Uzbekistan (Autonomous Republic of Karakalpakstan and Khorezm Oblast) became the pilot area for treating tuberculosis patients according to the WHO protocol known as DOTS (Directly Observed Treatment Short Course).[4] The DOTS-Plus program is a strategy for the treatment of multi-drug-resistant tuberculosis (MDRTB). In October 2003, a new tuberculosis hospital opened in the city of Nukus (Karakalpakstan) to serve MDRTB patients in the region.

1.4.7 HIV/AIDS Program

In 1998, a new vertical infrastructure for prevention and treatment of HIV infection and AIDS was established in Uzbekistan. The Republican HIV/AIDS Prevention Center was open in Tashkent and branches throughout the country. The center has an immunodiagnostic laboratory and treatment facilities. The center's primary aim is prevention, monitoring, and treatment, and it offers anonymous voluntary testing and counseling.

1.5 Systems for Collecting Demographic and Health Data

The State Department of Statistics of the Ministry of Macroeconomics and Statistics is responsible for maintaining the national registration system and conducting censuses. Births, deaths, marriages, and divorces are registered at the local administrative level, and aggregated statistics are forwarded through the *rayon* and *oblast* level statistical offices to the State Department of Statistics. The last census in Uzbekistan was conducted in 1989, and results were published in 1990. A census was originally scheduled for 2000 but has been postponed due to financial constrains.

Collection of health data is primarily the responsibility of the Statistical Department of the Ministry of Health. Health information is generated by staff at the facilities delivering services and then sent to the Statistical Department through the rayon and oblast level health departments. The Statistical Department of the MOH compiles and analyzes these data and issues annual reports entitled Health of the Population of the Republic of Uzbekistan and Health Services.

The health data annually published by the Statistical Department of the MOH consist of the following major categories: 1) morbidity specified by type of disease; 2) mortality specified by causes of death; 3) infant deaths, including perinatal and early neonatal deaths; 4) maternal mortality specified by

[3] In some cases induced abortion can be performed after 12 weeks if certain medical or social conditions exist. These cases require strong supervision of qualified medical personnel in a hospital setting (Ministry of Health, 1996).

[4] As of August 2003, the DOTS program was considered fully implemented in only these two areas.

cause of death; 5) data on maternal and child health services; and 6) the number of health facilities, medical personnel, hospital beds, and length of the average hospital stay. These data are tabulated at the national and oblast levels. These data, at the national level, are also available at the WHO website, Health for All DataBase.

1.6 Objectives and Sponsorship of the UHES

In 1996, a Demographic and Health Survey (DHS) was conducted in Uzbekistan with emphasis on maternal and child health, and family planning issues. In 2000, a national-level Multiple Indicator Cluster Survey (MICS) was conducted in Uzbekistan with emphasis on the reproductive health of women and the health and education of children.

During the planning phase of the 2002 Uzbekistan Health Examination Survey (UHES), the Ministry of Health indicated a particular need for information pertaining to adult health issues. Accordingly, the content of the current survey differs considerably from that of the 1996 DHS or 2000 MICS. Data on maternal and child health were collected, but to a lesser extent than in the earlier surveys, while much more information on adult health issues was collected (e.g., risk factors for cardiovascular disease, respiratory disease, tuberculosis, and lifestyle issues [physical activity, smoking, and alcohol usage]).

The 2002 UHES also collected an extensive set of biomarker data for women, men, and children. Section 1.8.1 has a complete listing of the types of biomarker data collected.

An important purpose of the collection of biodata in the 2002 UHES was to provide health data representative of the general population as opposed to clinic-based data.

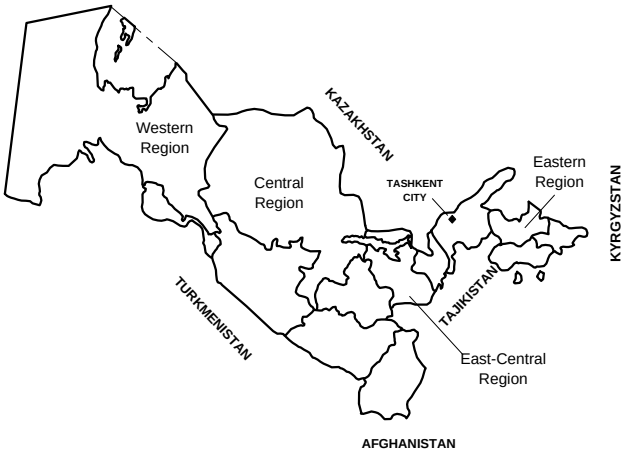
The 2002 UHES was implemented by the Analytical and Information Center of the Ministry of Health. The sampling design was developed by the State Department of Statistics of the Ministry of Macroeconomics and Statistics. The Institute of Dermatological and Venereal Diseases in Tashkent, Uzbekistan, and the Institute of Nutrition in Almaty, Kazakhstan, provided laboratory analysis of the biodata collected. The U.S. Agency for International Development and UNICEF/Uzbekistan provided funding for the survey. UNDP/Uzbekistan provided administrative support. The MEASURE *DHS+* project of ORC Macro provided technical support for the survey.

1.7 Sample Design

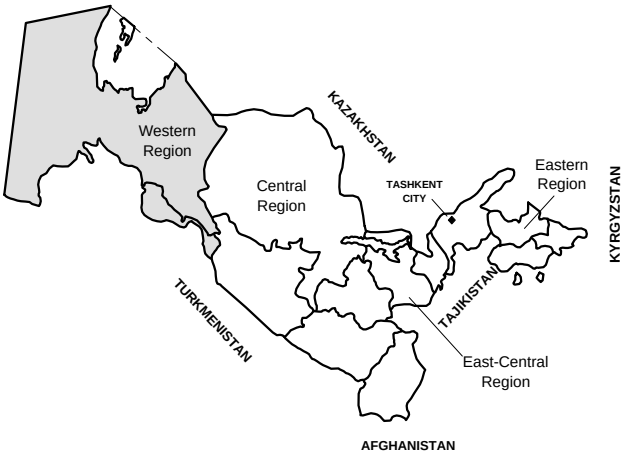
The sample was designed to provide demographic and health indicators, including fertility and childhood mortality rates, at the national level and for urban and rural areas. The sample design specified a target of 800 female respondents in each of the five sampling regions. In addition, on request of the Ministry of Health and UNICEF, the Autonomous Republic of Karakalpakstan and Ferghana Oblast were over sampled to provide approximately 800 women in each, yielding a target sample size of approximately 5,600 women. Fertility rates and other indicators were estimated for the following five regions:

Western:	The Autonomous Republic of Karakalpakstan and Khorezm Oblast
Central:	Navoi, Bukhara, Kashkadarya, and Surkhandarya Oblasts
East-Central:	Samarkhand, Jizzakh, Syrdarya, and Tashkent Oblasts
Eastern:	Namangan, Ferghana and Andizhan Oblasts
Tashkent City	

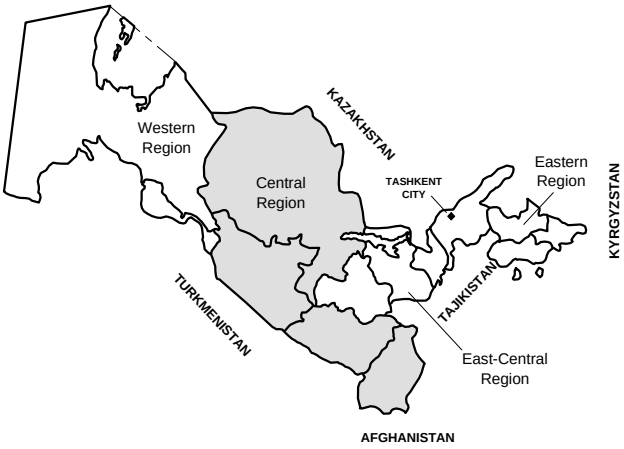
OBLAST COMPOSITION OF REGIONS IN UZBEKISTAN, 2002



TASHKENT CITY

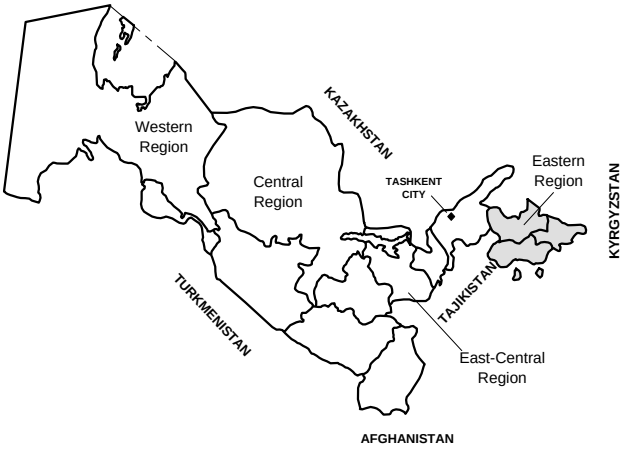


WESTERN REGION



CENTRAL REGION

EAST-CENTRAL REGION



EASTERN REGION

CITY OF TASHKENT

WESTERN REGION
The Autonomous Republic of Karakalpakstan and Khorezm Oblast

CENTRAL REGION
Navoi, Bukhara, Kashkadarya, and Surkhandarya Oblasts

EAST-CENTRAL REGION
Samarkhand, Jizzakh, Syrdarya, and Tashkent Oblasts

EASTERN REGION
Namangan, Ferghana, and Andizhan Oblasts

A weighted, multistage, stratified, cluster sampling design was employed. In total, 219 sample clusters were selected for the sample (101 in urban areas and 118 in rural areas). Then, a household listing operation was conducted in each sample cluster. The final selection of approximately 20 households per cluster was made at survey headquarters in Tashkent using systematic random sampling. The selected sample consisted of 4,385 households. Appendix A provides more information on the sample design.

All selected households that were occupied were eligible for the Household Questionnaire. In all regions, all women age 15-49 in the selected households were eligible for the Women's Questionnaire. Eligibility for the Men's Questionnaire differed between Tashkent City and the other four regions. In Tashkent City, all men age 15-59 in the selected households were eligible respondents, while in the four remaining regions only men age 15-59 in every third household were eligible respondents. The rationale for a larger sample of men from Tashkent City was to ensure a sufficient number of observations to permit gender comparisons of the biodata collected only in Tashkent City.

1.8 Survey Implementation

1.8.1 Questionnaires

The UHES employed three survey instruments: a Household Questionnaire, a Women's Questionnaire, and a Men's Questionnaire. The survey instruments were based on the model questionnaires developed by the MEASURE *DHS+* project augmented by modules on topics related to adult health. The data collection instruments were reviewed and approved by an Advisory Committee of subject matter experts appointed by the Minister of Health during the summer of 2001.

The 2002 Household Questionnaire consisted of three sections. In the first section, all usual members and visitors in the sampled households were listed, and for each listed person, information was collected on age, sex, educational attainment, and relationship to the head of household. A second section of the Household Questionnaire included questions on the characteristics of the dwelling unit (e.g., the number of rooms, flooring material, source of water). The third section included the forms for recording information on the biodata collected.

Some biodata specimens were collected in the sample households in all survey regions (height and weight measurements, blood pressure and capillary blood for determining anemia status of children). In Tashkent City and in Ferghana Oblast, additional biodata specimens were collected (venous blood and vaginal swabs). The additional biodata collection was restricted in terms of the areas covered because of financial constraints. Table 1.1 summarizes information on the biodata collected, eligible donors, and the health indicators derived.

The Women's Questionnaire was more extensive than the Men's Questionnaire, although there was considerable overlap in the subject matter covered by each. The topics included in the two questionnaires are summarized in Table 1.2.

Table 1.1 Biodata collection in the 2002 UHES

Collection of biodata in the 2002 Uzbekistan Health Examination Survey, by survey region, eligible donors, and health indicators, Uzbekistan 2002

Region	Biodata	Donors	Health indicator
All regions			
	Height and weight	Women, men, and children	Nutritional status
	Blood pressure	Women and men	Hypertension
	Capillary blood	Children	Anemia status
Tashkent City			
	Capillary blood	Children	Exposure to lead
	Venous blood	Women and men	Lipids, hepatitis B, diabetes
	Vaginal swab	Ever-married women	Chlamydia
Ferghana Oblast			
	Venous blood	Children	Vitamin A status

Note: The age ranges for biodata collection were as follows: women (15-49), men (15-59), and children (less than age 5).

Table 1.2 Topics included in the 2002 UHES women's and men's questionnaires

Topics included in both the women's and men's questionnaires and the additional questions included in either the women's or men's questionnaires, Uzbekistan 2002

Topics included in the women's and men's questionnaires	Additional topics in the women's questionnaire	Additional topics in the men's questionnaire
Physical activity	Pregnancy history	Attitudes toward women
Health care utilization	Family planning	
Injury	Contraception use	
Respiratory conditions	Children's health	
Tuberculosis	Women's work	
Depression and alcohol usage	Women's status	
Marriage and sexual activity		
AIDS and sexually transmitted diseases		
Smoking and tobacco use		

1.8.2 Pretest of Survey Instruments

The survey instruments, including biodata collection, were pretested in November 2001. Uzbek and Russian language versions of the questionnaires were used. The pretest lasted four weeks. The first week was devoted to orientation to the survey and lectures. The second week focused on practice interviewing in the classroom. The third and fourth weeks were devoted to fieldwork. The fieldwork was conducted in two urban and two rural locations. About 100 persons were interviewed, and biodata samples were obtained from 52 respondents.

1.8.3 Organization of the Survey Teams

Seven teams of interviewers conducted data collection for the main survey. Each team consisted of eight field staff: a team supervisor, a field editor, five interviewers (four female and one male), and a

health technician. The female and male interviewers in each team were responsible for: administering the questionnaires to respondents and blood pressure measurement of men and women.

The health technicians were responsible for:

Height and weight measurement of women, men, and children
Capillary blood testing for anemia in children
Capillary blood testing for lead levels in children (Tashkent City only)
Venous blood collection (fasting) from men and women (Tashkent City only), and
Vaginal swab, self-administered, from ever-married women (Tashkent City only)
Venous blood collection from children (Ferghana Oblast only)

Measurements of height, weight, and blood pressure were recorded in the questionnaires while the interviewing team was at the respondent's house, and recorded immediately in the questionnaires. Anemia testing and measurement of lead levels in children's capillary blood were conducted at the time of the interview, and the results were recorded immediately in the questionnaires.

The analysis of venous blood (for hepatitis B diabetes, lipids profile, and vitamin A testing) and analysis of vaginal swabs (for chlamydia) required laboratory analysis, and the specimens were sent from the field to Tashkent and Almaty, Kazakhstan. The results of these analyses were added to the data set during data processing.

1.8.4 Main Survey Training and Fieldwork

Sixty-five medical personnel, mostly physicians, were recruited and trained to be staff for the interviewing teams. Training, which started on August 12 and continued for four weeks, was conducted in Uzbek and Russian and consisted of lectures, demonstrations, and practice interviewing. Two physicians from the MOH who had participated in the pretest conducted the training. Staff from the Demographic and Health Surveys program assisted with the training. The fourth week of training consisted of field practice conducted on a team basis.

On September 9, data collection started in Tashkent City and within a few days in the four remaining regions. By December 15, all interviewing teams had completed data collection in their regions.

1.8.5 Laboratory Testing in Tashkent and Almaty

Venous blood specimens and vaginal swabs obtained from respondents in Tashkent City were sent to the Institute of Dermatological and Venereal Diseases in Tashkent for laboratory analysis. Two distinct laboratories were established at the Institute: one to test blood specimens for hepatitis B, diabetes, and lipids profile, and a second to test vaginal swabs for chlamydia. Staff at the Institute received refresher training in testing procedures over a period of three weeks. ORC Macro staff and a consultant from the Centers for Disease Control and Prevention conducted the training.

Venous blood specimens from children in Ferghana Oblast for the determination of vitamin A status were sent to the Institute of Nutrition in Almaty, Kazakhstan, which contained the only laboratory in the region with the equipment for conducting the required analysis.

1.8.6 Data Processing

Data processing took place at the Analytical and Information Center of the Ministry of Health. The office editing staff checked to confirm that questionnaires for all selected households and all eligible respondents were returned from the field. The few questions that had not been precoded (e.g., occupa-

tion) were coded at this time. The data were then entered and edited on computers using the ISSA (Integrated System for Survey Analysis) package, with the data entry software translated into Russian. Office editing and data entry activities were conducted between September 2002 and February 2003.

1.9 RESPONSE RATES

Table 1.3 shows the response rates for the 2002 UHES. A total of 4,385 households were selected for the women's sample and 2,094 for the men's sample. The overall household response rate was 99 percent for both household samples.

Table 1.3 Results of the household and individual interviews

Unweighted number of households, number of eligible female and male respondents, and response rates, according to residence, Uzbekistan 2002

	Women's sample			Men's sample		
	Residence			Residence		
	Urban	Rural	Total	Urban	Rural	Total
Household interviews						
Households selected	2,021	2,364	4,385	1,265	829	2,094
Households occupied	1,896	2,311	4,207	1,198	809	2,007
Households interviewed	1,865	2,303	4,168	1,178	804	1,982
Household response rate	98.4	99.7	99.1	98.3	99.4	98.8
Individual interviews						
Number eligible	2,240	3,348	5,588	1,293	1,154	2,447
Number interviewed	2,200	3,263	5,463	1,230	1,103	2,333
Individual response rate	98.2	97.5	97.8	95.1	95.6	95.3
Overall response rate[1]	96.6	97.1	96.9	93.5	95.0	94.2

[1] Overall response rate = (household rate)* (individual rate)

In the interviewed households, 5,588 women were eligible for the Women's Questionnaire (i.e., women age 15-49 who were usual residents or visitors and who had spent the previous night in the household), and 2,447 men were eligible for the Men's Questionnaire (i.e., men age 15-59 in all sample households in Tashkent City and in one-third of sample households outside of Tashkent).

Interviews were completed with 5,463 women and 2,333 men, yielding response rates of 98 percent for women and 95 percent for men. The principal reason for nonresponse was a failure to find an eligible respondent at home after repeated visits to the household.

The overall response rates (the product of the household and the individual response rates) were 97 percent for women and 94 percent for men.

HOUSEHOLD POPULATION AND HOUSING CHARACTERISTICS

2

A.M. Hadjibaev and H. Newby

This chapter provides a summary of the demographic and socioeconomic characteristics of the household population in the 2002 Uzbekistan Health Examination Survey (UHES), including age, sex, place of residence, educational status, and housing characteristics. Information collected on the characteristics of the households and respondents is important in understanding and interpreting the findings of the survey and also provides indicators of the representativeness of the survey.

A household is defined as a person or group of related and unrelated persons who live together in the same dwelling unit(s) or in connected premises, who acknowledge one adult member as head of the household, and who have common arrangements for cooking and eating their food. The Household Questionnaire was used to collect information on all usual residents and visitors who spent the night preceding the survey in the household. This method of data collection allows the analysis of either de jure (usual residents) or de facto (those who are there at the time of the survey) populations.

2.1 POPULATION BY AGE AND SEX

Age and sex are important demographic variables and are the primary basis of demographic classification in vital statistics, censuses, and surveys. They are also important variables in the study of mortality, fertility, and health. Table 2.1 presents the percent distribution of the de facto population by five-year age groups, according to urban-rural residence and sex. The information is used to construct the population pyramid shown in Figure 2.1.

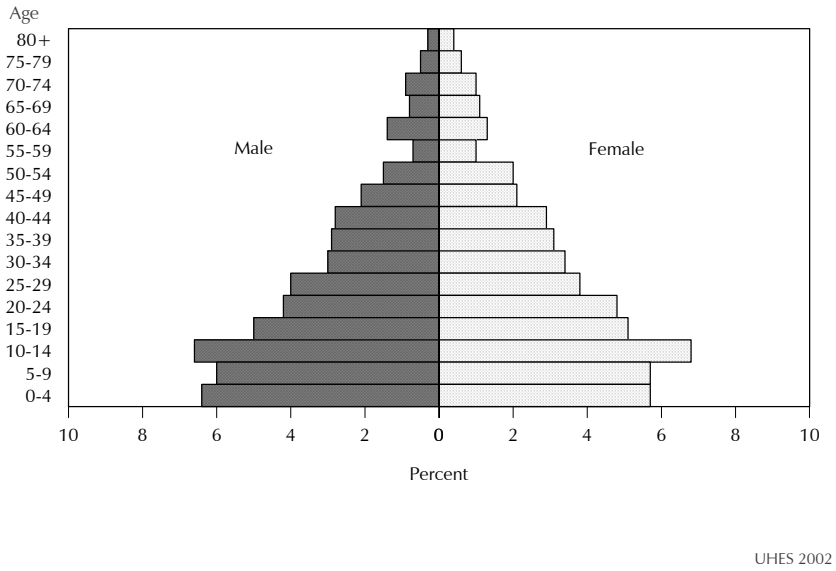
Table 2.1 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Uzbekistan 2002

	Urban			Rural			Total		
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	12.3	10.1	11.2	13.4	11.9	12.6	13.0	11.1	12.1
5-9	12.9	10.9	11.9	11.7	11.3	11.5	12.2	11.1	11.6
10-14	12.2	12.3	12.2	14.1	14.0	14.0	13.3	13.3	13.3
15-19	10.1	8.8	9.4	10.3	10.8	10.6	10.2	10.0	10.1
20-24	7.6	8.1	7.9	9.3	10.4	9.8	8.6	9.5	9.1
25-29	7.4	7.5	7.4	8.5	7.4	8.0	8.1	7.4	7.8
30-34	6.9	7.3	7.1	5.8	6.3	6.0	6.2	6.7	6.4
35-39	5.9	6.6	6.3	5.7	5.9	5.8	5.8	6.2	6.0
40-44	5.8	6.2	6.0	5.5	5.4	5.4	5.6	5.7	5.7
45-49	4.6	5.2	4.9	4.0	3.5	3.8	4.3	4.2	4.2
50-54	3.8	4.5	4.1	2.6	3.6	3.1	3.0	4.0	3.5
55-59	1.5	2.6	2.1	1.3	1.6	1.5	1.4	2.0	1.7
60-64	3.5	3.3	3.4	2.6	2.2	2.4	2.9	2.6	2.8
65-69	1.9	2.3	2.1	1.4	2.1	1.8	1.6	2.2	1.9
70-74	1.7	2.2	1.9	2.0	1.7	1.8	1.9	1.9	1.9
75-79	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.1
80 +	0.7	1.1	0.9	0.5	0.7	0.6	0.6	0.9	0.7
Don't know/ missing	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	4,169	4,456	8,625	6,631	6,738	13,368	10,800	11,194	21,994

The total de facto population was 21,994. The data show that 51 percent of the population is female. More than half (57 percent) of the population is in the 15-64 age group, also referred to as the economically active population. Nearly one in four (37 percent) is a child under 15 years of age. The young age structure of Uzbekistan is shown in Figure 2.1.

Figure 2.1 **Population Pyramid**



2.2 HOUSEHOLD COMPOSITION

Information about the composition of households, specifically, the sex of the head of the household and size of the household, is presented in Table 2.2. These characteristics are important because they are associated with aspects of household welfare. Female-headed households are, for example, typically poorer than male-headed households. Where households are large, there is generally greater crowding, which is associated with unfavorable health conditions.

In general, households in Uzbekistan are headed by a male (80 percent). However, there is twice the proportion of female-headed households in urban areas (29 percent) than in rural areas (14 percent). The average household size is 5.4 persons. The data show that rural households (5.9 members) are significantly larger than urban households (4.7 members).

Table 2.2 Household composition

Percent distribution of households by sex of head of household and by household size, according to residence, Uzbekistan 2002

Characteristic	Residence		Total
	Urban	Rural	
Sex of head of household			
Male	70.9	86.5	79.5
Female	29.1	13.5	20.5
Total	100.0	100.0	100.0
Number of usual members			
0	0.2	0.0	0.1
1	7.2	2.2	4.4
2	11.2	3.3	6.9
3	12.5	6.3	9.1
4	18.1	14.2	16.0
5	19.3	20.4	19.9
6	14.5	20.4	17.7
7	7.0	12.6	10.1
8	4.2	8.0	6.3
9+	5.7	12.7	9.5
Total	100.0	100.0	100.0
Number of households	1,863	2,305	4,168
Mean size	4.7	5.9	5.4

Note: Table is based on de jure members, i.e., usual residents.

2.3 CHILDREN'S LIVING ARRANGEMENTS AND ORPHANHOOD

Detailed information on living arrangements and orphanhood for children under 15 years of age is presented in Table 2.3. This shows that the vast majority (90 percent) of children under age 15 live with both parents. The proportion of children living with both parents is greater in rural (94 percent) than in urban areas (83 percent). In particular, only 76 percent of children in Tashkent City live with both parents. Countrywide, 9 percent of children live with only one of their parents, in most cases the mother. Almost no children (0.1 percent) are orphans (i.e., both parents died).

Table 2.3 Children's living arrangements and orphanhood

Percent distribution of de jure children under age 15 by children's living arrangements and survival status of parents, according to background characteristics, Uzbekistan 2002

Background characteristic	Living with both parents	Living with mother but not father		Living with father but not mother		Not living with either parent				Missing information on father/ mother	Total	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead			
Age												
<2	94.8	3.9	0.1	0.1	0.0	0.8	0.2	0.1	0.0	0.2	100.0	928
2-4	92.4	4.5	0.9	0.3	0.0	1.7	0.1	0.0	0.0	0.0	100.0	1,463
5-9	90.4	5.7	1.3	0.6	0.4	1.0	0.3	0.2	0.0	0.0	100.0	2,509
10-14	85.9	5.7	4.1	1.0	1.0	1.5	0.1	0.0	0.3	0.5	100.0	2,959
Sex												
Male	89.7	4.9	2.0	0.7	0.5	1.4	0.2	0.1	0.2	0.2	100.0	3,998
Female	89.5	5.7	2.2	0.5	0.5	1.2	0.1	0.1	0.1	0.2	100.0	3,862
Residence												
Urban	82.6	9.4	3.4	0.9	0.5	2.1	0.3	0.2	0.2	0.5	100.0	2,890
Rural	93.7	2.9	1.4	0.5	0.5	0.9	0.1	0.0	0.1	0.1	100.0	4,970
Region												
Western	86.9	4.6	3.2	2.1	0.9	1.8	0.1	0.1	0.1	0.2	100.0	1,002
Central	90.7	5.1	1.9	0.4	0.7	0.4	0.2	0.0	0.3	0.3	100.0	2,041
East-Central	91.0	4.4	1.7	0.5	0.3	1.4	0.2	0.1	0.0	0.4	100.0	2,190
Eastern	91.9	3.8	2.2	0.4	0.4	1.2	0.1	0.1	0.1	0.0	100.0	2,085
Tashkent City	75.6	16.6	2.4	0.0	0.2	4.0	0.7	0.5	0.0	0.0	100.0	541
Oversampled areas												
Karakalpakstan	87.6	4.1	3.0	2.0	0.7	1.9	0.0	0.2	0.2	0.3	100.0	560
Ferghana	91.7	3.5	1.5	0.2	0.8	2.1	0.0	0.0	0.1	0.0	100.0	918
Total	89.6	5.3	2.1	0.6	0.5	1.3	0.2	0.1	0.1	0.2	100.0	7,860

2.4 EDUCATION

The educational attainment of household members is an important determinant of their opportunities and behaviors. Many phenomena, such as use of health facilities, reproductive behavior, health of children, and proper hygienic habits, are associated with the educational level of household members, especially women.

2.4.1 Uzbekistan School System

The school system in Uzbekistan has three levels. The first level, primary education, consists of grades one through four for students age 7-10. The second level, or middle school, consists of grades five through nine for students age 11-15. The first two levels together are compulsory. Secondary school, the third level of school, comprises grades 10 and 11. It should be noted that the educational system changed in 1996; previously, grades 1-8 were mandatory and grades 9-10 constituted secondary.

Students who have completed a minimum of eight grades may enroll in secondary special education. The secondary special school system provides technical training of two to three years. The number of years of vocational study depends on the curriculum under study.

University and postgraduate education prepares higher level specialists. Students who complete secondary school may enroll in university.

Table 2.4 Educational attainment of household population

Percent distribution of the de facto male and female household population age seven and over by highest level of education attended or completed, according to background characteristics, Uzbekistan 2002

Background characteristic	No education	Some primary/ middle	Completed primary/ middle[1]	Secondary	Secondary special	Higher	Don't know/ missing	Total	Number	Median number of years
					MALE					
Age										
7-9	1.6	98.1	0.0	0.3	0.0	0.0	0.0	100.0	771	0.9
10-14	0.1	93.3	5.6	1.0	0.1	0.0	0.0	100.0	1,441	4.7
15-19	0.9	2.8	17.7	57.1	17.9	3.6	0.0	100.0	1,107	8.6
20-24	0.5	0.5	5.5	63.4	18.4	11.7	0.0	100.0	933	9.9
25-29	0.1	0.3	7.7	63.3	17.7	10.9	0.0	100.0	874	9.8
30-34	0.5	0.3	5.5	60.2	18.2	15.3	0.0	100.0	670	9.6
35-39	0.4	0.1	3.9	54.3	21.8	19.4	0.0	100.0	628	9.7
40-44	0.2	0.5	5.2	48.1	21.3	24.7	0.0	100.0	608	9.8
45-49	0.0	0.0	5.4	49.8	22.1	22.6	0.0	100.0	459	9.8
50-54	0.0	2.3	6.6	41.6	23.9	25.4	0.2	100.0	329	10.1
55-59	0.9	6.0	3.8	40.1	29.0	20.2	0.0	100.0	153	9.8
60-64	1.8	13.7	10.1	34.7	17.0	22.7	0.0	100.0	317	9.6
65+	12.0	42.4	6.3	18.9	8.6	11.2	0.6	100.0	564	6.6
Residence										
Urban	1.1	25.8	6.8	35.7	15.0	15.6	0.0	100.0	3,416	9.1
Rural	1.4	28.7	6.9	41.5	13.4	8.1	0.1	100.0	5,438	8.6
Region										
Western	1.1	26.6	7.5	38.8	16.8	9.1	0.1	100.0	1,115	8.8
Central	1.6	31.1	6.7	35.4	14.2	10.9	0.0	100.0	2,094	8.4
East-Central	1.3	28.7	6.6	39.6	12.6	11.2	0.1	100.0	2,383	8.9
Eastern	1.1	26.2	6.5	44.5	14.1	7.6	0.0	100.0	2,531	8.9
Tashkent City	0.8	20.6	8.3	31.5	13.7	25.0	0.2	100.0	731	9.5
Oversampled areas										
Karakalpakstan	1.2	26.9	6.8	38.6	17.9	8.6	0.0	100.0	644	8.5
Ferghana	0.3	28.8	7.1	40.0	14.8	9.0	0.0	100.0	1,082	9.0
Total	1.3	27.6	6.9	39.2	14.0	11.0	0.0	100.0	8,854	8.9
					FEMALE					
Age										
7-9	2.0	98.0	0.0	0.0	0.0	0.0	0.0	100.0	752	0.8
10-14	0.4	91.1	7.5	0.8	0.1	0.0	0.1	100.0	1,490	4.8
15-19	0.9	3.0	16.6	58.9	16.7	4.0	0.0	100.0	1,123	8.7
20-24	0.3	0.6	8.1	64.3	19.1	7.6	0.0	100.0	1,062	9.9
25-29	0.6	0.4	9.2	61.8	18.9	9.1	0.0	100.0	832	9.8
30-34	0.3	0.6	4.3	56.4	26.6	11.8	0.0	100.0	745	9.6
35-39	0.0	0.4	7.2	55.1	22.7	14.5	0.0	100.0	692	9.6
40-44	0.5	0.5	5.2	56.9	19.7	17.2	0.0	100.0	636	9.7
45-49	0.5	0.9	12.4	48.2	20.0	18.0	0.0	100.0	471	9.6
50-54	1.3	7.1	14.7	50.1	15.4	11.5	0.0	100.0	442	9.5
55-59	2.1	17.9	15.1	37.7	17.1	10.0	0.0	100.0	226	9.3
60-64	4.7	44.2	15.1	18.3	7.1	9.8	0.8	100.0	294	7.0
65+	16.6	52.8	7.9	11.3	4.0	6.0	1.4	100.0	684	5.9
Residence										
Urban	1.3	25.7	8.0	31.5	19.2	14.1	0.1	100.0	3,792	9.1
Rural	2.4	30.7	9.3	44.2	9.7	3.4	0.1	100.0	5,659	8.4
Region										
Western	1.4	29.0	7.9	38.4	15.7	7.6	0.1	100.0	1,180	8.7
Central	2.6	30.8	8.2	40.9	12.4	4.9	0.2	100.0	2,239	8.7
East-Central	2.3	30.9	10.2	37.2	12.8	6.4	0.1	100.0	2,523	8.4
Eastern	1.8	28.1	8.9	43.1	11.7	6.2	0.2	100.0	2,655	8.9
Tashkent City	0.7	18.3	7.2	28.5	21.5	23.7	0.1	100.0	854	9.7
Oversampled areas										
Karakalpakstan	1.7	28.5	8.5	34.7	18.4	8.3	0.0	100.0	653	8.4
Ferghana	0.8	29.4	9.1	41.7	12.0	6.9	0.1	100.0	1,105	8.7
Total	2.0	28.7	8.8	39.1	13.5	7.7	0.1	100.0	9,451	8.8

Note: Total includes 3 women for whom age is missing.
[1] Completed 8 years at the primary/middle level

2.4.2 Education Attainment of the Household Population

Table 2.4 presents information on the educational attainment of the Uzbek population age 7 and over. Virtually all Uzbeks have gone to school. The median number of years of schooling is almost nine for both women and men. Individuals residing in urban areas have significantly higher levels of university education than those in rural areas. Approximately one-fourth of both men and women living in the capital city of Tashkent have attended university. The proportion of the population with no education is low, with the highest levels being seen among those 65 years and older.

Data on net attendance ratios (NARs) and gross attendance ratios (GARs) by school level, sex, residence, and region are shown in Table 2.5. The NAR indicates participation in primary/middle school for the population age 7-15. The GAR measures participation at each level of schooling among those of any age from 6 to 24. The GAR is nearly always higher than the NAR for the same level because the GAR includes participation by those who may be older or younger than the official age range for that level.[1] An NAR of 100 percent would indicate that all those in the official age range for the level are attending at that level. The GAR can exceed 100 percent if there is significant overage or underage participation at a given level of schooling.

Table 2.5 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de jure household population by level of schooling and sex, according to background characteristics, Uzbekistan 2002

Background characteristic	Net attendance ratio[1]			Gross attendance ratio[2]			Gender parity index[3]
	Male	Female	Total	Male	Female	Total	
PRIMARY/MIDDLE SCHOOL							
Residence							
Urban	94.9	95.1	95.0	100.3	99.5	99.9	0.99
Rural	96.0	95.4	95.7	99.0	98.5	98.8	1.00
Region							
Western	94.3	94.0	94.2	99.5	97.8	98.6	0.98
Central	96.4	95.8	96.1	99.5	99.6	99.6	1.00
East-Central	95.5	94.6	95.0	100.2	97.2	98.7	0.97
Eastern	96.3	96.8	96.6	99.8	100.7	100.2	1.01
Tashkent City	91.9	91.9	91.9	95.3	97.5	96.3	1.02
Oversampled areas							
Karakalpakstan	95.3	94.3	94.8	100.9	98.3	99.6	0.97
Ferghana	97.5	98.3	97.9	101.0	103.1	102.0	1.02
Total	95.6	95.3	95.4	99.5	98.9	99.2	0.99

[1] The NAR is the percentage of the primary/middle-school age (7-15) population that is attending primary/middle school. By definition the NAR cannot exceed 100 percent.
[2] The GAR is the total number of primary/middle school students, expressed as a percentage of the official primary/middle 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 is the ratio of the primary/middle school GAR for females to the GAR for males.

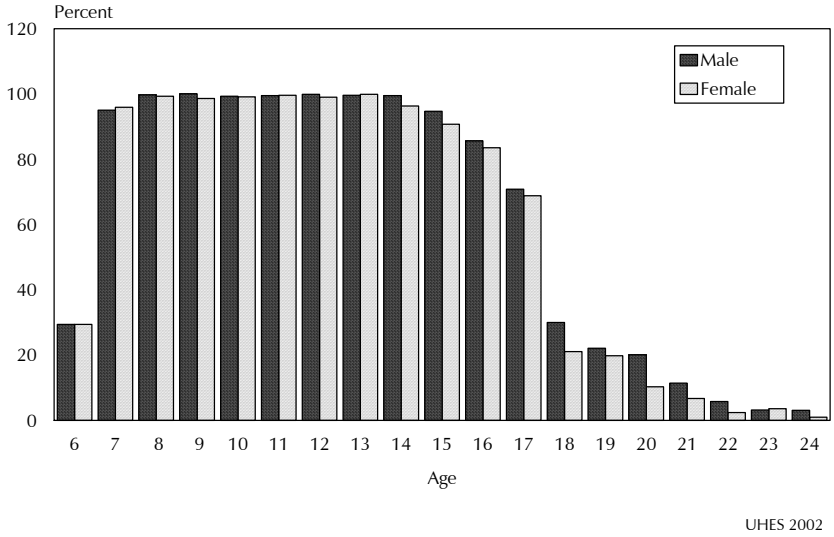
[1] Students who are overage for a given level of schooling may have started school overage, may have repeated one or more grades in school, or may have dropped out of school and later returned.

In Uzbekistan, school attendance among school-age household members is high. The NAR for primary/middle school is 95 and the GAR is 99. This indicates that approximately 4 percent of students are either underage or overage. There is little difference according to background characteristics.

The Gender Parity Index (GPI) represents the ratio of the GAR for females to the GAR for males. It is presented for the primary/middle school level and offers a summary measure of the extent to which there are gender differences in attendance rates. A GPI less than 1 indicates that a smaller proportion of females than males attends school. Overall, the GPI is 0.98 for primary/middle school. There is little urban-rural difference. The GPIs for primary/middle school are lowest in the East-Central and Eastern regions (0.96 each).

Figure 2.2 presents the age-specific attendance ratios (ASAR) for the population age 6-24 by sex. The ASAR indicates participation in schooling at any level, from primary through higher education. The closer the ASAR is to 100 percent, the higher the proportion of a given age attending school. In Uzbekistan, almost all youths of primary to middle school age (7-15) attend school, and there is little difference by gender. Among the secondary-school-age population (16 17), attendance rates begin to decline. Beginning at age 18, attendance drops substantially, but it should be noted that a higher proportion of males than females 18 and older attends school.

Figure 2.2 **Age-Specific Attendance Rates**



Repetition and dropout rates, shown in Table 2.6, describe the flow of students through the school system. Repetition and dropout rates often vary across grades, indicating points in the school system where students do not regularly proceed to the next grade. In Uzbekistan, the repetition rates for grades one through eight are very low, indicating that there is virtually no repetition of the compulsory grades. Dropout rates are also low for grade eight and below. The data show that 16 percent of students leave school, at least temporarily, after grade nine, (i.e., after completing the mandatory grades).

Table 2.6 Grade repetition and dropout rates

Repetition and dropout rates for the de jure household population age 6-24 years by school grade, according to background characteristics, Uzbekistan 2002

Background characteristic	School grade								
	1	2	3	4	5	6	7	8	9
	REPETITION RATE[1]								
Sex									
Male	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.3	0.0
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residence									
Urban	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rural	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.3	0.0
Region									
Western	0.0	0.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
East-Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Eastern	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tashkent City	(0.0)	(0.0)	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0
Oversampled areas									
Karakalpakstan	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ferghana	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.0
	DROPOUT RATE[2]								
Sex									
Male	0.6	0.7	1.3	0.0	0.0	0.0	0.0	0.4	14.7
Female	0.1	0.8	4.1	1.9	0.1	0.0	0.0	0.5	16.8
Residence									
Urban	0.0	0.9	2.9	1.6	0.0	0.0	0.0	1.0	18.5
Rural	0.5	0.6	2.5	0.6	0.1	0.0	0.0	0.2	14.2
Region									
Western	0.5	0.6	7.6	0.8	0.4	0.0	0.0	1.5	19.0
Central	0.0	0.0	2.3	0.0	0.0	0.0	0.0	1.0	14.3
East-Central	0.0	0.9	2.9	1.6	0.0	0.0	0.0	0.0	22.0
Eastern	1.0	1.3	0.6	1.0	0.0	0.0	0.0	0.0	9.0
Tashkent City	(0.0)	(0.0)	1.8	(2.6)	0.0	0.0	0.0	0.0	16.1
Oversampled areas									
Karakalpakstan	0.9	1.3	1.7	1.6	0.8	0.0	0.0	2.6	23.7
Ferghana	0.0	0.8	1.5	0.0	0.0	0.0	0.0	0.0	8.0
Total	0.3	0.7	2.6	1.0	0.1	0.0	0.0	0.5	15.8

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] The repetition rate is the percentage of students in a given grade in the previous school year who are repeating that grade in the current school year.
[2] The dropout rate is the percentage of students in a given grade in the previous school year who are not attending school in the current school year.

2.5 HOUSING CHARACTERISTICS

To assess the socioeconomic conditions under which the population lives, respondents were asked to give specific information about their household environment. Tables 2.7 and 2.8 present major housing characteristics by urban-rural residence. Type of water source, sanitation facilities, and floor and wall material are characteristics that affect the health status of household members, particularly that of children. They also indicate the socioeconomic status of households.

Virtually all households in Uzbekistan (99.7 percent) have electricity. Although there is no urban-rural difference in the prevalence of electricity, most other household characteristics vary substantially by residence. Overall, households in urban areas have better sanitary conditions than those in rural areas.

The source of drinking water usually determines its quality. A majority of households in the country have water piped into the residence (54 percent). In urban areas, 85 percent of households have water piped into the residence as opposed to 29 percent in rural areas. In rural areas, the most common source of water is a public tap (33 percent). Three-quarters (76 percent) of all households in Uzbekistan are within 15 minutes of their water source.

One indicator of sanitary conditions is the type of toilet in the household. In Uzbekistan, pit toilets are the most common, being reported by 89 percent of rural households and 44 percent of urban households. However, almost half of urban households (49 percent) have a flush toilet.

Interviewers noted on the questionnaire the main type of material from which the floor and walls of each household were made. In urban areas, 82 percent of households have a finished floor (parquet, polished wood, vinyl, or linoleum), as do 53 percent of rural households. However, in rural areas, 20 percent of households have wooden planks and another 26 percent have an earthen floor. Furthermore, the majority of rural households have walls con-

Table 2.7 Household characteristics

Percent distribution of households by household characteristics, according to residence, Uzbekistan 2002

Household characteristic	Residence		
	Urban	Rural	Total
Electricity			
Yes	99.9	99.5	99.7
No	0.1	0.5	0.3
Total	100.0	100.0	100.0
Source of drinking water			
Piped into residence	85.0	29.3	54.2
Public tap	10.9	33.0	23.1
Open well in residence	0.3	3.9	2.3
Protected well in residence	0.6	11.0	6.4
Public well	0.3	4.5	2.6
Spring	0.6	2.9	1.9
River/stream	0.5	3.3	2.1
Pond/lake/dam	0.7	4.3	2.7
Tanker truck	0.7	6.0	3.6
Other	0.3	1.7	1.1
Total	100.0	100.0	100.0
Time to water source			
Percentage <15 minutes	91.1	64.1	76.2
Sanitation facility			
Flush toilet	49.4	0.2	22.2
Traditional pit toilet	43.8	89.0	68.8
Ventilated improved pit latrine	6.7	10.7	8.9
No facility, bush, field	0.0	0.0	0.0
Missing	0.1	0.0	0.0
Total	100.0	100.0	100.0
Flooring material			
Earth, sand	4.2	25.5	16.0
Wood planks	10.2	20.4	15.9
Parquet, polished wood	67.7	51.9	59.0
Vinyl, linoleum	14.7	0.8	7.0
Cement	2.9	0.9	1.8
Other	0.3	0.5	0.4
Total	100.0	100.0	100.0
Main wall material			
Clay walls	15.1	56.9	38.2
Non-fired bricks	26.6	29.6	28.2
Concrete	29.6	2.6	14.7
Fired brick	27.3	7.8	16.5
Other	1.2	3.1	2.2
Missing	0.2	0.0	0.1
Total	100.0	100.0	100.0
Type of cooking fuel			
Electricity	2.1	2.4	2.3
LPG, natural gas	93.7	70.2	80.7
Firewood, straw	2.5	22.9	13.7
Dung	0.0	4.1	2.3
Other	1.8	0.4	1.0
Total	100.0	100.0	100.0
Number of households	1,863	2,305	4,168

structed from clay (57 percent) or unfired brick (30 percent), whereas walls in urban households are predominantly constructed from concrete (30 percent) and fired brick (27 percent).

Almost all cooking is done with natural gas (81 percent). It should be noted, however, that in rural areas, nearly a quarter of households cook with firewood or straw (23 percent) and an additional 4 percent cook by burning dung.

2.5.1 Household Durable Goods

The availability of durable goods is a proximate measure of household socioeconomic status. Table 2.8 provides information on household ownership of a variety of durable goods and modes of transportation.

Table 2.8 Household durable goods

Percentage of households possessing various durable consumer goods, by residence, Uzbekistan 2002

	Residence		
Durable consumer goods	Urban	Rural	Total
Radio	47.5	33.8	40.0
Television	92.7	88.5	90.4
Telephone	58.7	9.6	31.5
Refrigerator	74.7	35.6	53.1
Freezer	5.9	0.6	3.0
Washing machine	42.7	18.0	29.0
Vacuum cleaner	26.9	4.6	14.6
Tape recorder	45.4	29.9	36.8
Video player	21.3	7.9	13.9
Camera	9.9	2.4	5.8
Satellite dish	2.5	0.5	1.4
Sewing machine	49.3	59.0	54.7
Personal computer	1.8	0.0	0.8
Air conditioning	14.8	3.2	8.4
Bicycle	20.4	34.0	27.9
Motorcycle	3.6	10.3	7.3
Car/truck	24.7	21.5	23.0
Boat	0.2	0.1	0.2
None of the above	2.0	4.6	3.5
Number of households	1,863	2,305	4,168

Urban households are more likely to have each of the listed durable goods, with the exception of sewing machines. Both urban and rural households have substantial access to mass media. Ninety percent of all households own a television and 40 percent own a radio. However, urban households have much better access to communications, with 59 percent reporting a telephone as opposed to 10 percent of rural households. Urban households are also more likely to own a refrigerator (75 percent) and separate freezer (6 percent) than rural households (36 and 1 percent, respectively). The presence of a refrigerator or freezer is important because it keeps food fresh and prevents foodborne illnesses. Almost a quarter of households own a car or truck (23 percent), and 7 percent own a motorcycle. An additional 28 percent own a bicycle.

2.5.2 Measures of Poverty

In the post-Soviet transition economies, it is difficult to determine the socioeconomic status of the household by analyzing ownership of durable goods alone. To provide more insight into the economic well-being of households, respondents were asked a series of questions about household finances.

Table 2.9 Measures of household financial capability

Percentage of households that had problems paying bills, and percentage that had to borrow money in the 12 months preceding the survey, and the percentage of households with the ability to raise 80,000 soum in one week, Uzbekistan 2002

	Residence		
	Urban	Rural	Total
Problems paying bills	44.2	42.9	43.5
Forced to borrow money	42.9	45.6	44.4
Able to raise 80,000 soum	24.8	32.8	29.2
Number of households	1,863	2,305	4,168

Table 2.9 shows that more than 44 percent of households reported having problems paying bills during the 12 months preceding the survey, and 44 percent reported that the household was forced to borrow money to pay the bills. There is no difference by residence. The ability to raise money, however, does vary by residence. Twenty-five percent of urban households reported the ability to raise 80,000 soum (approximately $80) in a week compared with 33 percent of rural households. The greater ability of rural households to raise money may be due to ownership of livestock that can be sold in an emergency.

Table 2.10 shows the distribution of households according to the respondent's assessment of the difficulty the household has in making ends meet. One in three households (31 percent) reported having great difficulty making ends meet, while an additional one-third (33 percent) reported having some difficulty. Twenty-eight percent of households reported having a little difficulty making ends meet. In Uzbekistan, few households assess their financial situation positively; only 7 percent of households reported that they easily make ends meet. It is noteworthy that there are no differences according to residence.

Table 2.10 Household ability to meet financial commitments

Percent distribution of households by household respondent's assessment of ability to make ends meet, according to residence, Uzbekistan 2002

Level of difficulty making ends meet	Residence		
	Urban	Rural	Total
Great difficulty	30.8	31.3	31.1
Some difficulty	33.6	33.0	33.3
A little difficulty	28.0	28.1	28.0
Easily	7.3	7.5	7.4
Don't know	0.4	0.1	0.2
Total	100.0	100.0	100.0
Number	1,863	2,305	4,168

BACKGROUND CHARACTERISTICS OF RESPONDENTS

3

Z.D. Mutalova and H. Newby

This chapter provides a demographic and socioeconomic profile of the 2002 Uzbekistan Health Examination Survey (UHES) sample. Information on the basic characteristics of women and men interviewed in the survey is essential for the interpretation of findings presented later in the report and can provide an approximate indication of the representativeness of the survey.

3.1 BACKGROUND CHARACTERISTICS OF RESPONDENTS

Table 3.1 presents the percent distribution of interviewed women age 15 49 and men age 15 59, by background characteristics, including age, marital status, place of residence, educational level, ethnicity, and religion. As noted in Chapter 1, all women age 15 49 who were usual residents or present in the household on the night before the interviewer's visit were eligible to be interviewed in the 2002 UHES. Men age 15 59 were interviewed in every third household. So that respondents are not counted twice, the tables in this report are based on the de facto population, that is, those who stayed in the household on the previous night.

The percentage of women in five-year age groups declines steadily with increasing age. The percentage of women age 15-19 (20 percent) is more than twice the percentage of women age 45-49 (9 percent). A similar pattern of declining numbers with increasing age is seen for men.

Sixty-eight percent of women are either married or living with a man, and 26 percent have never been married. Forty percent reside in urban areas, and 60 percent reside in rural areas. The percentages for men are very similar.

Education levels are high in Uzbekistan. Overall, 11 percent of female respondents have attended primary/middle school, 58 percent have a secondary education, 21 percent have a secondary-special education, and 11 percent of women have a higher education. The distribution of men is similar, although more men have a higher education (16 percent, compared with 11 percent of women).

The great majority of male and female respondents report that they are Uzbeks (86 percent). For both women and men, between 2 and 3 percent identify themselves as Russian, Karakalpak, Tajik, or Kazakh. An additional 1 percent of women and 2 percent of men report that they are Tatar. More than 95 percent of respondents report that they are Muslim.

Table 3.2 shows the distribution of all respondents, by ethnicity, religion, and residence, according to region. Whereas approximately 9 in 10 respondents in the Central, East-Central, and Eastern regions are Uzbeks, the Western region and Tashkent City are more ethnically diverse. In the Western region, 64 percent of respondents are Uzbek, 19 percent are Karakalpak, and 14 percent are Kazakh. In Tashkent City, 68 percent are Uzbek, 19 percent are Russian, and 5 percent are Tatar. The majority of respondents in all regions except Tashkent City live in rural areas.

Table 3.1 Background characteristics of respondents

Percent distribution of women and men by background characteristics, Uzbekistan 2002

Background characteristic	Weighted percent	Number of women: Weighted	Number of women: Un-weighted	Weighted percent	Number of men: Weighted	Number of men: Un-weighted
Age						
15-19	20.0	1,091	1,095	16.3	380	426
20-24	19.2	1,049	1,040	16.6	388	361
25-29	14.8	809	828	17.1	399	385
30-34	13.4	734	720	12.6	293	292
35-39	12.6	687	683	11.0	256	241
40-44	11.5	626	642	9.7	227	246
45-49	8.5	466	455	8.4	196	182
50-54	na	na	na	6.0	140	142
55-59	na	na	na	2.3	54	58
Marital status						
Never married	26.0	1,421	1,444	29.7	692	742
Married	67.3	3,676	3,622	68.2	1,592	1,520
Living together	0.8	44	44	0.3	8	13
Divorced/separated	3.9	213	245	1.6	38	54
Widowed	2.0	109	108	0.1	2	4
Residence						
Urban	39.8	2,175	2,200	39.3	916	1,230
Rural	60.2	3,288	3,263	60.7	1,417	1,103
Region						
Western	12.8	699	1,355	13.5	314	482
Central	24.0	1,311	856	21.8	510	268
East-Central	26.2	1,431	1,001	27.7	646	340
Eastern	27.8	1,518	1,386	28.5	665	465
Tashkent City	9.2	503	865	8.5	198	778
Oversampled areas						
Karakalpakstan	7.1	387	913	7.9	185	341
Ferghana	11.6	632	841	11.1	259	268
Education						
Primary/middle	10.6	578	560	8.0	188	201
Secondary	58.4	3,189	3,106	56.2	1,311	1,225
Secondary special	20.5	1,122	1,172	20.1	470	464
Higher	10.5	574	625	15.6	364	443
Ethnicity						
Uzbek	85.5	4,669	4,386	86.2	2,011	1,851
Russian	2.7	149	188	2.1	48	135
Karakalpak	2.5	134	301	2.9	67	116
Tajik	2.9	157	123	2.6	60	37
Kazakh	2.6	140	251	2.8	65	82
Tatar	1.4	75	73	2.1	48	49
Other	2.5	138	141	1.4	33	63
Religion						
Muslim	95.8	5,234	5,198	96.8	2,258	2,172
Christian	3.4	183	224	2.2	52	144
Not religious	0.7	37	33	0.9	20	12
Other	0.1	8	7	0.1	3	5
Total	100.0	5,463	5,463	100.0	2,333	2,333

na = Not applicable

Table 3.2 Ethnicity, religion, and residence by region

Percent distribution of eligible women and men by ethnicity, religion and residence according to region, Uzbekistan 2002

Background characteristic	Region					Total
	Western	Central	East-Central	Eastern	Tashkent City	
Ethnicity						
Uzbek	64.4	92.5	88.8	92.6	68.1	85.7
Russian	0.2	1.8	1.2	0.4	18.7	2.5
Karakalpak	19.1	0.2	0.1	0.1	0.1	2.6
Tajik	0.1	1.1	3.2	5.8	0.4	2.8
Kazakh	13.7	0.8	1.9	0.0	2.0	2.6
Tatar	0.2	2.4	1.8	0.2	4.9	1.6
Other	2.3	1.2	3.0	1.0	5.9	2.2
Religion						
Muslim	99.0	97.3	96.7	99.2	77.3	96.1
Christian	0.6	2.1	1.5	0.5	21.0	3.0
Not religious	0.2	0.4	1.6	0.3	1.2	0.7
Other	0.1	0.1	0.2	0.0	0.5	0.1
Residence						
Urban	42.3	29.2	31.8	35.2	100.0	39.6
Rural	57.7	70.8	68.2	64.8	0.0	60.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,014	1,821	2,077	2,183	701	7,796

3.2 EDUCATIONAL LEVEL OF RESPONDENTS

Tables 3.3.1 and 3.3.2 show the educational level of female and male respondents by selected background characteristics. Women in Uzbekistan have a median of 9.7 years of schooling. Urban women have attained a higher level of education than rural women; almost one-fifth (19 percent) of urban women have attained a university or higher level of education, compared with 5 percent of rural women. Tashkent City has the highest proportion of women with university or higher level of education (28 percent), while only 7 percent of women in the Central region have attended a university.

As Table 3.3.2 shows, the pattern of men's educational levels is similar to women's. Men have a median of 9.9 years of schooling. Men in urban areas generally have a higher level of education than their rural counterparts: 22 percent compared with 11 percent having some university-level education or higher. Tashkent City has the highest proportion of men with at least university-level schooling (32 percent), while the Eastern region has the lowest proportion (9 percent).

Table 3.3.1 Educational attainment by background characteristics: women

Percent distribution of women by highest level of schooling attended or completed, and median number of years of schooling, according to background characteristics, Uzbekistan 2002

Background characteristic	Highest level of schooling attended or completed						Total	Number of women	Median years of schooling
	No education	Some primary/ middle	Com-pleted primary/ middle	Secon-dary	Secondary special	Higher			
Age									
15-19	0.4	2.5	16.7	59.9	16.4	4.1	100.0	1,091	8.9
20-24	0.1	0.6	8.1	63.9	19.6	7.6	100.0	1,049	10.1
25-29	0.1	0.3	9.4	61.7	19.7	8.7	100.0	809	10.0
30-34	0.1	0.3	4.3	56.0	27.2	12.1	100.0	734	9.7
35-39	0.0	0.2	7.5	54.5	22.8	14.9	100.0	687	9.7
40-44	0.3	0.5	5.2	57.0	20.1	16.9	100.0	626	9.7
45-49	0.6	1.1	12.7	47.7	20.4	17.5	100.0	466	9.6
Residence									
Urban	0.0	0.7	8.1	44.7	27.6	19.0	100.0	2,175	9.9
Rural	0.3	1.0	10.4	67.4	15.9	4.9	100.0	3,288	9.6
Region									
Western	0.1	0.6	8.0	56.1	24.5	10.8	100.0	699	9.8
Central	0.7	1.4	9.3	62.5	18.9	7.2	100.0	1,311	9.6
East-Central	0.0	0.8	12.7	57.4	20.0	9.2	100.0	1,431	9.6
Eastern	0.0	0.9	8.0	64.3	18.1	8.7	100.0	1,518	9.7
Tashkent City	0.1	0.4	7.4	35.7	28.4	27.9	100.0	503	10.4
Oversampled areas									
Karakalpakstan	0.0	0.8	8.6	50.3	28.8	11.5	100.0	387	9.8
Ferghana	0.0	0.8	8.0	63.1	18.8	9.2	100.0	632	9.7
Ethnicity									
Uzbek	0.2	0.9	10.1	60.5	19.1	9.2	100.0	4,669	9.7
Russian	0.0	0.4	4.3	34.2	32.8	28.3	100.0	149	10.5
Karakalpak	0.0	1.0	7.4	34.2	40.7	16.7	100.0	134	10.1
Tajik	0.0	2.4	6.0	67.8	16.4	7.4	100.0	157	9.7
Kazakh	0.0	0.0	6.1	52.0	31.2	10.6	100.0	140	9.8
Tatar	0.0	0.0	4.7	38.5	30.3	26.5	100.0	75	10.1
Other	0.9	0.4	6.5	42.5	25.0	24.6	100.0	138	10.1
Total	0.2	0.9	9.5	58.4	20.5	10.5	100.0	5,463	9.7

Table 3.3.2 Educational attainment by background characteristics: men

Percent distribution of men by highest level of schooling attended or completed, and median number of years of schooling, according to background characteristics, Uzbekistan 2002

Background characteristic	Highest level of schooling attended or completed						Total	Number of men	Median years of schooling
	No education	Some primary/ middle	Com-pleted primary/ middle	Secon-dary	Secondary special	Higher			
Age									
15-19	0.2	1.7	15.7	58.1	21.6	2.7	100.0	380	8.8
20-24	0.9	0.7	5.1	60.0	20.7	12.7	100.0	388	10.3
25-29	0.0	0.4	7.8	60.0	18.3	13.6	100.0	399	10.2
30-34	0.1	0.0	3.7	61.7	18.4	16.1	100.0	293	9.9
35-39	0.0	0.0	4.4	56.5	20.0	19.1	100.0	256	10.0
40-44	0.0	0.0	3.6	55.5	17.8	23.1	100.0	227	9.8
45-49	0.1	0.0	6.0	46.7	23.4	23.8	100.0	196	9.9
50-54	0.0	2.7	8.1	43.2	21.2	24.8	100.0	140	10.0
55-59	0.0	8.7	0.0	27.3	24.9	39.1	100.0	54	10.8
Residence									
Urban	0.1	1.1	6.8	49.0	21.0	22.1	100.0	916	10.1
Rural	0.3	0.6	7.2	60.9	19.6	11.4	100.0	1,417	9.9
Region									
Western	0.1	0.6	6.8	57.8	24.1	10.5	100.0	314	10.0
Central	0.0	0.4	9.2	54.7	19.6	16.1	100.0	510	10.0
East-Central	0.2	0.8	6.0	56.9	16.4	19.7	100.0	646	9.9
Eastern	0.3	1.1	6.2	60.6	22.9	8.9	100.0	665	9.8
Tashkent City	0.4	1.2	8.4	40.1	18.1	31.9	100.0	198	10.3
Oversampled areas									
Karakalpakstan	0.2	1.1	6.4	56.6	24.2	11.4	100.0	185	10.0
Ferghana	0.0	0.0	5.0	61.8	22.5	10.7	100.0	259	9.8
Ethnicity									
Uzbek	0.2	0.7	7.1	56.1	20.3	15.5	100.0	2,011	9.9
Russian	0.0	1.2	7.8	47.8	21.4	21.8	100.0	48	10.1
Karakalpak	0.0	0.0	4.1	60.3	23.5	12.1	100.0	67	10.0
Tajik	(0.0)	(5.8)	(3.5)	(69.0)	(14.4)	(7.4)	(100.0)	60	(9.8)
Kazakh	0.0	1.0	5.6	63.8	18.3	11.3	100.0	65	10.0
Tatar	(0.0)	(0.5)	(9.9)	(54.5)	(15.0)	(20.0)	(100.0)	48	(9.3)
Other	0.8	0.0	11.2	28.0	21.7	38.3	100.0	33	10.7
Total	0.2	0.8	7.0	56.2	20.1	15.6	100.0	2,333	9.9

Note: Figures in parentheses are based on 25-49 unweighted cases.

3.3 EMPLOYMENT

In the UHES, respondents were asked a number of questions to determine their employment status at the time of the survey and seasonality of employment in the 12 months preceding the survey. Table 3.4.1 presents women's employment status, according to background characteristics.

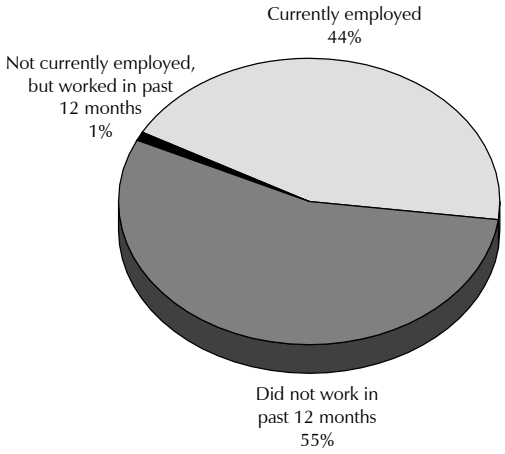
Table 3.4.1 Employment status: women

Percent distribution of women by employment status, according to background characteristics, Uzbekistan 2002

Background characteristic	Employed in the 12 months preceding the survey: Currently employed	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Missing/ don't know	Total	Number of women
Age						
15-19	14.6	0.9	84.2	0.3	100.0	1,091
20-24	40.0	2.5	57.5	0.0	100.0	1,049
25-29	47.1	1.1	51.8	0.0	100.0	809
30-34	59.8	1.7	38.5	0.0	100.0	734
35-39	58.1	0.8	41.1	0.0	100.0	687
40-44	55.7	1.0	43.3	0.0	100.0	626
45-49	55.9	0.5	43.6	0.0	100.0	466
Marital status						
Never married	25.9	1.1	72.9	0.1	100.0	1,421
Married or living together	49.0	1.4	49.5	0.0	100.0	3,720
Divorced/separated/widowed	67.9	0.5	31.6	0.0	100.0	322
Number of living children						
0	29.8	1.3	68.7	0.2	100.0	1,751
1-2	47.6	1.8	50.6	0.0	100.0	1,644
3-4	53.9	1.0	45.1	0.0	100.0	1,560
5+	51.8	0.8	47.5	0.0	100.0	508
Residence						
Urban	49.7	1.3	48.9	0.1	100.0	2,175
Rural	40.4	1.3	58.3	0.0	100.0	3,288
Region						
Western	51.1	2.8	46.1	0.0	100.0	699
Central	41.5	1.7	56.8	0.0	100.0	1,311
East-Central	43.1	1.5	55.4	0.0	100.0	1,431
Eastern	42.0	0.4	57.4	0.2	100.0	1,518
Tashkent City	50.0	0.6	49.4	0.0	100.0	503
Oversampled areas						
Karakalpakstan	49.1	1.8	49.1	0.0	100.0	387
Ferghana	47.0	0.6	52.3	0.0	100.0	632
Education						
Primary/middle	25.8	0.4	73.8	0.0	100.0	578
Secondary	37.7	1.2	61.0	0.1	100.0	3,189
Secondary special	57.2	2.3	40.4	0.1	100.0	1,122
Higher	72.2	0.8	26.9	0.0	100.0	574
Ethnicity						
Uzbek	42.7	1.1	56.2	0.0	100.0	4,669
Russian	65.5	1.6	32.9	0.0	100.0	149
Karakalpak	47.8	3.2	49.0	0.0	100.0	134
Tajik	42.8	3.0	53.2	1.0	100.0	157
Kazakh	49.0	0.5	50.5	0.0	100.0	140
Tatar	48.6	7.0	44.3	0.0	100.0	75
Other	59.4	0.4	40.1	0.0	100.0	138
Total	44.1	1.3	54.6	0.1	100.0	5,463

Forty-four percent of women were employed at the time of the survey; another 55 percent had not worked in the 12 months preceding the survey (Figure 3.1.1). Less than 2 percent of women reported that they were not currently employed but had worked in the past year. Compared with data from the 1996 Demographic and Health Survey, a smaller proportion of women were employed in the 12 months preceding the 2002 UHES (53 and 45 percent, respectively).

Figure 3.1.1 **Employment Status of Women Age 15-49**



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Women age 15-19 were less likely to be employed than women in other age groups, probably due to their being in school or in training rather than in the job market. Education positively correlates with employment: 72 percent of women with higher education were employed as opposed to 26 percent of women with a primary/middle education. Russian women were the most likely to be employed (66 percent), while Uzbek women were the least likely (43 percent).

Table 3.4.2 presents the corresponding employment information for men. In general, employment rates among men are higher than among women; 60 percent of men were employed at the time of the survey, and an additional 6 percent reported working in the 12 months preceding the survey. About 10 percent of men reported that they were looking for work at the time of the survey (Figure 3.1.2).

The majority of men age 20 and older are currently employed. Only 12 percent of men age 15-19 are employed; the majority of men in this age group (61 percent) are in school. The proportion of men currently employed increases with education, ranging from a low of 37 percent among men with less than a secondary school education to a high of 77 percent of men with at least a university education. Unemployment varies greatly by region, with 15 percent of men in the Eastern region and 16 percent in the Western region reporting that they are looking for work, compared with just 4 percent of men in the Central region and 5 percent in Tashkent City.

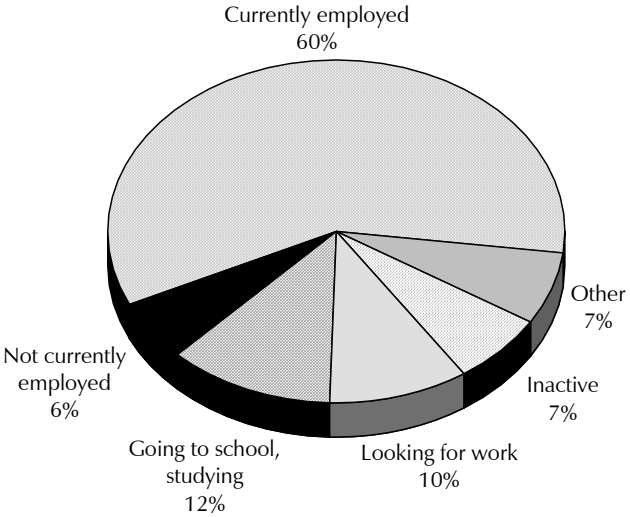
Table 3.4.2 Employment status: men

Percent distribution of men by employment status, according to background characteristics, Uzbekistan 2002

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey						Total	Number of men
	Currently employed	Not currently employed	Going to school/ studying	Looking for work	Inactive	Could not work/ handi-capped	Other	Missing		
Age										
15-19	12.4	3.2	61.4	10.1	10.3	1.4	1.1	0.0	100.0	380
20-24	53.9	8.4	8.2	14.9	9.4	2.0	3.0	0.1	100.0	388
25-29	73.4	3.8	1.2	10.1	7.1	1.0	3.4	0.0	100.0	399
30-34	69.0	5.3	0.3	11.4	6.5	5.1	2.4	0.0	100.0	293
35-39	74.6	7.4	0.0	6.0	4.5	4.4	3.1	0.0	100.0	256
40-44	73.4	7.1	0.0	6.5	4.5	4.1	4.4	0.0	100.0	227
45-49	73.8	7.8	0.0	6.1	1.6	9.9	0.8	0.0	100.0	196
50-54	69.9	1.0	0.6	6.0	6.2	8.8	7.6	0.0	100.0	140
55-59	67.7	9.5	0.0	2.4	5.5	9.8	5.0	0.0	100.0	54
Marital status										
Never married	29.1	5.5	37.7	12.6	10.6	2.5	2.0	0.1	100.0	692
Married or living together	72.4	5.8	0.7	8.3	5.3	4.0	3.5	0.0	100.0	1,600
Divorced/separated/widowed	66.8	4.6	0.0	3.0	5.7	20.0	0.0	0.0	100.0	40
Residence										
Urban	58.9	5.8	12.3	10.8	5.7	3.6	2.9	0.0	100.0	916
Rural	59.8	5.6	11.3	8.6	7.6	4.0	3.0	0.0	100.0	1,417
Region										
Western	52.3	4.1	14.5	16.2	5.1	5.7	1.9	0.1	100.0	314
Central	60.8	6.2	15.9	3.9	6.4	4.7	2.1	0.0	100.0	510
East-Central	62.0	9.7	8.7	6.9	9.2	2.5	1.0	0.0	100.0	646
Eastern	57.8	2.5	8.0	14.5	6.2	4.0	6.9	0.0	100.0	665
Tashkent City	64.4	4.5	18.2	4.9	5.2	2.5	0.3	0.0	100.0	198
Oversampled areas										
Karakalpakstan	45.0	4.2	14.6	25.0	3.0	7.0	1.0	0.2	100.0	185
Ferghana	63.0	1.5	8.5	11.5	10.7	4.3	0.5	0.0	100.0	259
Education										
Primary/ middle	36.6	5.8	34.1	5.9	5.1	8.5	3.8	0.2	100.0	188
Secondary	58.9	5.9	8.2	11.4	8.7	3.6	3.3	0.0	100.0	1,311
Secondary special	56.4	5.5	14.0	10.2	5.9	4.4	3.4	0.0	100.0	470
Higher	77.1	5.2	9.3	3.6	2.4	1.5	0.9	0.0	100.0	364
Ethnicity										
Uzbek	60.3	5.5	11.3	8.9	7.1	3.9	3.1	0.0	100.0	2,011
Russian	60.4	9.0	16.5	7.0	5.0	2.1	0.0	0.0	100.0	48
Karakalpak	42.8	1.3	20.1	23.1	4.9	6.9	0.9	0.0	100.0	67
Tajik	(66.7)	(4.8)	(5.9)	(6.0)	(6.2)	(0.0)	(10.3)	(0.0)	(100.0)	60
Kazakh	52.6	7.0	10.9	13.7	7.4	8.4	0.0	0.0	100.0	65
Tatar	(49.2)	(18.5)	(16.7)	(9.9)	(5.1)	(0.6)	(0.0)	(0.0)	(100.0)	48
Other	58.8	4.0	13.5	19.2	2.5	0.8	0.0	1.3	100.0	33
Total	59.5	5.7	11.7	9.5	6.9	3.8	3.0	0.0	100.0	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

Figure 3.1.2 Employment Status of Men Age 15-59



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3.4 OCCUPATION

In the survey, respondents who indicated that they were currently working were asked about the kind of work that they did. Their responses were recorded verbatim and served as the basis for the coding of occupations.

As shown in Table 3.5.1, the most common occupations among women are professional, technical, or managerial (41 percent). More than half of all urban working women are employed in these sectors (53 percent). In rural areas, women are more likely to be employed in agriculture (45 percent), as are women under age 20 (44 percent).

Men also work largely in professional, technical, or managerial occupations, as well as in agriculture (Table 3.5.2). Similar to women, rural men are most likely to work in agriculture (32 percent), while urban dwellers are more likely to work in professional, technical, or managerial positions (28 percent).

Table 3.5.1 Occupation: women

Percent distribution of women employed in the 12 months preceding the survey by occupation, according to background characteristics, Uzbekistan 2002

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agri-culture	Missing	Total	Number of women
Age									
15-19	16.5	3.1	20.9	6.7	9.0	43.9	0.0	100.0	169
20-24	39.3	4.9	16.5	2.0	8.6	28.7	0.0	100.0	446
25-29	45.9	5.2	14.6	2.2	8.5	23.5	0.2	100.0	390
30-34	50.6	6.1	11.9	2.4	8.0	21.0	0.0	100.0	452
35-39	41.1	4.3	14.4	1.5	13.0	25.2	0.4	100.0	404
40-44	38.5	6.2	15.9	1.7	8.4	29.1	0.2	100.0	355
45-49	42.3	7.3	16.4	3.3	11.5	19.3	0.0	100.0	263
Marital status									
Never married	36.0	4.3	18.0	4.0	8.6	29.0	0.2	100.0	384
Married or living together	41.7	4.6	14.8	2.1	9.0	27.7	0.1	100.0	1,876
Divorced/separated/ widowed	47.4	14.2	14.4	2.4	15.3	6.3	0.0	100.0	220
Number of living children									
0	36.9	4.7	18.0	4.1	9.5	26.7	0.1	100.0	545
1-2	48.5	7.2	14.4	2.0	9.1	18.8	0.0	100.0	812
3-4	42.7	5.1	14.5	2.1	9.7	25.7	0.3	100.0	856
5+	24.2	2.4	14.4	1.5	10.1	47.6	0.0	100.0	267
Residence									
Urban	52.5	7.9	21.1	3.4	12.2	2.8	0.2	100.0	1,109
Rural	32.3	3.3	10.5	1.7	7.3	44.8	0.1	100.0	1,370
Region									
Western	41.8	4.1	13.6	1.8	6.9	31.4	0.3	100.0	377
Central	34.2	5.2	12.4	4.5	11.2	32.4	0.0	100.0	566
East-Central	36.6	5.6	18.5	2.5	8.7	27.9	0.3	100.0	638
Eastern	46.8	3.1	13.7	1.5	9.3	25.6	0.0	100.0	644
Tashkent City	54.6	12.6	19.5	1.0	12.1	0.3	0.0	100.0	255
Oversampled areas									
Karakalpakstan	48.6	4.3	16.2	0.3	8.0	22.6	0.0	100.0	197
Ferghana	44.8	5.7	14.8	2.2	9.1	23.4	0.0	100.0	301
Education									
Primary/middle	9.9	1.0	18.0	4.2	18.3	48.1	0.4	100.0	151
Secondary	15.1	4.5	20.1	3.5	13.5	43.3	0.1	100.0	1,241
Secondary special	68.3	6.8	13.0	1.4	5.2	5.0	0.3	100.0	667
Higher	87.3	7.3	3.3	0.3	1.4	0.4	0.0	100.0	420
Ethnicity									
Uzbek	39.6	4.2	15.1	2.5	9.0	29.5	0.2	100.0	2,045
Russian	48.2	18.4	14.4	1.8	17.1	0.0	0.0	100.0	100
Karakalpak	59.6	5.2	17.3	0.0	8.8	9.2	0.0	100.0	68
Tajik	40.1	6.9	20.6	1.7	7.7	22.9	0.0	100.0	72
Kazakh	50.2	11.3	13.1	1.0	6.9	17.6	0.0	100.0	70
Tatar	(49.4)	(15.8)	(14.7)	(7.3)	(12.8)	(0.0)	(0.0)	(100.0)	42
Other	51.1	7.2	13.7	3.9	16.4	7.7	0.0	100.0	83
Total	41.3	5.4	15.2	2.4	9.5	26.0	0.1	100.0	2,479

Note: Figures in parentheses are based on 25-49 unweighted cases.

Table 3.5.2 Occupation: men

Percent distribution of men employed in the 12 months preceding the survey by occupation, according to background characteristics, Uzbekistan 2002

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agri-culture	Missing	Total	Number of men
Age									
15-19	6.9	4.7	11.2	21.7	32.6	19.6	3.2	100.0	59
20-24	20.0	7.6	17.7	12.2	18.1	24.5	0.0	100.0	242
25-29	21.8	6.2	20.4	11.3	13.5	26.8	0.0	100.0	308
30-34	20.7	6.2	18.3	20.2	12.9	21.8	0.0	100.0	218
35-39	25.1	6.8	18.1	16.4	12.1	21.6	0.0	100.0	210
40-44	27.7	5.4	19.4	16.7	13.0	17.8	0.0	100.0	183
45-49	23.5	7.9	23.8	12.7	13.6	17.5	1.0	100.0	160
50-54	24.8	16.3	15.4	12.5	14.6	15.7	0.7	100.0	99
55-59	(51.9)	(12.0)	(7.7)	(6.1)	(7.1)	(15.2)	(0.0)	(100.0)	42
Marital status									
Never married	17.7	4.2	13.4	15.1	22.2	26.6	0.8	100.0	240
Married or living together	24.3	8.1	19.4	14.4	12.6	21.0	0.2	100.0	1,251
Divorced/separated/ widowed	(16.6)	(0.6)	(23.3)	(17.4)	(34.9)	(7.2)	(0.0)	(100.0)	29
Residence									
Urban	27.5	11.9	22.4	16.5	16.2	5.5	0.1	100.0	593
Rural	20.3	4.5	16.1	13.3	13.5	31.9	0.4	100.0	928
Region									
Western	14.5	6.2	14.0	21.5	19.0	24.4	0.4	100.0	177
Central	23.3	6.8	18.5	12.9	21.1	17.0	0.5	100.0	341
East-Central	23.0	8.9	16.8	15.6	11.4	23.9	0.4	100.0	464
Eastern	24.5	5.9	18.2	11.9	11.3	28.2	0.0	100.0	401
Tashkent City	30.2	9.4	31.7	13.9	12.7	2.2	0.0	100.0	136
Oversampled areas									
Karakalpakstan	12.8	8.5	18.1	20.6	16.3	23.0	0.7	100.0	91
Ferghana	30.0	8.4	19.0	8.7	12.0	21.9	0.0	100.0	167
Education									
Primary/middle	13.6	0.5	17.5	22.7	19.7	25.9	0.0	100.0	80
Secondary	9.9	4.8	21.0	17.4	18.5	28.2	0.2	100.0	849
Secondary special	24.2	9.4	21.3	13.4	13.9	17.2	0.5	100.0	291
Higher	62.1	14.4	9.2	5.4	2.7	6.0	0.2	100.0	300
Ethnicity									
Uzbek	23.3	7.1	18.0	14.7	14.3	22.2	0.3	100.0	1,321
Russian	25.3	7.9	15.6	30.9	20.2	0.0	0.0	100.0	34
Karakalpak	21.5	10.2	22.1	2.1	15.8	28.3	0.0	100.0	30
Tajik	(9.2)	(6.7)	(27.8)	(5.0)	(15.7)	(35.6)	(0.0)	(100.0)	43
Kazakh	(9.9)	(6.0)	(31.6)	(23.5)	(16.4)	(12.5)	(0.0)	(100.0)	39
Tatar	(30.5)	(16.8)	(12.7)	(10.4)	(23.6)	(6.1)	(0.0)	(100.0)	33
Other	(50.7)	(5.3)	(17.8)	(5.7)	(1.3)	(19.3)	(0.0)	(100.0)	21
Total	23.1	7.4	18.5	14.5	14.6	21.6	0.3	100.0	1,520

Note: Figures in parentheses are based on 25-49 unweighted cases.

3.5 EARNINGS

Table 3.6.1 shows the percent distribution of currently employed women, by type of earnings, type of employer, and whether they were employed all year or seasonally, according to type of employment (agricultural or nonagricultural). Women who reported being currently employed were asked whether they were paid in cash, in-kind, or not at all. Three-quarters (77 percent) of employed women earn cash; 15 percent are paid in cash and in-kind. Only 3 percent receive no payment (Figure 3.2). Almost all women who work in nonagricultural jobs earn cash only (94 percent); women who work in agriculture are more likely to receive compensation at least partly in-kind (64 percent). Working male respondents report a similar pattern of compensation (Table 3.6.2), although men are more likely than their female counterparts to earn at least some compensation in-kind (26 and 20 percent, respectively).

Table 3.6.1 Type of employment: women

Percent distribution of women employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural), Uzbekistan 2002

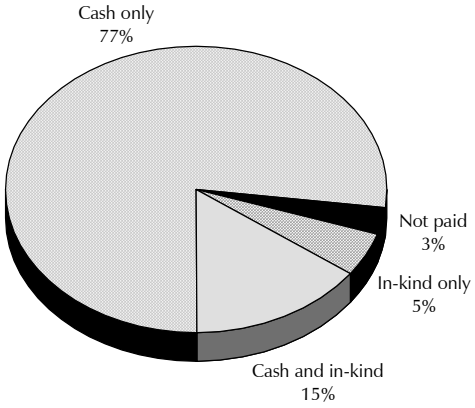
Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	29.8	93.7	77.1
Cash and in-kind	48.4	3.4	15.1
In-kind only	15.9	0.6	4.6
Not paid	5.8	2.3	3.2
Total	100.0	100.0	100.0
Type of employer			
Employed by family member	9.6	5.1	6.2
Employed by nonfamily member	88.9	84.9	85.9
Self-employed	1.5	10.0	7.9
Missing	0.0	0.0	0.0
Total	100.0	100.0	100.0
Seasonality of employment			
All year	30.8	90.7	75.1
Seasonal	59.4	2.4	17.2
Occasional	9.8	6.9	7.6
Total	100.0	100.0	100.0
Number of women	645	1,832	2,479

Note: Total includes 3 cases for which information on type of employment is missing.

Working women were also asked about their employer—whether they were employed by a family member or a nonfamily member, or whether they were self employed. Overall, 86 percent are employed by a nonfamily member; there is little difference between women employed in agricultural work and women employed in nonagricultural work. Additionally, 10 percent of women in agriculture are employed by a family member, and 10 percent of women in nonagricultural work are self-employed.

The majority of women in agriculture are employed seasonally (59 percent). Almost one-third, however, are employed all year, as opposed to nine out of ten women in nonagricultural work (31 and 91 percent, respectively). Men are more likely than women to be employed year-round, particularly those working in the agricultural sector.

Figure 3.2 Type of Earnings of Employed Women Age 15-49



UHES 2003

Table 3.6.2 Type of employment: men

Percent distribution of men employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural), Uzbekistan 2002

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	20.4	82.9	69.3
Cash and in-kind	54.8	10.3	19.9
In-kind only	20.5	2.4	6.3
Not paid	4.3	4.4	4.3
Missing	0.0	0.0	0.1
Total	100.0	100.0	100.0
Seasonality of employment			
All year (10 months or more)	88.8	81.5	83.0
Seasonal (7-9 months per year)	3.7	3.1	3.2
Seasonal (4-6 months per year)	3.9	7.9	7.0
Occasional (<4 months per year)	2.3	4.1	3.7
Missing	1.3	3.5	3.1
Total	100.0	100.0	100.0
Number of men	328	1,188	1,520

Note: Total includes 4 cases for which information on type of employment is missing.

3.6 Use of Earnings

Employed women receiving cash earnings were asked who the primary decisionmaker is regarding their earnings. This information allows the assessment of women's control over their own earnings. Table 3.7 shows how women's control over their earnings varies by background characteristics. Among women receiving cash earnings, 39 percent decide by themselves how to use the money, 29 percent decide jointly with another person, but 32 percent have no say in the allocation of earnings. Rural women are more likely than urban women to report that someone else decides how their earnings should be used (43 and 20 percent, respectively). Women's participation in decisionmaking increases with age; whereas less than half of women age 15-19 decide themselves or have some say in how their own earnings are used, 85 percent of women age 45-49 decide either alone or jointly. It is notable that 34 percent of currently married women have no say in how their earnings are used. The data indicate, however, that the more children a woman has, the more likely she is to participate in decisionmaking. Education is positively correlated with participation in decisionmaking. Among the ethnic groups, 36 percent of Uzbek women say that someone else decides how their earnings should be used, compared with only 5 percent of Russian women.

To assess the importance of women's wages in paying household expenditures, employed women earning cash were asked what proportion of their household's expenditures was paid for by their earnings. This information allows an evaluation of the relative importance of women's earnings in the household economy. As shown in Table 3.7, the money earned by women usually meets only part of the household expenditures. For example, only 21 percent of married women report that their earnings contribute to at least half of the household's expenditures. A higher proportion of urban women than rural women report that their earnings meet at least half of their household expenditures (29 and 16 percent, respectively). Six percent of urban women report that their earnings support all of the household expenditures.

Table 3.8 shows differences in the two measures related to the use of women's earnings. Thirty-four percent of currently married women decide jointly with their husband how their earnings will be used. Another third report that they do not participate in the decision regarding their earnings: 20 percent report that their husband decides, and 14 percent report that some other person decides. Among women who are not married, 73 percent report that they participate in the decisionmaking, whereas 27 percent say that someone else makes the decision.

As contribution to household expenditures increases, the likelihood of a woman's control over her earnings increases. For example, the percentage of married women who decide themselves or jointly with another person how her earnings should be used increases from 58 percent among those women who contribute almost nothing to household expenditures to 86 percent among those who are the sole contributors to household expenditures.

Table 3.7 Decision on use of earnings and contribution of earnings to household expenditures

Percent distribution of women employed in the 12 months preceding the survey receiving cash earnings by person who decides how earnings are to be used and by proportion of household expenditures met by earnings, according to background characteristics, Uzbekistan 2002

Background characteristic	Person who decides how earnings are used					Proportion of household expenditures met by earnings						
	Self only	Jointly	Someone else only	Missing	Total	Almost none/ none	Less than half	Half or more	All	Missing	Total	Number of women
Age												
15-19	31.3	16.6	52.0	0.0	100.0	49.7	40.6	8.8	1.0	0.0	100.0	154
20-24	33.0	17.4	49.6	0.0	100.0	42.2	41.6	14.8	1.3	0.2	100.0	408
25-29	29.4	23.4	47.1	0.1	100.0	31.0	50.1	17.6	1.1	0.1	100.0	360
30-34	43.7	32.6	23.7	0.0	100.0	29.2	48.3	19.1	3.3	0.0	100.0	414
35-39	41.2	34.5	24.3	0.0	100.0	27.4	47.7	19.2	5.6	0.1	100.0	381
40-44	42.1	39.3	18.6	0.0	100.0	28.3	45.2	21.9	4.6	0.0	100.0	322
45-49	52.0	33.0	15.0	0.0	100.0	27.7	40.4	25.5	6.3	0.0	100.0	247
Marital status												
Never married	45.5	15.1	39.4	0.0	100.0	45.9	37.7	15.3	0.9	0.2	100.0	356
Married or living together	31.2	34.7	34.1	0.0	100.0	30.8	48.2	18.7	2.3	0.1	100.0	1,716
Divorced/separated/ widowed	90.5	2.7	6.8	0.0	100.0	25.3	36.5	22.4	15.8	0.0	100.0	213
Number of living children												
0	42.7	15.8	41.5	0.0	100.0	41.4	39.3	16.8	2.4	0.1	100.0	502
1-2	41.6	23.4	34.9	0.0	100.0	31.2	44.6	19.1	5.1	0.0	100.0	771
3-4	36.7	37.9	25.4	0.0	100.0	28.7	48.3	20.7	2.4	0.0	100.0	781
5+	29.5	42.9	27.6	0.0	100.0	31.4	52.4	13.2	2.7	0.2	100.0	232
Residence												
Urban	56.6	23.3	20.1	0.0	100.0	28.3	43.0	22.6	6.1	0.0	100.0	1,074
Rural	23.3	33.4	43.3	0.0	100.0	36.4	47.7	14.9	0.9	0.1	100.0	1,211
Region												
Western	28.2	34.0	37.7	0.1	100.0	18.3	61.6	18.8	1.0	0.3	100.0	328
Central	38.3	30.5	31.2	0.0	100.0	30.8	53.8	13.3	2.1	0.0	100.0	530
East-Central	47.1	25.4	27.4	0.0	100.0	20.3	44.3	30.7	4.7	0.0	100.0	557
Eastern	21.5	31.7	46.8	0.0	100.0	55.8	31.7	11.8	0.7	0.1	100.0	617
Tashkent City	78.7	17.8	3.5	0.0	100.0	25.5	43.2	18.8	12.5	0.0	100.0	254
Oversampled areas												
Karakalpakstan	32.9	33.0	33.9	0.2	100.0	20.5	60.0	17.9	1.4	0.2	100.0	180
Ferghana	24.2	29.6	46.2	0.0	100.0	54.3	31.1	12.9	1.4	0.2	100.0	293
Education												
No education, primary, middle	31.4	29.0	39.6	0.0	100.0	36.5	39.1	20.4	3.9	0.0	100.0	129
Secondary	32.4	29.6	38.0	0.0	100.0	37.3	44.0	16.5	2.2	0.1	100.0	1,091
Secondary special	42.5	26.8	30.6	0.1	100.0	32.6	45.2	17.4	4.8	0.1	100.0	649
Higher	53.0	29.0	18.1	0.0	100.0	19.1	51.9	25.0	4.0	0.0	100.0	416
Ethnicity												
Uzbek	34.6	29.9	35.5	0.0	100.0	34.6	45.3	17.4	2.5	0.1	100.0	1,875
Russian	81.6	13.4	5.0	0.0	100.0	21.2	36.1	27.9	14.8	0.0	100.0	100
Karakalpak	37.8	30.1	31.5	0.6	100.0	16.7	67.0	14.4	1.4	0.6	100.0	61
Tajik	31.7	33.6	34.7	0.0	100.0	45.1	41.2	10.9	2.9	0.0	100.0	64
Kazakh	34.2	39.3	26.5	0.0	100.0	17.7	58.5	20.7	3.2	0.0	100.0	64
Tatar	(83.2)	(15.6)	(1.2)	(0.0)	(100.0)	(32.5)	(33.7)	(23.6)	(10.2)	(0.0)	(100.0)	40
Other	75.9	12.7	11.4	0.0	100.0	13.1	43.0	37.0	6.9	0.0	100.0	80
Total	38.9	28.7	32.4	0.0	100.0	32.6	45.5	18.5	3.3	0.1	100.0	2,285

Note: Figures in parentheses are based on 25-49 weighted cases.

Table 3.8 Women's control over earnings

Percent distribution of women who received cash earnings for work in the past 12 months by person who decides how earnings are used, according to current marital status, and the proportion of household expenditures met by earnings, Uzbekistan 2002

	Currently married or living together							Not married				
Contribution to household expenditures	Self only	Jointly with husband	Jointly with someone else	Husband only	Someone else only	Total	Number of women	Self only	Jointly with someone else	Someone else only	Total	Number of women
Almost none/none	31.3	26.4	0.4	24.1	17.8	100.0	528	60.4	8.4	31.2	100.0	217
Less than half	27.8	39.0	0.7	18.2	14.3	100.0	827	53.8	13.4	32.9	100.0	212
Half or more	34.9	37.4	0.0	18.1	9.6	100.0	321	72.9	11.9	15.2	100.0	102
All	(71.4)	(14.4)	(0.0)	(14.2)	(0.0)	(100.0)	39	95.8	0.0	4.2	100.0	37
Total	31.2	34.3	0.5	19.9	14.2	100.0	1,716	62.4	10.4	27.2	100.0	569

Note: Total includes 1 currently married woman and 1 unmarried woman for which information on contribution to household expenditures is missing.

3.7 MEN'S TRAVEL AWAY FROM HOME COMMUNITY

Absence from home can sometimes lead both men and women to engage in behaviors that they would not engage in while in their home community. For example, a person who travels away from home may be more likely to have sexual intercourse with someone other than a usual sexual partner.

Table 3.9 shows that 16 percent of men slept away from their home community at least once during the 12 months preceding the survey. The likelihood of having traveled away from the community increases with education, from 9 percent among men with a primary/middle school education to 25 percent of those with a higher education. Travel also varies by region, with twice the percentage of men in Central, East-Central, and Tashkent City regions traveling as men in the Western or Eastern regions.

Few men travel away for more than one month at a time (4 percent). It is clear, however, that among those who do travel away from their home community, repeat absences are likely: the median number of trips made over the 12 months preceding the survey is 2.

Table 3.9 Men's travel away from home community

Percentage of men who have traveled away from their home community and slept away at least once in the 12 months preceding the survey and percentage who have been away for one month or more at a time, and among men who have traveled away, median number of trips away, by background characteristics, Uzbekistan 2002

Background characteristic	Percentage of men who slept away from home at least once in the past year	Percentage of men who have been away for one month or more at a time	Median number of trips	Number of men
Age				
15-19	9.4	1.6	1.8	380
20-24	17.4	6.3	2.2	388
25-29	17.5	4.7	3.2	399
30-34	17.4	5.2	1.6	293
35-39	15.8	4.0	1.0	256
40-44	22.3	2.2	2.9	227
45-49	15.9	0.4	2.0	196
50-54	10.5	1.0	1.3	140
55-59	7.9	0.4	3.3	54
Marital status				
Never married	14.6	4.4	2.0	692
Married or living together	16.2	3.2	1.9	1,600
Divorced/separated/widowed	13.7	0.0	5.4	40
Residence				
Urban	17.5	4.0	2.4	916
Rural	14.4	3.2	1.8	1,417
Region				
Western	6.5	2.2	0.9	314
Central	19.7	4.7	2.1	510
East-Central	22.8	4.6	2.3	646
Eastern	8.7	2.1	2.0	665
Tashkent City	19.8	4.0	1.9	198
Oversampled areas				
Karakalpakstan	5.8	2.3	1.0	185
Ferghana	8.9	3.5	1.9	259
Education				
No education, primary, middle	8.6	2.0	1.5	188
Secondary	14.0	4.0	2.0	1,311
Secondary special	15.7	3.9	1.8	470
Higher	25.1	2.1	2.3	364
Ethnicity				
Uzbek	15.6	3.3	2.1	2,011
Russian	28.0	2.8	1.9	48
Karakalpak	7.5	4.3	0.7	67
Tajik	(10.3)	(0.0)	(1.5)	60
Kazakh	20.3	7.1	1.6	65
Tatar	(17.6)	(11.0)	(1.0)	48
Other	14.9	2.1	1.2	33
Total	15.7	3.5	2.0	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

FERTILITY

4

A.I. Kamilov, J. Sullivan, and Z.D. Mutalova

In the 2002 Uzbekistan Health Examination Survey (UHES), information on reproductive events was collected in two phases. First, respondents were asked to report separately the aggregate number of live births, stillbirths, abortions, and miscarriages they had experienced. Second, respondents were asked to report individually on the specifics of each of these events in a complete pregnancy history. For each reproductive event, the date of the event was recorded. For each live birth, information was collected on the sex of the child, his or her survival status, and current age or age at death.

This chapter presents the findings on fertility derived from the reported information on live births. The findings pertaining to pregnancy loss are presented in Chapter 6.

4.1 CURRENT FERTILITY

Table 4.1 shows age-specific fertility rates for the three-year period preceding the survey.[1] Rates are expressed per 1,000 women. The sum of the age-specific rates, known as the total fertility rate (TFR), is a summary measure of the level of fertility during a woman's childbearing years. The TFR is interpreted as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the observed age-specific rates. Two other summary measures are presented in Table 4.1: the general fertility rate (GFR) and the crude birth rate (CBR). The GFR represents the annual number of births in the population per 1,000 women age 15-44. The crude birth rate is the annual number of births per 1,000 population.[2]

Table 4.1 indicates that the TFR for the three-year period preceding the survey (2000-2002) was 2.9 children per woman. This level of fertility is notably higher than the TFRs for other Central Asian countries in which surveys were conducted after 1998: Romania, 1.3 children per woman; Ukraine, 1.4; Armenia

Table 4.1 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, Uzbekistan 2002

	Residence		
Age group	Urban	Rural	Total
15-19	38	41	40
20-24	201	253	235
25-29	134	199	171
30-34	83	101	94
35-39	34	38	36
40-44	6	10	8
45-49	0	0	0
TFR (15-49)	2.48	3.21	2.92
TFR (15-44)	2.48	3.21	2.92
GFR	86	116	104
CBR	19.8	27.5	24.4

Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation.
TFR = Total fertility rate expressed per woman
GFR = General fertility rate (births divided by number of women age 15-44) expressed per 1,000 women
CBR = Crude birth rate expressed per 1,000 population

[1] Numerators for age-specific fertility rates are calculated by summing the number of live births that occurred during the period 1-36 months preceding the survey (determined from the date of interview and date of a child's birth) and classifying those events by the mother's age at the time of the birth (in five-year groups). The denominators of the rates are the number of woman-years lived in each five-year age group during the period 1-36 months preceding the survey.

[2] The CBR is calculated from the births recorded in the pregnancy history during the three-year period preceding the survey and the total population figure recorded in the household schedule.

1.7; Azerbaijan, 2.1; Georgia, 1.7; and Kazakhstan, 2.1; and is the same as the TFR estimate for Turkmenistan, 2.9 children per woman (Sullivan et al., 2003).

The overall level of fertility in Uzbekistan (2.9 children per woman) obscures differentials by urban-rural residence. Age-specific fertility rates are higher among rural women throughout the childbearing years. As a result, the TFR for rural women (3.2 children per woman) is more than half a child greater than the TFR for urban women (2.5 children per woman).

Women in both urban and rural areas experience their peak childbearing years relatively early, that is, at age 20-24 years.

Table 4.2 and Figure 4.1 show TFRs for the three-year period preceding the survey by background characteristics. Fertility levels in the Western, Central, East-Central, and Eastern regions (ranging from 2.7 to 3.4 children per woman) are distinctly higher than in Tashkent City (2.0 children per woman).

Women in Uzbekistan show a pattern of fertility by level of education similar to that observed in many societies, that is, lower fertility among women with higher levels of education. The TFR was highest for women with a primary/middle school education or a secondary school education (3.1 children per woman for both), lower among women with a secondary-special education (2.8 children per woman), and even lower among women with a higher education (2.0 children per woman).

Ethnic differences in fertility are as expected for the region. The TFR for women who are ethnically Uzbek (3.0 children per women) is similar to that for women of other Asian ethnic groups (Karakalpak, Tajik, and Kazakh women; between 2.7 and 3.2 children per women) and distinctly higher than the TFR for Russian or Tatar women (1.4 and 2.0 children per women, respectively).

Table 4.2 shows the percentage of women who were pregnant at the time of the survey (4 percent). This is an underestimate of the true percentage who were pregnant because women at the early stages of pregnancy may not know they are pregnant and some women who know they are pregnant may not wish to declare

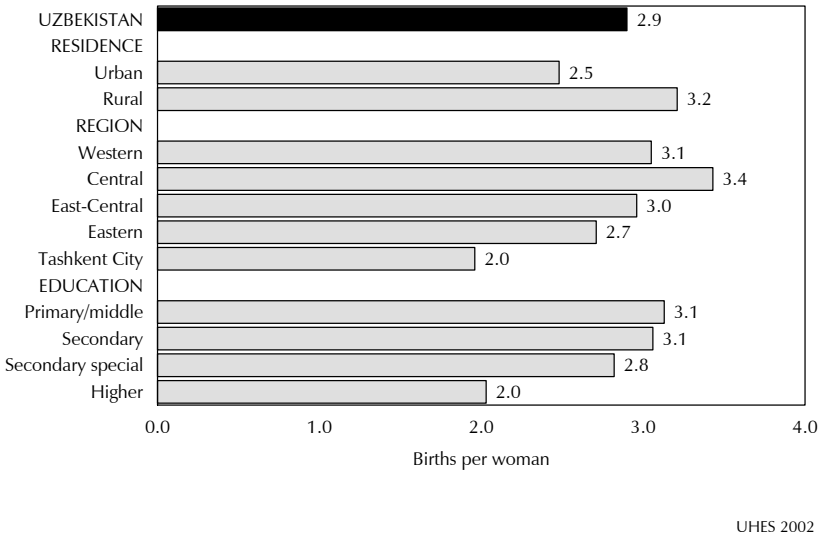
Table 4.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49, by background characteristics, Uzbekistan 2002

Background characteristic	Total fertility rate[1]	Percentage currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	2.48	3.3	3.4
Rural	3.21	4.8	5.1
Region			
Western	3.05	4.8	4.8
Central	3.43	3.8	4.7
East-Central	2.96	5.3	4.6
Eastern	2.71	4.2	4.2
Tashkent City	1.96	1.9	2.6
Oversampled areas			
Karakalpakstan	2.90	4.8	4.8
Ferghana	2.73	4.9	4.0
Education			
Primary/middle	3.13	3.9	5.1
Secondary	3.06	4.5	4.8
Secondary special	2.82	4.4	3.6
Higher	2.03	3.0	3.2
Ethnicity			
Uzbek	2.99	4.5	4.5
Russian	1.35	0.9	1.8
Karakalpak	2.69	4.5	4.6
Tajik	3.19	2.4	3.7
Kazakh	2.95	4.1	4.7
Tatar	(2.05)	0.0	2.6
Other	2.53	4.4	3.3
Difficulty making ends meet			
Great difficulty	2.90	4.3	4.5
Some difficulty	2.93	4.6	4.2
A little difficulty	2.90	4.1	4.3
Easily	3.02	2.9	3.9
Total	2.92	4.2	4.3

Note: Figures in parentheses are based on 125 to 249 person-years of exposure.
[1] Women age 15-49

Figure 4.1 **Total Fertility Rate by Background Characteristics**



that they are. Nevertheless, the differentials in pregnancy status between women in Tashkent City and women in other regions show the same pattern as the fertility differentials.

4.2 FERTILITY TRENDS

An indication of the trend in fertility can be seen by comparing TFRs for 2000-2002 (a measure of current fertility) with the mean number of children ever born (CEB) to women age 40-49 (a measure of past fertility of older women). At the national level, the TFR (2.9 children per woman) is lower than the number of children ever born to women age 40-49 (4.3 children per woman)—an indication that fertility has declined in Uzbekistan over the past three decades.

Fertility trends can be examined directly from the 2002 UHES data by calculating fertility rates for various periods preceding the survey. Table 4.3 shows fertility rates for four three-year periods preceding the survey.[3] The TFRs in the table are also broken down by age-specific rates for the four periods.

For most ages, there is a consistent decline in age-specific rates between each of the four time periods from 1991 to 2002 (see Figure 4.2). The TFRs indicate a 31 percent decline in fertility (1.33 children per woman), from 4.25 to 2.92 children per woman.

Also shown in Table 4.3 are TFRs from the 1996 Uzbekistan Demographic and Health Survey (UDHS). Comparing fertility estimates from the 1996 UDHS and the 2002 UHES indicates a decline in fertility of 27 percent between 1991-1993 and 2000-2002 (from 4.0 children per woman to 2.9 children per woman).

[3] Women age 15-49 were interviewed in the 2002 UHES. As a result, age-specific fertility rates for women in the older age intervals cannot be calculated for time periods well before the date of the survey. For example, rates cannot be calculated for women age 44-49 for the period 9 to 11 years before the survey because those women were older than 50 years at the time of the survey and were not interviewed. Rates based on fully or partially observed exposure for women as old as 40 to 44 years can be calculated for all time periods shown in Table 4.3.

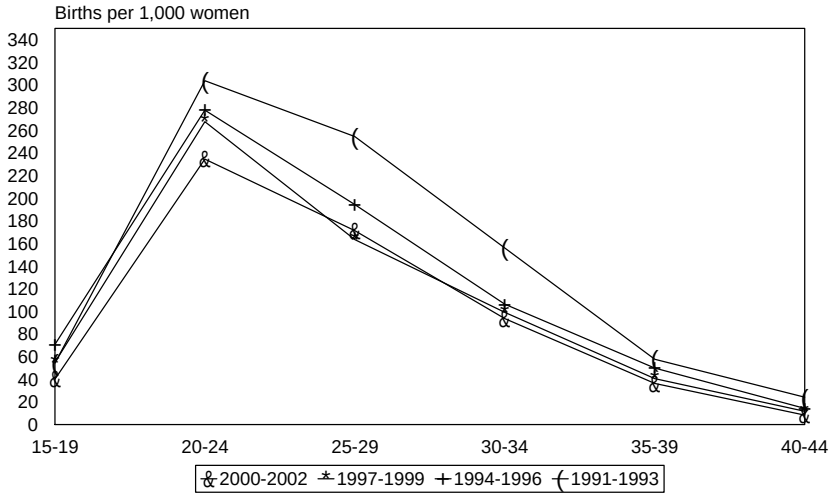
Table 4.3 Fertility trends

Age-specific and total fertility rates for three-year periods preceding the survey, 2002 UHES, 1996 UDHS, and Ministry of Health

	Three-year periods preceding the survey			
Age	2000-2002	1997-1999	1994-1996	1991-1993
	2002 UHES			
15-19	40.2	55.0	70.8	54.3
20-24	234.6	267.7	277.9	303.8
25-29	171.4	163.5	194.4	254.5
30-34	93.6	99.1	106.3	156.0
35-39	36.4	40.6	49.9	57.7
40-44	8.3	11.7	[14.3]	[24.1]
45-49	[0.0]	[0.0]	-	-
TFR 15-44	2.9	3.2	3.6	4.3
	1996 UDHS			
TFR 15-44	u	u	3.3	4.0
	Ministry of Health			
TFR 15-49	2.5	3.0	3.5	3.7

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets may be biased due to truncation.
TFR = Total fertility rate expressed per woman
u = Unknown (not available)
Source for Ministry of Health Statistics: WHO, 2003

Figure 4.2 Trends in Age-Specific Fertility Rates among Women Age 15-44



Fertility estimates reported by the Ministry of Health over the twelve-year period are also useful for examining fertility trends. For comparable time periods, the Ministry of Health rates are lower than those from the 2002 UHES, especially for the most recent period, 2000-2001.[4] Nevertheless, the Ministry of Health rates indicate a similar pace of fertility decline between 1991-1993 and 2000-2001 (31 percent), from 3.7 children per woman to 2.5 children per woman.

4.3 CHILDREN EVER BORN AND CHILDREN SURVIVING

Table 4.4 shows statistics on the number of children ever born to women by five-year age groups at the time of the survey. Statistics are shown for all women and for currently married women.

Among all women, the mean number of children ever born increases steadily with age. Relatively few women age 15-19 have given birth, and the mean number of children ever born for this age group is 0.03. On average, women age 20-24 have had slightly less than one child (0.84). The mean number of children ever born continues to increase with each older age group and peaks at 4.49 children ever born among women age 44-49.

The mean number of children ever born is higher at all ages for currently married women than for all women. Differences are greatest at the younger ages, where a large percentage of women are unmarried and have not begun childbearing. Differences between all women and currently married women at the older ages are relatively small, and the differences that do exit reflect the fertility-reducing effect of marital disruption (divorce and widowhood).

Table 4.4 Children ever born and living

Percent distribution of all women and currently married women by number of children ever born (CEB), and mean number of CEB, mean number of living children, and proportion dead among children ever born, according to age group, Uzbekistan 2002

	Number of children ever born															
Age	0	1	2	3	4	5	6	7	8	9	10+	Total	Number of women	Mean number of children ever born	Mean number of living children	Proportion dead of CEB
ALL WOMEN																
15-19	97.5	2.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,091	0.027	0.027	0.000
20-24	45.5	30.1	19.6	4.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,049	0.843	0.795	0.057
25-29	10.2	14.1	39.7	28.9	6.2	1.0	0.0	0.0	0.0	0.0	0.0	100.0	809	2.097	1.950	0.070
30-34	4.9	7.9	24.5	34.2	19.6	5.9	2.3	0.5	0.2	0.0	0.0	100.0	734	2.860	2.626	0.082
35-39	4.2	4.7	12.2	28.6	26.2	16.1	5.2	1.8	0.8	0.0	0.2	100.0	687	3.518	3.285	0.066
40-44	3.4	4.6	9.8	19.1	21.5	20.3	10.2	6.6	3.0	0.9	0.7	100.0	626	4.160	3.752	0.098
45-49	3.9	4.7	11.6	14.6	15.8	16.3	15.4	8.8	5.6	1.0	2.3	100.0	466	4.494	3.992	0.112
Total	31.6	10.9	16.6	16.7	10.8	6.7	3.4	1.8	0.9	0.2	0.3	100.0	5,463	2.165	1.984	0.084
CURRENTLY MARRIED WOMEN																
15-19	64.1	32.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	76	0.391	0.391	0.000
20-24	20.6	43.5	28.7	6.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	696	1.233	1.160	0.059
25-29	4.9	12.8	42.6	31.8	6.9	1.1	0.0	0.0	0.0	0.0	0.0	100.0	726	2.263	2.106	0.069
30-34	2.1	6.8	24.5	36.3	20.8	6.3	2.5	0.5	0.2	0.0	0.0	100.0	666	2.996	2.749	0.082
35-39	2.0	2.0	12.1	29.6	28.2	17.3	5.7	2.1	0.9	0.0	0.2	100.0	605	3.720	3.487	0.063
40-44	1.4	2.7	8.0	19.5	23.2	21.7	11.3	7.1	3.2	1.0	0.8	100.0	552	4.404	3.958	0.101
45-49	3.3	4.0	11.2	13.0	15.1	17.0	16.9	9.7	5.7	1.1	2.7	100.0	398	4.659	4.134	0.113
Total	7.4	13.7	22.5	23.0	14.9	9.2	4.9	2.5	1.3	0.3	0.4	100.0	3,720	2.974	2.725	0.084

[4] The most recent estimates of the TFR from the MOH are for 2000 and 2001. Because fertility has been steadily declining in Uzbekistan, the MOH rate for 2002 may continue that trend, in which case the MOH estimate for the three-year period 2000-2002 would be lower than the 2.5 rate shown in Table 4.3 (column entitled 2000-2002). Nevertheless, the MOH estimate of 2.5 is less than the survey estimate of 2.9.

4.4 BIRTH INTERVALS

The length of time between consecutive births can have important effects on the health of mothers and their children. Research has shown that children born too soon after a previous birth have an increased risk of dying, particularly when the interval between births is less than 24 months. Table 4.5 shows the percent distribution of non-first births (i.e., second- and higher-order births) occurring in the five years preceding the survey, by the number of months since the preceding live birth.

Table 4.5 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding live birth, according to background characteristics, Uzbekistan 2002

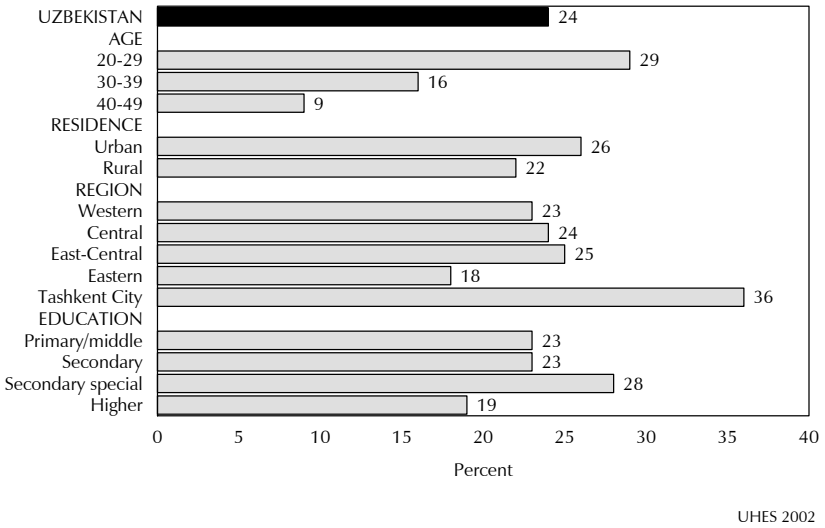
Background characteristic	Number of months since preceding live birth					Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48+			
Age								
15-19	*	*	*	*	*	*	2	*
20-29	12.2	17.0	36.6	18.9	15.3	100.0	963	29.8
30-39	7.1	9.0	17.1	15.8	51.1	100.0	636	48.8
40-49	3.2	5.9	19.7	12.9	58.3	100.0	72	59.3
Birth order								
2-3	11.2	14.9	30.9	17.1	25.9	100.0	1,232	32.9
4-6	7.2	9.2	22.2	18.4	43.0	100.0	400	41.6
7+	(2.4)	(10.7)	(14.9)	(17.5)	(54.6)	100.0	41	(54.4)
Survival of preceding birth								
Living	7.7	12.9	29.3	18.4	31.7	100.0	1,531	36.1
Dead	35.1	19.3	19.2	6.8	19.6	100.0	141	23.1
Residence								
Urban	12.0	14.0	23.0	16.8	34.2	100.0	601	36.5
Rural	8.9	13.1	31.5	17.7	28.8	100.0	1,072	34.6
Region								
Western	10.9	12.3	25.8	17.1	33.8	100.0	213	37.1
Central	11.5	12.6	30.2	19.7	26.0	100.0	446	33.9
East-Central	10.1	14.9	28.9	16.8	29.3	100.0	459	33.6
Eastern	6.3	11.6	27.6	18.1	36.3	100.0	439	37.7
Tashkent City	16.2	20.2	27.4	8.9	27.3	100.0	116	29.8
Oversampled areas								
Karakalpakstan	8.6	11.5	23.2	18.4	38.3	100.0	120	39.8
Ferghana	8.1	12.5	24.9	20.8	33.6	100.0	219	37.6
Education								
Primary/middle	12.8	9.9	41.8	13.0	22.4	100.0	170	31.0
Secondary	9.6	12.9	30.2	17.3	29.9	100.0	1,032	35.0
Secondary special	11.2	17.2	19.1	19.2	33.3	100.0	336	36.8
Higher	6.4	12.5	21.0	19.3	40.8	100.0	135	40.8
Difficulty making ends meet								
Great difficulty	8.8	11.0	28.4	17.6	34.2	100.0	484	37.4
Some difficulty	10.2	14.7	30.2	16.7	28.2	100.0	565	33.7
A little difficulty	12.1	13.8	26.6	14.8	32.8	100.0	491	34.9
Easily	5.9	15.9	27.8	29.0	21.4	100.0	131	36.1
Total	10.0	13.5	28.4	17.4	30.7	100.0	1,673	35.1

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Overall, 24 percent of non-first births occurred within 24 months of the preceding birth (Figure 4.3). This is fewer than the 30 percent found in the 1996 UDHS. As was the case with the 1996 UDHS, women age 20-29 have a greater propensity for closely spaced births than older women. Twenty-nine percent of non-first births among these women followed a birth interval of less than 24 months. The occurrence of closely spaced births was more likely if the preceding child had died than if that child was alive at the time of the survey.

The percentage of births following a short birth interval is lowest in the East region (18 percent) and highest in Tashkent City (36 percent). This is consistent with the regional differentials reported in the 1996 UDHS.

Figure 4.3 **Percentage of Non-first Births Born Within 24 Months of a Preceding Birth Interval**



4.5 AGE AT FIRST BIRTH

The age at which childbearing begins has important demographic consequences for society as a whole as well as for the health and welfare of the mother and her child. Early initiation of childbearing is generally associated with large family size and rapid population growth in populations where family planning is not widely practiced.

Table 4.6 shows the percentage of women who had a first birth by exact ages and the median age at first birth according to current age. The median age at first birth cannot be computed for women age 15-19 and 20-24 because less than half had a live birth before the beginning of the age group. However, recent trends in the initiation of childbearing among young women can be assessed by comparing the overall proportions that had given birth in the 1996 UDHS and the 2002 UHES. In the 1996 UDHS, 7 percent of women age 15-19 and 60 percent of women age 20-24 had given birth. In the 2002 UHES, the comparable figures are 2 percent for women age 15-19 and 54 percent for women age 20-24. The decline indicates a delay in the initiating of childbearing among women during the period from 1996 to 2002.

Table 4.6 Age at first birth

Among all women, percentage who gave birth by specific exact age, and median age at first birth, by current age, Uzbekistan 2002

Current age	Percentage who gave birth by exact age: 18	20	22	25	Percentage who have never given birth	Number of women	Median age at first birth
15-19	na	na	na	na	97.5	1,091	a
20-24	3.8	23.3	na	na	45.5	1,049	a
25-29	2.5	30.1	64.3	85.4	10.2	809	21.0
30-34	0.8	19.2	59.2	83.8	4.9	734	21.5
35-39	0.8	18.3	52.8	81.2	4.2	687	21.8
40-44	1.4	19.7	53.9	80.8	3.4	626	21.8
45-49	4.4	28.3	54.4	79.8	3.9	466	21.6

na = Not applicable

[a] Median was not calculated because less than 50 percent of women in the age group *x* to *x*+4 have married by age *x*.

Table 4.7 shows the median age at first birth, according to current age and background characteristics. As expected, urban women have their first birth later than rural women (a median of 22.0 years compared with 21.3 years). The median age at first birth is about one year older among women in Tashkent City than among women in the other regions. The largest differentials in median age at first birth are associated with education, where the median age is as much as three years older among women with a higher education than women with less education. For women age 25-29, the median age at first birth is 23.5 years among those with a higher education and 20.1 years among those with less than a secondary education.

Table 4.7 Median age at first birth by background characteristics

Median age at first birth among women 25-49, by current age and background characteristics, Uzbekistan 2002

Background characteristic	Current age 25-29	30-34	35-39	40-44	45-49	Women age 25-49
Residence						
Urban	21.3	21.9	22.0	22.5	22.5	22.0
Rural	20.9	21.3	21.7	21.4	21.1	21.3
Region						
Western	21.6	21.8	22.8	21.7	20.7	21.8
Central	20.8	21.8	21.9	21.9	22.2	21.7
East-Central	20.8	21.2	22.0	22.0	21.0	21.4
Eastern	20.9	21.2	21.4	21.3	21.2	21.2
Tashkent City	22.2	22.9	22.4	22.7	23.8	22.7
Oversampled areas						
Karakalpakstan	21.8	22.2	23.1	21.9	20.8	22.0
Ferghana	20.6	21.0	21.5	21.3	21.1	21.1
Education						
Primary/middle	20.1	21.4	21.6	21.3	20.6	21.0
Secondary	20.7	21.0	21.3	21.2	20.7	21.0
Secondary special	21.7	21.8	22.3	22.5	23.1	22.1
Higher	23.5	23.2	23.8	23.7	24.7	23.7
Ethnicity						
Uzbek	21.0	21.5	21.8	21.7	21.5	21.5
Russian	24.2	22.2	21.4	23.6	23.3	23.0
Karakalpak	21.6	22.4	22.8	22.7	20.9	22.0
Tajik	20.3	20.0	21.8	22.0	22.1	21.2
Kazakh	20.5	22.5	23.2	22.6	21.9	22.3
Tatar	22.4	27.4	23.7	23.6	24.7	23.8
Other	24.9	21.2	23.2	21.3	22.6	22.1
Difficulty making ends meet						
Great difficulty	21.2	21.6	21.9	21.8	21.2	21.6
Some difficulty	21.1	21.8	22.0	22.0	21.4	21.7
A little difficulty	20.8	21.1	21.7	21.5	21.9	21.3
Easily	20.9	21.5	21.5	21.8	21.8	21.5
Total	21.0	21.5	21.8	21.8	21.6	21.5

Note: The medians for cohorts 15-19 and 20-24 could not be determined because less than 50 percent of the women had given birth by exact ages 15 and 20, respectively.

4.6 ADOLESCENT FERTILITY

Fertility among women age 15-19 warrants special attention because motherhood at these young ages has been found in many societies to be associated with social and health problems for both the mother and her child. Children born to teenage mothers, especially those less than 18 years of age, have higher levels of morbidity and mortality than children born to older mothers.

Table 4.8 shows the percentage of women age 15-19 who had a first birth or who were pregnant with their first child at the time of the survey. Early childbearing is not the cultural norm in Uzbekistan, and only 4 percent of women age 15-19 had begun childbearing by the time of the survey. This is a decline from the 1996 UDHS, where 10 percent of women age 15-19 had begun childbearing.

As expected, the proportion of women who have begun childbearing increases rapidly during the teenage years, reaching 17 percent among women age 19.

Table 4.8 Teenage pregnancy and motherhood

Percentage of women age 15-19 who are mothers or pregnant with their first child, by background characteristics, Uzbekistan 2002

Background characteristic	Percentage who are: Mothers	Percentage who are: Pregnant with first child	Percentage who have begun child-bearing	Number of women
Age				
15	0.0	0.0	0.0	214
16	0.0	0.0	0.0	231
17	0.6	0.6	1.2	237
18	2.9	0.6	3.5	190
19	9.4	7.3	16.7	218
Residence				
Urban	2.5	2.5	5.0	378
Rural	2.5	1.3	3.8	713
Region				
Western	2.0	2.0	4.0	147
Central	3.3	0.5	3.8	280
East-Central	2.8	2.5	5.3	279
Eastern	1.7	2.0	3.8	299
Tashkent City	2.6	1.5	4.1	85
Oversampled areas				
Karakalpakstan	2.2	1.5	3.7	79
Ferghana	4.3	2.0	6.3	122
Education				
No education, Primary/middle	2.2	0.9	3.1	213
Secondary	3.1	2.2	5.3	654
Secondary special	1.1	1.2	2.3	179
Higher	(1.4)	(0.0)	(1.4)	45
Difficulty making ends meet				
Great difficulty	3.6	2.0	5.6	283
Some difficulty	1.2	1.6	2.8	387
A little difficulty	2.4	1.6	4.0	349
Easily	6.0	1.9	7.9	68
Total	2.5	1.7	4.2	1,091

Note: Figures in parentheses are based on 25-49 unweighted cases.

CONTRACEPTION 5

J.M. Sullivan and A.I. Kamilov

In Uzbekistan, family planning is part of maternal and child health services and is provided by the staff of women's consulting centers as well as by obstetricians and gynecologists working in polyclinics and hospitals throughout the country. The Ministry of Health is responsible for the supply of contraceptives, which are available free of charge from many government pharmacies, women's consulting centers, and hospitals. In recent years, contraceptives (mainly oral contraceptives and injectables) have become available from private pharmacies.

In this chapter, information collected from female respondents on family planning topics is presented. The topics addressed include knowledge of contraceptive methods, ever use and current use of contraception, and the number of children at first use of contraception. Additionally, the trend in the level of contraceptive use between the 1996 Uzbekistan Demographic and Health Survey (UDHS) and the 2002 Uzbekistan Health Examination Survey (UHES) is examined.

5.1 Data Collection Procedures

Knowledge about fertility control methods is an important step toward gaining access to and then using a suitable contraceptive method. Respondent knowledge of contraceptive methods was determined by asking women to name the ways or methods couples can prevent or delay pregnancy. When a respondent failed to mention a particular method spontaneously, the interviewer described the method and asked whether the respondent knew it.

Information about knowledge was obtained for eleven modern methods: female and male sterilization, the pill, the IUD, injectables, implants, male and female condoms, diaphragm, foam tablets/jelly, the lactational amenorrhea method (LAM), and emergency contraception. Information was also collected for three traditional methods: rhythm (periodic abstinence), withdrawal, and folk methods such as douche. The respondent was also asked whether she had ever used each method. Current use of contraception was determined by asking whether she (or her partner) was currently using a method and, if so, which one.

Three of the modern methods asked about in the 2002 UHES (the female condom, LAM, and emergency contraception) were not asked about in the 1996 UDHS. Therefore, the data collected in the two surveys are not comparable unless adjustments are made to offset the effect of the additional methods included in the 2002 survey. Section 5.5 of this chapter examines the trend in current use of contraception from 1996 to 2002 with appropriately adjusted data from the 2002 UHES.

5.2 Knowledge of Contraceptive Methods

Information on respondent knowledge of contraceptive methods is shown in Table 5.1. Among all women, knowledge of at least one method of contraception is high (91 percent). Knowledge of at least one modern method is also high (91 percent). By comparison, knowledge of at least one traditional method is much lower (46 percent). Among all women, the average number of methods known is high, on average five methods.

The most commonly known method is the IUD (known by 90 percent of all women). The pill, injectables, and male condom are the next most commonly known methods, (73, 66, and 57 percent of women, respectively). LAM and female sterilization are lesser-known modern methods; however, they

are known by substantial proportions of women (43 and 42 percent, respectively). Relative to the 1996 UDHS, a higher proportion of respondents in the 2002 UHES reported knowledge of each of these modern methods of contraception. This broadening of contraceptive knowledge is reflected by an increase in the average number of methods known by respondents between the two surveys, from four to five methods.

Table 5.1 presents the information on knowledge of contraceptive methods separately for three groups: currently married women,[1] unmarried women who have ever had sex, and unmarried women with no sexual experience. Knowledge of contraceptive methods is high among currently married women (99 percent) and unmarried women who have ever had sex (97 percent). However, it is markedly lower among women with no sexual experience (69 percent). Among currently married women, an average of six methods is known. However, among women with no sexual experience, an average of only two methods is known. For purposes of communicating family planning information, women of reproductive age who have not yet had sexual intercourse are an important audience because most of these women will initiate sexual activity in the near future.

Table 5.1 Knowledge of contraceptive methods

Percentage of all women, currently married women, unmarried women who have ever had sex, and unmarried women with no sexual experience, who know any contraceptive method, by specific method, Uzbekistan 2002

			Unmarried women	
Contraceptive method	All women	Currently married women	Women who have ever had sex	Women with no sexual experience
Any method	91.0	98.8	97.4	68.6
Any modern method	90.9	98.7	97.4	68.6
Female sterilization	41.9	50.9	49.8	16.0
Male sterilization	6.5	7.6	11.3	2.5
Pill	72.9	84.5	84.0	39.5
IUD	89.6	98.0	97.0	65.8
Injectables	65.5	77.9	72.2	31.0
Implants	2.6	2.9	4.6	1.3
Male condom	57.0	67.6	75.4	24.3
Female condom	5.0	5.6	10.1	2.3
Diaphragm	2.3	2.6	4.2	1.3
Foam/jelly	7.9	9.5	13.4	2.4
Emergency contraception	8.1	9.9	13.4	2.2
LAM	42.9	54.8	48.8	9.9
Any traditional method	45.8	58.0	61.3	9.9
Periodic abstinence	33.7	41.2	51.7	9.2
Withdrawal	34.6	45.3	41.5	4.6
Folk method	2.6	3.1	6.4	0.2
Number of women	5,463	3,720	339	1,406
Mean number of methods known	4.7	5.6	5.8	2.1

LAM = Lactational amenorrhea method

[1] The "currently married" category includes women in both formal unions (civil or religious) and informal unions (living together).

Table 5.2 shows the percentage of currently married women who know any method and any modern method by background characteristics. Knowledge of at least one modern method is nearly universal among all subgroups of currently married women (96 percent or higher), with the exception of women age 15-19 (85 percent).

Table 5.2 Knowledge of contraceptive methods by background characteristics

Percentage of currently married women who know at least one contraceptive method and who know at least one modern method, by background characteristics, Uzbekistan 2002

Background characteristic	Knows any method	Knows any modern method[1]	Number of women
Age			
15-19	84.7	84.7	76
20-24	97.1	97.1	696
25-29	99.6	99.6	726
30-34	99.6	99.6	666
35-39	99.8	99.8	605
40-44	99.7	99.6	552
45-49	99.2	98.3	398
Residence			
Urban	99.4	99.2	1,434
Rural	98.5	98.4	2,286
Region			
Western	99.6	99.6	446
Central	99.8	99.8	889
East-Central	98.1	97.8	999
Eastern	97.9	97.8	1,082
Tashkent City	100.0	100.0	304
Oversampled areas			
Karakalpakstan	99.2	99.2	238
Ferghana	95.9	95.7	471
Education			
Primary/middle	97.6	97.6	316
Secondary	98.6	98.6	2,234
Secondary special	99.5	99.1	771
Higher	99.6	99.4	399
Ethnicity			
Uzbek	98.8	98.7	3,220
Russian	100.0	100.0	93
Karakalpak	99.6	99.6	84
Tajik	97.0	96.4	111
Kazakh	98.4	98.4	93
Other	100.0	100.0	121
Difficulty making ends meet			
Great difficulty	99.1	98.9	1,006
Some difficulty	98.8	98.7	1,296
A little difficulty	98.7	98.6	1,122
Easily	98.4	98.4	292
Total	98.8	98.7	3,720

[1] Female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, diaphragm, foam or jelly, lactational amenorrhea (LAM), and emergency contraception

5.3 EVER USE OF CONTRACEPTION

All respondents who had heard of a method of contraception were asked whether they (or a partner) had ever used the method. Table 5.3 shows ever-use statistics separately for three groups: all women, currently married women, and unmarried sexually active women.

Among all women, 62 percent have used a method of contraception at some time in their life. The level of ever use among all women is lower than among currently married women because the former includes women who have never had sexual intercourse and are nonusers.

Among currently married women, 85 percent have used contraception. Ever use of modern methods is high (82 percent), and by far the most commonly used method is the IUD. Overall, 73 percent of currently married women have used the IUD at some time. Nevertheless, a significant proportion of currently married women have used traditional methods (25 percent). The traditional methods most frequently used by women are withdrawal (18 percent) and periodic abstinence (12 percent).

Table 5.3 Ever use of contraception

Percentage of all women, currently married women, and sexually active unmarried women who have ever used any contraceptive method, by specific method and age, Uzbekistan 2002

		Modern method													Traditional method				
Age	Any method	Any modern method	Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	Female condom	Diaphragm	Foam/jelly	Emergency contraception	LAM	Any traditional method	Periodic abstinence	Withdrawal	Folk method	Number of women
ALL WOMEN																			
15-19	2.2	1.9	0.0	0.0	0.3	0.7	0.1	0.0	0.4	0.0	0.0	0.0	0.0	1.2	0.7	0.2	0.6	0.0	1,091
20-24	46.7	45.4	0.1	0.0	4.7	35.8	2.2	0.0	6.7	0.0	0.1	0.3	0.2	14.6	10.9	5.6	7.8	0.1	1,049
25-29	83.6	81.8	0.6	0.0	13.4	72.1	9.5	0.0	10.5	0.0	0.0	0.6	0.4	21.8	23.1	11.1	17.3	1.0	809
30-34	86.3	84.6	2.6	0.0	12.3	77.9	7.2	0.0	18.2	0.0	0.0	0.4	0.6	18.8	25.0	9.9	18.4	2.0	734
35-39	88.8	86.2	5.1	0.1	16.8	80.2	12.1	0.4	17.8	0.6	0.0	0.8	0.5	20.3	29.0	15.5	19.9	1.9	687
40-44	88.4	86.2	4.0	0.0	13.8	76.3	11.7	0.0	16.4	0.0	0.0	0.2	0.3	20.6	30.7	14.5	21.2	3.1	626
45-49	80.9	78.1	4.4	0.3	14.4	65.1	10.8	0.4	15.0	0.6	0.0	0.1	0.0	21.5	27.9	14.6	18.0	2.5	466
Total	61.6	60.0	1.9	0.0	9.5	52.5	6.6	0.1	10.8	0.1	0.0	0.3	0.3	15.6	18.6	9.0	13.1	1.2	5,463
CURRENTLY MARRIED WOMEN																			
15-19	30.2	25.8	0.0	0.0	4.9	10.1	0.8	0.0	4.3	0.0	0.0	0.0	0.0	17.6	9.9	3.5	8.6	0.0	76
20-24	67.1	65.1	0.1	0.0	6.8	52.3	3.3	0.0	7.8	0.0	0.2	0.2	0.4	21.3	15.5	7.8	11.1	0.1	696
25-29	89.4	87.4	0.6	0.0	14.3	77.9	10.3	0.0	10.4	0.0	0.0	0.7	0.5	23.5	24.8	12.2	18.5	1.1	726
30-34	91.0	89.1	2.2	0.0	13.0	82.1	7.5	0.0	18.7	0.0	0.0	0.1	0.2	19.9	26.1	10.4	19.4	2.0	666
35-39	93.3	91.2	5.8	0.1	17.1	85.5	13.1	0.5	18.1	0.7	0.0	0.9	0.6	21.3	30.4	15.6	21.5	2.0	605
40-44	92.3	89.9	4.6	0.0	14.2	80.5	12.6	0.0	16.1	0.0	0.0	0.2	0.4	20.4	30.7	13.6	22.2	2.8	552
45-49	82.7	79.6	4.1	0.0	15.7	67.6	11.9	0.4	14.2	0.7	0.0	0.1	0.0	22.1	28.7	14.0	19.5	2.6	398
Total	84.6	82.4	2.6	0.0	13.1	73.0	9.3	0.1	13.8	0.2	0.0	0.4	0.4	21.3	25.2	11.8	18.2	1.6	3,720
SEXUALLY ACTIVE UNMARRIED WOMEN[1]																			
Total	78.5	76.6	0.0	0.0	9.5	57.2	0.0	0.0	41.6	0.0	0.0	2.0	0.0	10.2	23.8	9.5	20.2	1.5	31

LAM = Lactational amenorrhea method
[1] Women who had sexual intercourse in the month preceding the survey

Among currently married women, ever use of contraception increases sharply between women age 15-19 (30 percent) and women age 20-24 (67 percent), remains stable from age 25 to 44 (about 90 percent), and declines among women age 45-49 (83 percent).

Among unmarried sexually active women, ever use of contraception is also high. Seventy-nine percent of these women reported using a method at some time. Ever use of the IUD (57 percent) and the male condom (42 percent) are most frequently reported.

5.4 CURRENT USE OF CONTRACEPTION

Table 5.4 shows current use of contraceptive methods. About half of all women of reproductive age (48 percent) are currently using a method of contraception; 44 percent use a modern method and 4 percent use a traditional method. Among currently married women, two-thirds (68 percent) are currently using contraception; 63 percent use a modern method and 5 percent use a traditional method.

Table 5.4 Current use of contraception

Percent distribution of all women, currently married women, and sexually active unmarried women by contraceptive method currently used, according to age, Uzbekistan 2002

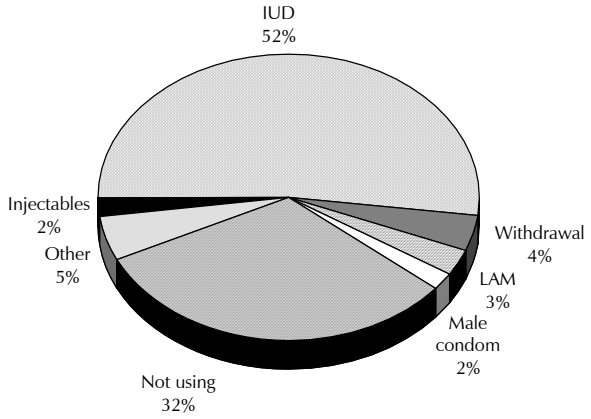
		Modern method								Traditional method						
Age	Any method	Any modern method[1]	Female sterilization	Pill	IUD	Injectables	Male condom	Foam/jelly	LAM	Any traditional method	Periodic abstinence	Withdrawal	Folk method	Not currently using	Total	Number of women
ALL WOMEN																
15-19	1.9	1.6	0.0	0.2	0.6	0.0	0.1	0.0	0.8	0.3	0.0	0.3	0.0	98.1	100.0	1,091
20-24	35.4	33.5	0.1	1.1	25.5	0.4	1.6	0.0	4.8	1.9	0.2	1.6	0.0	64.6	100.0	1,049
25-29	65.7	61.5	0.6	1.2	53.1	1.8	1.6	0.0	3.2	4.2	0.8	3.3	0.1	34.3	100.0	809
30-34	71.4	65.6	2.6	1.8	55.5	1.5	2.4	0.0	1.8	5.8	1.2	4.1	0.5	28.6	100.0	734
35-39	75.5	71.9	5.1	2.1	59.5	2.5	1.8	0.0	0.8	3.6	2.2	1.4	0.1	24.5	100.0	687
40-44	67.9	61.2	4.0	1.6	49.8	3.4	2.1	0.0	0.2	6.8	1.1	5.2	0.4	32.1	100.0	626
45-49	43.1	38.6	4.4	0.5	30.7	1.1	1.7	0.1	0.0	4.6	0.9	2.9	0.8	56.9	100.0	466
Total	47.5	44.0	1.9	1.2	36.1	1.3	1.5	0.0	1.9	3.5	0.8	2.4	0.2	52.5	100.0	5,463
CURRENTLY MARRIED WOMEN																
15-19	26.8	22.4	0.0	2.2	7.9	0.0	0.5	0.0	11.7	4.5	0.0	4.5	0.0	73.2	100.0	76
20-24	52.0	49.4	0.1	1.5	38.0	0.6	2.1	0.0	7.1	2.6	0.4	2.2	0.0	48.0	100.0	696
25-29	71.6	67.1	0.6	1.4	58.1	2.0	1.5	0.0	3.6	4.4	0.9	3.5	0.1	28.4	100.0	726
30-34	76.4	69.9	2.2	2.0	59.7	1.6	2.6	0.0	2.0	6.4	1.3	4.5	0.6	23.6	100.0	666
35-39	82.4	78.4	5.8	2.2	64.6	2.9	1.9	0.0	0.9	4.0	2.4	1.6	0.1	17.6	100.0	605
40-44	75.6	68.3	4.6	1.8	55.7	3.8	2.2	0.0	0.2	7.4	1.1	5.8	0.4	24.4	100.0	552
45-49	47.7	42.5	4.1	0.6	34.5	1.3	1.9	0.1	0.0	5.2	0.9	3.4	0.9	52.3	100.0	398
Total	67.7	62.8	2.6	1.6	51.8	2.0	2.0	0.0	2.8	4.9	1.1	3.5	0.3	32.3	100.0	3,720
SEXUALLY ACTIVE UNMARRIED WOMEN[2]																
Total	53.1	44.4	0.0	2.1	32.1	0.0	10.1	0.0	0.0	8.8	1.7	5.6	1.5	46.9	100.0	31

Note: If more than one method was reported, the most effective method was considered the current method.
[1] Includes female condom and emergency contraception
[2] Women who had sexual intercourse in the month preceding the survey
LAM = Lactational amenorrhea method

Figure 5.1 shows the distribution of currently married women by method currently used. The IUD is by far the most commonly used method; a little more than half of currently married women are using the IUD (52 percent). No other method of contraception is used by more than 4 percent of married women. Thus, the practice of family planning in Uzbekistan places high reliance on a single method, the IUD, although other modern methods are widely known. Since the goal of the family planning program is to provide each woman with a choice of safe and effective methods, the program should ensure that each woman is educated about the appropriateness of the different methods and given a choice in selecting a method.

Among currently married women, use of modern methods increases steadily by age, peaking in age group 35-39 (78 percent), and then declines among women age 40-44 (76 percent) and 45-49 (48 percent). The most frequently used method is the IUD in all age groups except women 15-19, for whom LAM is the most common method (12 percent). Less than 5 percent of currently married women are using a traditional method.

Figure 5.1 **Current Use of Contraceptive Methods among Currently Married Women**



LAM = Lactational amenorrhea method

UHES 2003

Table 5.5 and Figure 5.2 show contraceptive use among currently married women by background characteristics. The most significant finding is the high level of use across almost all background characteristics. The percentage of currently married women using any method is virtually identical in urban and rural areas (66 and 69 percent, respectively) and use of any method is high in all regions (between 62 and 76 percent). Differentials by education in contraceptive use are small (varying between 63 and 69 percent).

As expected, the greatest differences in contraceptive use are by number of living children. The percentage using contraception is small among currently married women with no children (4 percent), increases sharply to 50 percent among those with one child, and is stable at about 76 percent among women with two or more children.

Table 5.5 Current use of contraception by background characteristics

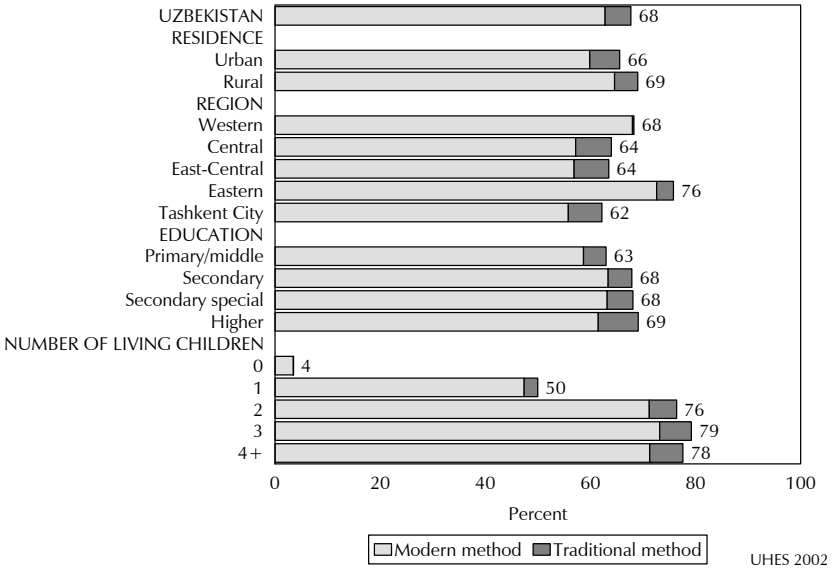
Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, Uzbekistan 2002

		Modern method								Traditional method						
Background characteristic	Any method	Any modern method	Female sterilization	Pill	IUD	Injectables	Male condom	Foam/jelly	LAM	Any traditional method	Periodic abstinence	Withdrawal	Folk method	Not currently using	Total	Number of women
Residence																
Urban	65.6	59.9	2.1	2.1	48.8	1.6	3.6	0.0	1.7	5.7	1.5	3.5	0.7	34.4	100.0	1,434
Rural	69.0	64.6	2.9	1.4	53.6	2.2	1.0	0.0	3.5	4.4	0.9	3.5	0.1	31.0	100.0	2,286
Region																
Western	68.3	68.0	2.9	1.5	57.0	2.4	0.6	0.0	3.7	0.3	0.2	0.2	0.0	31.7	100.0	446
Central	64.0	57.2	4.4	1.2	45.0	1.7	1.3	0.0	3.6	6.8	1.4	4.8	0.6	36.0	100.0	889
East-Central	63.5	56.9	2.1	1.6	46.2	2.2	2.6	0.0	2.2	6.6	1.1	5.3	0.2	36.5	100.0	999
Eastern	75.8	72.6	1.6	2.0	62.6	2.2	1.2	0.0	3.0	3.2	0.5	2.6	0.1	24.2	100.0	1,082
Tashkent City	62.2	55.8	1.9	2.0	43.5	0.4	7.2	0.2	0.6	6.4	3.9	1.8	0.7	37.8	100.0	304
Oversampled areas																
Karakalpakstan	67.9	67.9	1.9	0.7	59.6	2.1	0.4	0.0	3.2	0.0	0.0	0.0	0.0	32.1	100.0	238
Ferghana	74.9	72.7	1.1	1.8	62.5	2.1	1.1	0.0	3.9	2.2	0.9	1.1	0.2	25.1	100.0	471
Education																
Primary/ middle	63.0	58.7	3.1	0.5	47.6	1.6	0.2	0.0	5.5	4.3	0.2	4.1	0.0	37.0	100.0	316
Secondary	67.9	63.4	2.6	1.5	53.1	1.8	1.5	0.0	2.8	4.5	1.0	3.4	0.1	32.1	100.0	2,234
Secondary special	68.1	63.2	2.3	1.4	51.0	2.6	3.2	0.0	2.6	4.9	0.7	3.3	0.9	31.9	100.0	771
Higher	69.2	61.5	2.4	3.7	48.8	1.9	4.0	0.0	0.9	7.6	3.6	3.7	0.3	30.8	100.0	399
Number of living children																
0	3.5	3.5	0.6	0.6	0.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	96.5	100.0	294
1	50.0	47.4	1.1	2.3	34.3	0.2	1.9	0.0	7.6	2.6	0.8	1.7	0.1	50.0	100.0	560
2	76.4	71.2	2.4	1.7	60.5	1.3	2.3	0.1	2.9	5.2	1.0	3.9	0.4	23.6	100.0	917
3	79.2	73.2	2.2	1.2	61.9	3.5	2.3	0.0	2.2	6.0	2.3	3.5	0.2	20.8	100.0	881
4+	77.5	71.3	4.4	1.9	59.2	2.7	1.7	0.0	1.4	6.3	0.8	5.0	0.4	22.5	100.0	1,068
Ethnicity																
Uzbek	68.4	63.8	2.6	1.6	52.9	2.0	1.6	0.0	3.0	4.6	0.9	3.4	0.2	31.6	100.0	3,220
Russian	57.1	45.1	3.7	3.0	32.0	0.0	5.8	0.6	0.0	12.0	8.0	1.3	2.7	42.9	100.0	93
Karakalpak	69.5	69.5	1.8	0.6	61.4	1.5	0.0	0.0	4.2	0.0	0.0	0.0	0.0	30.5	100.0	84
Tajik	66.4	55.9	2.2	1.3	43.3	3.4	4.4	0.0	1.3	10.5	1.3	9.2	0.0	33.6	100.0	111
Kazakh	62.4	59.4	2.0	0.4	51.3	1.6	3.3	0.0	0.9	3.0	0.7	2.3	0.0	37.6	100.0	93
Other	601.9	51.7	2.0	43.5	35.8	0.7	8.3	0.0	3.5	7.9	1.9	6.3	0.0	39.1	100.0	121
Difficulty making ends meet																
Great difficulty	67.1	60.7	2.7	2.1	49.8	1.7	1.5	0.1	2.8	6.4	1.4	4.3	0.7	32.9	100.0	1,006
Some difficulty	69.3	64.9	2.8	1.6	53.8	1.7	2.1	0.0	3.0	4.4	1.0	3.1	0.2	30.7	100.0	1,296
A little difficulty	66.5	62.2	2.3	1.2	51.1	2.4	2.6	0.0	2.6	4.3	1.0	3.2	0.1	33.5	100.0	1,122
Easily	66.6	62.0	2.4	2.0	51.7	2.2	1.2	0.0	2.4	4.5	1.0	3.5	0.0	33.4	100.0	292
Total	67.7	62.8	2.6	1.6	51.8	2.0	2.0	0.0	2.8	4.9	1.1	3.5	0.3	32.3	100.0	3,720

Note: If more than one method was reported, the most effective method was considered the current method.
LAM = Lactational amenorrhea method

Differentials in method mix among currently married women are overshadowed by the heavy reliance on the IUD. However, the broadest method mix is observed among women in Tashkent City. While use of the IUD still predominates (44 percent in Tashkent City), use of the condom (7 percent) is higher than in any other region.

Figure 5.2 **Current Use of Family Planning by Background Characteristics, Currently Married Women Age 15-49**



5.5 TRENDS IN CURRENT USE OF CONTRACEPTION FROM 1996 TO 2002

Current use statistics from the 1996 UDHS and the 2002 UHES provide an opportunity to assess the recent trend in the prevalence of contraceptive use. However, the assessment must be based on the same set of contraceptive methods in each survey. Table 5.6 shows current use statistics from the 2002 survey for the same set of contraceptive methods asked about in the 1996 survey, that is, all methods of current use reported in the 2002 survey except the female condom, LAM, and emergency contraception (methods not considered in the 1996 survey).

Overall, among currently married women, current use of modern methods increased from 51 percent in 1996 to 60 percent in 2002, an absolute increase of 9 percentage points, or 18 percent. There was little absolute change in the use of traditional methods (from 4 percent in 1996 to 5 percent in 2002).

Particularly noteworthy are the trends in contraceptive use by among younger women. Among currently married women age 20-24 and 25-29, who have the highest fertility rates, the increase in contraceptive use is particularly large: in excess of 20 percent (from 36 to 45 percent for women age 20-24 and from 55 to 68 percent for women age 25-29, from 1996 to 2002, respectively). Among currently married women age 30-34 and 35-39, increases in the use of contraception are 10 percent or less.

Table 5.6 Current use of contraception exclusive of the female condom, LAM, and emergency contraception

Percent distribution of all women, currently married women, and sexually active unmarried women by contraceptive method currently used, according to age, Uzbekistan 2002

		Modern method							Traditional method						
Age	Any method	Any modern method	Female sterilization	Pill	IUD	Injectables	Male condom	Foam/jelly	Any traditional method	Periodic abstinence	Withdrawal	Folk method	Not currently using	Total	Number of women
ALL WOMEN															
15-19	1.1	0.8	0.0	0.2	0.6	0.0	0.1	0.0	0.3	0.0	0.3	0.0	98.9	100.0	1,091
20-24	30.6	28.7	0.1	1.1	25.5	0.4	1.6	0.0	1.9	0.2	1.6	0.0	69.4	100.0	1,049
25-29	62.5	58.3	0.6	1.2	53.1	1.8	1.6	0.0	4.2	0.8	3.3	0.1	37.5	100.0	809
30-34	69.6	63.8	2.6	1.8	55.5	1.5	2.4	0.0	5.8	1.2	4.1	0.5	30.4	100.0	734
35-39	74.7	71.1	5.1	2.1	59.5	2.5	1.8	0.0	3.6	2.2	1.4	0.1	25.3	100.0	687
40-44	67.8	61.0	4.0	1.6	49.8	3.4	2.1	0.0	6.8	1.1	5.2	0.4	32.2	100.0	626
45-49	43.1	38.6	4.4	0.5	30.7	1.1	1.7	0.1	4.6	0.9	2.9	0.8	56.9	100.0	466
Total	45.6	42.1	1.9	1.2	36.1	1.3	1.5	0.0	3.5	0.8	2.4	0.2	54.4	100.0	5,463
CURRENTLY MARRIED WOMEN															
15-19	15.1	10.6	0.0	2.2	7.9	0.0	0.5	0.0	4.5	0.0	4.5	0.0	84.9	100.0	76
20-24	44.9	42.3	0.1	1.5	38.0	0.6	2.1	0.0	2.6	0.4	2.2	0.0	55.1	100.0	696
25-29	68.0	63.6	0.6	1.4	58.1	2.0	1.5	0.0	4.4	0.9	3.5	0.1	32.0	100.0	726
30-34	74.4	68.0	2.2	2.0	59.7	1.6	2.6	0.0	6.4	1.3	4.5	0.6	25.6	100.0	666
35-39	81.5	77.5	5.8	2.2	64.6	2.9	1.9	0.0	4.0	2.4	1.6	0.1	18.5	100.0	605
40-44	75.4	68.1	4.6	1.8	55.7	3.8	2.2	0.0	7.4	1.1	5.8	0.4	24.6	100.0	552
45-49	47.7	42.5	4.1	0.6	34.5	1.3	1.9	0.1	5.2	0.9	3.4	0.9	52.3	100.0	398
Total	64.9	60.0	2.6	1.6	51.8	2.0	2.0	0.0	4.9	1.1	3.5	0.3	35.1	100.0	3,720
SEXUALLY ACTIVE UNMARRIED WOMEN[1]															
Total	53.1	44.4	0.0	2.1	32.1	0.0	10.1	0.0	8.8	1.7	5.6	1.5	46.9	100.0	31

Note: If more than one method was reported, the most effective method was considered the current method.
[1] Women who had sexual intercourse in the month preceding the survey

5.6 CURRENT USE OF CONTRACEPTION BY WOMEN'S STATUS

A woman's desire and ability to manage her fertility and her choice of contraceptive method are in part affected by her status and self-image. A woman who feels that she does not have much control over the basic aspects of her life may be less likely to feel that she can make and carry out decisions about her fertility. She may also feel the need to choose methods of contraception that do not depend on her husband's cooperation. Chapter 16 provides a discussion of the measures of women's status used in the 2002 UHES.

Table 5.7 shows the distribution of currently married women by contraceptive method currently used, according to three measures of women's status. The first measure is the number of household decisions over which a woman has the final say. Use of contraception is lowest among women who reported no participation in decisionmaking (59 percent). Among women who said they participate in decisionmaking, use of contraception is between 65 and 75 percent. There are also differences in contraceptive use according to a woman's attitude toward a woman's ability to refuse sexual relations with her husband. Women who felt that there was no justifiable reason to refuse sexual relations with their husband reported lower use of contraception (49 percent) than women reporting one or two reasons (70 percent) or three to four reasons (68 percent).

Table 5.7 Current use of contraception by women's status

Percent distribution of currently married women by contraceptive method currently used, according to indicators of women's status, Uzbekistan 2002

		Modern method								Traditional method						
Indicator of women's status	Any method	Any modern method	Female sterilization	Pill	IUD	Injectables	Male condom	Foam/jelly	LAM	Any traditional method	Periodic abstinence	Withdrawal	Folk method	Not currently using	Total	Number of women
Number of decisions in which woman has final say[1]																
0	59.3	56.5	1.9	0.8	46.9	2.6	0.3	0.0	3.9	2.9	0.4	2.5	0.0	40.7	100.0	417
1-3	69.9	65.2	2.3	1.5	53.7	1.8	2.1	0.0	3.8	4.7	0.9	3.7	0.2	30.1	100.0	1,646
4-6	67.1	62.3	3.1	1.5	51.1	1.9	2.8	0.0	2.0	4.8	1.0	3.6	0.3	32.9	100.0	1,030
7-8	68.2	61.4	3.1	2.9	50.9	2.1	1.7	0.1	0.7	6.8	2.4	3.5	0.8	31.8	100.0	628
Number of reasons to refuse sex with husband																
0	49.4	49.4	8.2	1.6	35.6	1.8	1.1	0.0	1.1	0.0	0.0	0.0	0.0	50.6	100.0	59
1-2	69.9	66.9	2.2	1.0	56.3	1.8	2.8	0.0	2.8	2.9	1.0	1.5	0.4	30.1	100.0	287
3-4	67.8	62.6	2.5	1.7	51.7	2.0	1.9	0.0	2.8	5.1	1.2	3.7	0.3	32.2	100.0	3,374
Total	67.7	62.8	2.6	1.6	51.8	2.0	2.0	0.0	2.8	4.9	1.1	3.5	0.3	32.3	100.0	3,720

Note: If more than one method was reported, the most effective method was considered the current method.
LAM = Lactational amenorrhea method
[1] Either by herself or jointly with others

INDUCED ABORTION 6

J.M. Sullivan and A.I. Kamilov

The practice of induced abortion can adversely affect a woman's health, reduce her chances for further childbearing, and contribute to maternal and perinatal mortality. The Ministry of Health (MOH) of the Republic of Uzbekistan has been concerned about the impact of abortion and, in particular, the repeat use of abortion on a woman's health. In an effort to curtail this practice, the MOH is committed to providing women and couples with a broad choice of safe and effective contraceptive methods.

Induced abortion is legal in Uzbekistan if done during the first 12 weeks of pregnancy.[1] These procedures are typically preformed at the outpatient departments of general hospitals or delivery hospitals. Abortion services may be free of charge, but since the mid-1990s fee-for-service facilities offering mini-abortions by the vacuum aspiration technique have became available.

International experience with the collection of abortion data using survey methodology has been relatively unsuccessful. The explanation seems to be that, because of the negative social stigma associated with abortion in most populations, respondents are reluctant to report these events. However, in the republics of the former Soviet Union and in many Eastern European countries, induced abortion is an accepted means of fertility control, and data on this topic have been collected in households in a number of these countries with apparent success (Sullivan, et al., 2003; Westoff et al., 1998, 2002).

Information on abortion was collected in the 1996 UDHS. Despite the apparent success in collecting these data elsewhere, the survey abortion rates were somewhat lower than those reported by the MOH. The conclusion in the 1996 UDHS was that abortions were underreported by survey respondents (Institute of Obstetrics and Gynecology and Macro International Inc., 1997). Nevertheless, questions on abortion were pretested and included in the final questionnaires for the 2002 UHES.

The abortion information was collected in the reproductive section of the Woman's Questionnaire (Appendix E), following the same procedures employed in the 1996 UDHS. The first part of the reproductive section consisted of a series of questions to determine the aggregate number of live births, induced abortions, miscarriages, and stillbirths that a respondent had experienced in her lifetime. When reporting the number of abortions, respondents were told to include pregnancies terminated by vacuum aspiration (i.e., mini-abortions).[2] Next, an event-by-event pregnancy history was collected. For each pregnancy, the type of outcome and year and month of termination were recorded.[3]

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[1] In some cases induced abortion can be performed after 12 weeks if certain medical or social conditions exist. These cases require strong supervision of qualified medical personnel in a hospital setting (Ministry of Health, 1996).

[2] The term "abortion" as used in the remainder of this report includes mini-abortions.

[3] The pregnancy history was structured to maximize the completeness of reporting of abortions, especially for the period immediately prior to the survey. Data were collected in reverse chronological order (i.e., information was first collected about the most recent pregnancy and then about the next-to-last, etc.). This procedure should result in more complete reporting of events for the years immediately prior to the survey, compared with a procedure that collects data in chronological order. At the end of a pregnancy history, interviewers were required to check the consistency between the aggregate data collected at the outset of the reproductive section and the number of events reported in the pregnancy history. Finally, interviewers were required to probe pregnancy intervals of four years or more to detect omitted events.

6.1 PREGNANCY OUTCOMES

Table 6.1 shows the percent distribution of pregnancies among women 15-49 for the three-year period preceding the survey (calendar years 2000-2002) by pregnancy outcome, according to background characteristics. In Uzbekistan, the majority of pregnancies, 72 percent, end in a live birth, and the remaining 28 percent end in fetal wastage (i.e., induced abortion, miscarriage, or stillbirth). Induced abortion is the most commonly reported type of fetal wastage, accounting for 20 percent of all pregnancy loss.

Table 6.1 shows that in urban areas, pregnancies are twice as likely to end in abortion (28 percent) as in rural areas (16 percent). Substantial regional differences are also evident. The proportion of pregnancies ending in abortion is lowest in the Eastern region (13 percent), higher in the Western, Central, and East-Central regions (between 16 and 23 percent), and highest in Tashkent City (31 percent).

Table 6.1 Pregnancy outcomes by background characteristics

Percent distribution of pregnancies endings in the three years preceding the survey by type of outcome according to background characteristics, Uzbekistan 2002

Background characteristic	Pregnancy outcome: Live birth	Induced abortion	Miscarriage	Still-birth	Total	Number of pregnancies
Residence						
Urban	64.7	27.6	7.2	0.6	100.0	761
Rural	76.3	15.8	7.1	0.9	100.0	1,299
Region						
Western	75.2	15.7	8.6	0.5	100.0	266
Central	70.0	23.3	6.0	0.7	100.0	566
East-Central	68.5	22.7	7.7	1.1	100.0	593
Eastern	79.9	12.9	6.5	0.6	100.0	495
Tashkent City	60.6	30.5	8.4	0.5	100.0	140
Oversampled areas						
Karakalpakstan	79.2	10.1	9.7	1.0	100.0	132
Ferghana	80.7	14.4	4.1	0.8	100.0	219
Education						
Primary/middle	81.0	12.7	5.4	0.8	100.0	166
Secondary	74.3	17.6	7.3	0.8	100.0	1,268
Secondary special	66.2	26.2	6.8	0.7	100.0	469
Higher	60.4	30.1	8.8	0.7	100.0	157
Ethnicity						
Uzbek	72.2	20.4	6.7	0.8	100.0	1,804
Other	70.6	18.6	10.2	0.7	100.0	256
Total	72.0	20.2	7.1	0.8	100.0	2,060

Level of education shows an association with pregnancy outcome. The percentage of pregnancies that end in abortion is lowest among women with a primary/middle school education (13 percent), higher among women with a secondary and secondary-special education (18 and 26 percent, respectively), and highest for women with a higher education (30 percent). Differences in the percentage of pregnancies ending in induced abortion are minor between Uzbek women (20 percent) and non-Uzbek women (19 percent).

6.2 LIFETIME EXPERIENCE WITH INDUCED ABORTION

Women's lifetime experience with abortion is shown in Table 6.2, which is based on all women age 15-49, irrespective of whether they have had sexual relations (i.e., have been exposed to the risk of pregnancy).

Table 6.2 Lifetime experience with induced abortion

Percentage of women who had an induced abortion and among those women, the percent distribution by the number of abortions, and mean number of induced abortions, according to background characteristics, Uzbekistan 2002

Background characteristic	Percentage of women who had an induced abortion	Number of women	Percent distribution of women who had an induced abortion by number of abortions					Mean	Number of women who had an induced abortion
			1	2-3	4-5	6+	Total		
Age									
<20	0.0	1,091	na	na	na	na	na	na	0
20-24	5.4	1,049	82.1	14.8	0.0	3.1	100.0	1.4	57
25-34	23.0	1,543	63.5	29.9	3.4	3.3	100.0	1.7	354
35+	42.4	1,779	46.7	41.6	8.8	2.8	100.0	2.1	755
Number of living children									
0	0.8	1,751	*	*	*	*	*	*	14
1	12.4	656	63.5	33.1	1.2	2.2	100.0	1.6	81
2-3	30.5	1,925	57.4	34.6	5.6	2.4	100.0	1.8	587
4-5	41.9	914	46.8	40.4	9.6	3.2	100.0	2.2	383
6+	46.1	217	44.2	41.0	8.3	6.5	100.0	2.1	100
Residence									
Urban	27.6	2,175	50.4	38.8	6.6	4.2	100.0	2.1	601
Rural	17.2	3,287	56.8	34.6	6.9	1.7	100.0	1.8	565
Region									
Western	14.7	699	61.1	37.1	0.7	1.2	100.0	1.5	102
Central	26.0	1,311	50.3	38.8	5.1	5.8	100.0	2.2	342
East-Central	25.6	1,431	49.8	36.0	11.5	2.7	100.0	2.0	366
Eastern	14.7	1,518	62.0	33.4	4.6	0.0	100.0	1.6	224
Tashkent City	26.3	503	51.8	39.0	6.3	2.9	100.0	1.9	132
Oversampled areas									
Karakalpakstan	10.9	387.0	69.9	27.4	1.6	1.1	100.0	1.4	42
Ferghana	14.0	629.0	60.6	34.3	5.1	0.0	100.0	1.6	88
Education									
Primary/middle	15.5	578	55.1	33.6	7.9	3.4	100.0	1.8	89
Secondary	18.7	3,189	57.5	33.9	5.8	2.8	100.0	1.9	598
Secondary special	26.1	1,122	50.2	38.6	7.5	3.6	100.0	2.1	292
Higher	32.5	574	45.3	44.4	7.9	2.4	100.0	2.1	187
Marital status									
Never married	0.2	1,421	*	*	*	*	*	*	3
Married, living together	28.9	3,720	54.1	36.9	6.6	2.4	100.0	1.9	1,075
Ever married	27.3	322	45.7	36.6	7.7	10.0	100.0	2.8	88
Ethnicity									
Uzbek	20.3	4,669	54.5	36.7	6.0	2.8	100.0	1.9	948
Other	27.4	794	49.3	37.0	9.8	4.0	100.0	2.2	218
Total	21.3	5,463	53.5	36.8	6.7	3.0	100.0	1.9	1,166

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

Twenty-one percent of women in Uzbekistan reported having had at least one abortion. As expected, the percentage that have had an abortion increases rapidly with age, from 5 percent of women age 20-24 to 23 percent of women 25-34 and 42 percent of women age 35-49. There are large differences by urban-rural residence; experience with abortion is substantially less among rural women (17 percent) than among urban women (28 percent). Regional differences are also pronounced, with the proportion having experience with induced abortion being highest in the Central region and Tashkent City (both 26 percent).

Table 6.2 presents information on the number of abortions women have had. Repeated use of abortion during the reproductive years is common in Uzbekistan. Among women who have had an abortion, almost half (47 percent) have had more than one, with the number of abortions increasing with age. Among women age 20-24 with abortion experience, 18 percent have had more than one, while, among women age 35-49 with abortion experience, 53 percent have had more than one. The mean number of abortions among women who have had an abortion is 1.9.

6.3 Rates of Induced Abortion

Abortion rates for the three-year period preceding the survey (calendar years 2000-2002) are shown in Table 6.3. Age-specific rates represent the probability that a woman of a particular age will have an abortion during a one-year period. These rates are shown per 1,000 women. A useful summary index of the age-specific abortion rates is the total abortion rate (TAR). This rate is analogous to the total fertility rate (TFR). The TAR is expressed on a per-woman basis and is interpreted as the number of abortions a woman would have during her lifetime if she experienced the currently observed age-specific abortion rates.

Table 6.3 shows age-specific abortion rates by urban-rural residence. The patterns are similar in both urban and rural areas. Rates are low for women age l5-19, increase to a peak among women age 25-29 and 30-34(the primary years of childbearing), and decline among older women. Overall, urban rates are higher than rural rates, particularly among younger women.

At the national level, age-specific abortion rates exceed age-specific fertility rates among women age 40-44 and 45-49 (Figure 6.1).

Table 6.3 Induced abortion rates

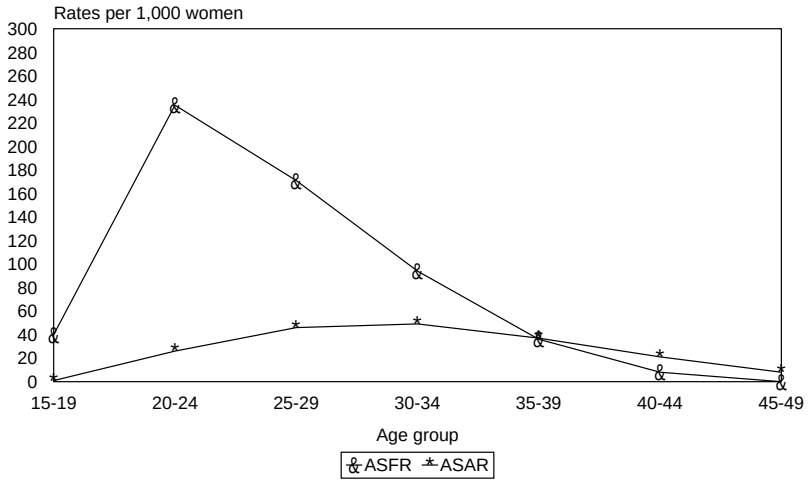
Age-specific and cumulative abortion rates for the three-year period preceding the survey, by residence, Uzbekistan 2002

	Residence		
Age	Urban	Rural	Total
15-19	1	1	1
20-24	39	18	26
25-29	64	34	46
30-34	65	37	49
35-39	32	41	37
40-44	13	28	21
45-49	4	12	8
TAR 15-49	1.09	0.86	0.95
TAR 15-44	1.07	0.80	0.90
GAR 15-49	33	23	27
GAR 15-44	36	24	28

Note: Rates are for the period 1-36 months preceding the survey. Age-specific abortion rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation.
TAR = Total abortion rate expressed per woman
GAR = General abortion rate (abortions divided by number of women) expressed per 1,000 women

For Uzbekistan, the total abortion rate for the period 2000-2002 is 0.9 abortions per woman. As expected, the TAR for Uzbekistan is substantially lower than recent estimates for other parts of the former Soviet Union including Armenia (2.6), Azerbaijan, (3.2), Georgia (3.7), Romania (2.2), and Ukraine (1.6). The Uzbekistan rate is somewhat lower than rates for Kazakhstan (1.4) and Kyrgyz Republic (1.5), and is about the same as a recent estimate for Turkmenistan (0.8) (Sullivan, et al., 2003).

Figure 6.1 **Age-Specific Rates of Fertility (ASFR) and Induced Abortion (ASAR), 2000-2002**



Total abortion rates by background characteristics are shown in Table 6.4 and Figure 6.2. Differences are modest by residence and education (except for the low rate among women with the lowest level of education).

The pattern of estimated TARs by region is somewhat surprising. The rate for Tashkent City (1.0 abortions per woman) is intermediate between rates for the other regions, which range from 0.5 to1.3 abortions per woman. This is in despite the fact that fertility in Tashkent City (2.0 children per woman) is well below the fertility level in the other regions (2.7 to 3.4 children per woman) (Table 4.2), and contraceptive prevalence rates for currently married women do not differ greatly by region (Table 5.5). So the question arises: why is fertility so low in Tashkent City when the levels of contraceptive use and abortion do not differ substantially from those of other regions?

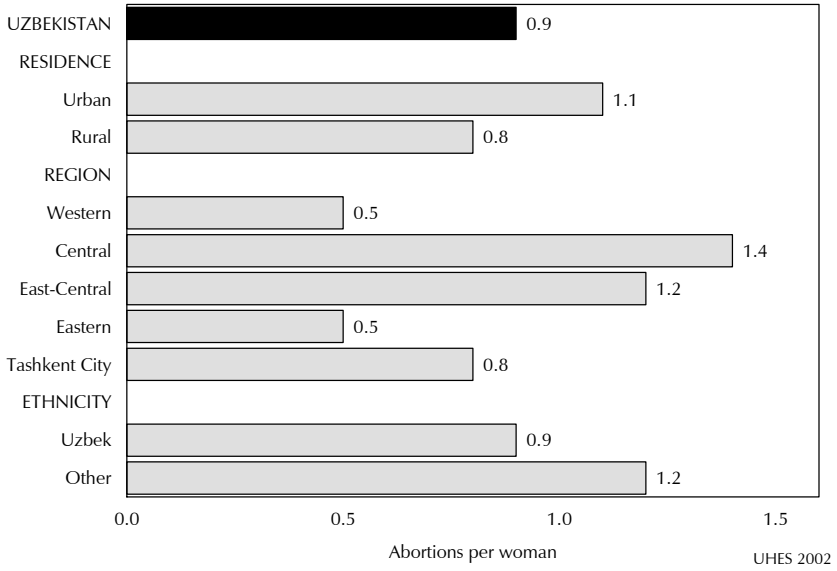
Detailed analysis of this issue is beyond the scope of this report. Substantive factors as well as sampling variability could play a role in explaining this abnormality. One factor is the difference between regions in the proportion of women who are currently married (and exposed to the risk of pregnancy). Most pregnancies occur between age 20 and 39, and the proportion of currently married women in this age group is lower in Tashkent City than in the other regions (data not shown).

Table 6.4 Induced abortion by background characteristics

Total induced abortion rates for the three-year period preceding the survey and mean number of induced abortions among women age 40-49, by background characteristics, Uzbekistan 2002

Background characteristic	Total induced abortion rate for women age 15-49	Mean number of induced abortions among women age 40-49
Residence		
Urban	1.1	1.1
Rural	0.9	0.8
Region		
Western	0.8	0.5
Central	1.3	1.4
East-Central	1.1	1.2
Eastern	0.5	0.5
Tashkent City	1.0	0.8
Oversampled areas		
Karakalpakstan	0.4	0.4
Ferghana	0.6	0.5
Education		
Primary/middle	0.6	0.8
Secondary	0.9	0.8
Secondary special	1.2	1.1
Higher	0.9	1.2
Ethnicity		
Uzbek	1.0	0.9
Other	0.6	1.2
Total	0.9	0.9

Figure 6.2 **Total Induced Abortion Rate by Background Characteristics**



6.4 TRENDS IN INDUCED ABORTION

The 2002 UHES data allow for direct assessment of trends in abortion over time. Table 6.5 shows age-specific abortion rates for four three-year periods preceding the 2002 UHES, and two summary indices: the total abortion rate (TAR) and the general abortion rate (GAR). The TARs and GARs are shown for women age 15-44 in each time period. No matter which index is considered, the rates indicate a steady and significant decline in the use of abortion. In the case of the GAR, the decline between 1991-1993 and 2000-2002 is 28 percent (from 39.1 to 28.0 abortions per 1000 women).

Another way to assess trends in the level of abortion is to compare the abortion rates from the 1996 UDHS and 2002 UHES. The lower panel of Table 6.5 shows TARs and GARs for calendar periods 1991-1993 and 1994-1996 from the 1996 UDHS. The GARs from the 1996 survey (19.7 and 24.9 abortions per 1,000 women) are lower than the GAR from the UHES survey for 2000-2002 (28.0 abortions per 1,000 women). This implies that the level of abortion has increased recently. However, as was noted earlier, the level of abortion in the 1996 survey was probably underestimated (Institute of Obstetrics and Gynecology and Macro International, 1997), a conclusion based primarily on the fact that the 1996 rates were lower than those reported by the Ministry of Health.

It should also be noted that abortion rates from the 1996 survey are lower than those from the 2002 HES periods. Therefore, the 2002 UHES data indicating that there has been a steady and significant decline in abortion over the last decade seems more reasonable than the trend implied by comparison of TARs and GARs from the 1996 and 2002 surveys.

Table 6.5 Abortion trends

Age-specific and cumulative abortion rates for four three-year periods preceding the survey, 2002 UHES and 1996 UDHS

	Three-year periods preceding the survey			
Age	2000-2002	1997-1999	1994-1996	1991-1993
	2002 UHES			
15-19	1.1	4.4	4.0	4.4
20-24	25.8	29.5	30.3	41.0
25-29	46.5	44.7	53.3	52.8
30-34	48.9	55.4	46.5	53.8
35-39	37.1	37.9	43.2	61.4
40-44	21.3	21.3	[14.4]	[0.0]
45-49	[8.4]	[47.4]	-	-
TAR 15-44	0.9	1.0	1.0	1.1
GAR 15-44	28.0	30.3	32.1	39.1
	1996 UDHS			
TAR 15-44	u	u	0.63	0.81
GAR 15-44	u	u	19.7	24.9

Note: Age-specific abortion rates are per 1,000 women. Estimates in brackets may be biased due to truncation.
TAR = Total abortion rate expressed per woman
GAR = General abortion rate (abortions divided by number of women) expressed per 1,000 women
u = Unknown (not available)

OTHER PROXIMATE DETERMINANTS OF FERTILITY

7

A.I. Kamilov and J.M. Sullivan

This chapter examines factors, other than contraception, that affect a woman's risk of becoming pregnant. These include current marital status, age at first marriage, age at first sexual intercourse and frequency of sexual relations. These factors influence the length and pace of reproductive activity and are important to the understanding of reproductive behavior.

7.1 MARITAL STATUS

Table 7.1 shows the distribution of women and men by marital status at the time of the survey. The term married refers to formal marriage (civil or religious), while living together refers to informal unions. In subsequent tables in this chapter, these two categories are combined and referred to collectively as currently married.

Table 7.1 Current marital status

Percent distribution of women and men by current marital status, according to age, Uzbekistan 2002

	Marital status							
Age	Never married	Married	Living together	Divorced	Separated	Widowed	Total	Number
				WOMEN				
15-19	92.9	6.9	0.1	0.0	0.1	0.0	100.0	1,091
20-24	30.9	66.0	0.4	1.7	0.7	0.4	100.0	1,049
25-29	4.7	88.7	1.0	4.1	1.3	0.1	100.0	809
30-34	1.8	89.5	1.2	5.8	0.4	1.3	100.0	734
35-39	2.3	87.5	0.7	5.4	1.2	3.0	100.0	687
40-44	1.8	87.1	1.1	4.5	0.5	5.0	100.0	626
45-49	1.0	83.2	2.1	4.4	0.4	8.9	100.0	466
Total	26.0	67.3	0.8	3.3	0.6	2.0	100.0	5,463
				MEN				
15-19	98.6	1.4	0.0	0.0	0.0	0.0	100.0	380
20-24	66.7	32.9	0.0	0.4	0.0	0.0	100.0	388
25-29	13.7	84.8	0.3	0.8	0.3	0.0	100.0	399
30-34	1.2	95.7	1.3	1.4	0.3	0.1	100.0	293
35-39	0.1	96.2	0.0	3.6	0.2	0.0	100.0	256
40-44	0.1	96.8	0.1	2.4	0.6	0.0	100.0	227
45-49	0.2	96.1	1.1	2.4	0.0	0.2	100.0	196
50-54	0.0	96.4	0.0	3.1	0.6	0.0	100.0	140
55-59	0.0	94.8	0.5	0.9	0.5	3.2	100.0	54
Total	29.7	68.2	0.3	1.4	0.2	0.1	100.0	2,333

Overall, 67 percent of women age 15-49 are married; 1 percent are living in an informal union; 6 percent are divorced, separated, or widowed; and 26 percent have never been married. Marriage is nearly universal in Uzbekistan; while 93 percent of women age 15-19 have not yet married, that figure falls to 1 percent for women age 45-49.

Similar patterns are seen for men. Sixty-eight percent of men age 15-59 are married; less than 1 percent are in an informal union; 2 percent are divorced, separated, or widowed; and 30 percent have not yet married. However, men tend to marry at older ages than women, as is evident from the greater proportion of never-married men than never-married women under age 30.

A comparison of data on marital status from the 1996 UDHS and the 2002 UHES shows a marked decline in the proportion of women under age 25 who are married. The decline between the two surveys was from 13 to 7 percent among women age 15-19 and from 73 to 66 percent among women age 20-24. This decline indicates that there was an increase in the postponement of age of entry into marriage between 1996 and 2002.

7.2 Age at First Marriage

Marriage generally marks the point in a woman's life when childbearing becomes socially acceptable. The age at which a woman first marries is important because it affects the length of time she is exposed to the risk of pregnancy during her reproductive years. Information on age at first marriage was obtained by asking all ever-married respondents (both women and men) the month and year they started living with their first spouse or partner.

As shown in Table 7.2, the median age at first marriage for women in the age cohorts above age 25 has been close to 20 for several decades. Similarly, for men in the age cohorts above age 25, the median age at first marriage has been stable at about 23.

Table 7.2 Age at first marriage

Percentage of women and men who were first married by specific exact ages, and median age at first marriage, according to current age, Uzbekistan 2002

Current age	Percentage who were first married by exact age: 15	18	20	22	25	Percentage never married	Number	Median age at first marriage
WOMEN								
15-19	0.2	na	na	na	na	92.9	1,091	a
20-24	0.3	12.7	44.6	na	na	30.9	1,049	a
25-29	0.2	16.4	57.0	79.0	91.9	4.7	809	19.7
30-34	0.2	8.8	47.0	76.9	91.8	1.8	734	20.2
35-39	0.2	9.3	41.6	72.0	90.1	2.3	687	20.5
40-44	0.1	12.0	43.4	72.1	89.8	1.8	626	20.4
45-49	0.9	21.2	51.5	74.0	89.1	1.0	466	19.9
20-49	0.3	13.0	47.4	72.4	85.5	9.3	4,372	a
25-49	0.3	13.1	48.3	75.1	90.7	2.5	3,322	20.1
MEN								
20-24	0.0	0.5	6.0	na	na	66.7	388	a
25-29	0.0	0.7	11.4	39.4	77.3	13.7	399	22.7
30-34	0.0	1.2	5.1	39.0	77.0	1.2	293	22.6
34-39	0.0	0.9	4.0	28.8	80.3	0.1	256	23.1
40-44	0.0	1.0	5.4	32.3	81.0	0.1	227	22.7
45-49	0.0	0.2	9.9	42.8	87.8	0.2	196	22.5
50-54	0.0	1.4	12.1	30.6	68.9	0.0	140	23.5
55-59	0.0	0.8	0.8	16.1	71.7	0.0	54	23.6
25-59	0.0	0.9	7.6	35.4	78.7	3.8	1,565	22.8

na = Not applicable
[a] Omitted because less than 50 percent had married for the first time before reaching the beginning of the age group

Table 7.2 shows, for five-year age groups, the percentage that first married by exact age 15, 18, 20, 22, and 25. These data allow more detailed examination of age at first marriage among respondents under 25 than is possible with median age at marriage. The data show that the proportion married by age 18 is less for women age 20-24 (13 percent) than for women age 25-29 (16 percent), and that the proportion married by age 20 is less among women age 20-24 (45 percent) than among women age 25-29 (57 percent). A similar pattern is seen for men. The proportion married by age 20 is lower among men age 20-24 (6 percent) than among men age 25-29 (11 percent). These patterns indicate that among both women and men the age at first marriage has increased during the decade of the 1990s.

Table 7.3 shows the median age at marriage for women age 25-49 and men age 25-59, by background characteristics. The most pronounced differentials are by level of education. A differential of two to three years in the median age at first marriage is seen between the least educated and the most women in each age group. Among women age 25-49, the median age at first marriage is three years higher for women with a higher education (22.4) than for women with a primary/middle school education (19.4). Among men, the educational differential is smaller. Median age at first marriage is one year higher for men with a higher education (23.5) than for men with a primary/middle school education (22.3).

Table 7.3 Median age at first marriage

Median age at first marriage among women 25-49, and men age 25-59, by current age and background characteristics, Uzbekistan 2002

Background characteristic	Current age					Women age 25-49	Men age 25-59
	25-29	30-34	35-39	40-44	45-49		
Residence							
Urban	19.7	20.5	21.0	21.0	20.6	20.5	23.4
Rural	19.6	20.0	20.2	19.9	19.6	19.9	22.5
Region							
Western	20.5	20.5	21.6	20.3	19.4	20.5	22.6
Central	19.6	20.6	20.8	20.5	20.2	20.4	23.1
East-Central	19.6	20.0	20.8	20.7	19.3	20.0	22.8
Eastern	19.4	19.8	19.7	19.8	19.6	19.7	22.6
Tashkent City	20.5	20.2	20.8	21.6	22.3	21.0	24.0
Oversampled areas							
Karakalpakstan	20.7	21.0	22.1	20.6	19.2	20.7	23.8
Ferghana	19.1	19.7	19.9	19.8	19.4	19.6	22.4
Education							
Primary/middle	18.9	20.3	20.4	20.0	18.6	19.4	22.3
Secondary	19.4	19.7	19.9	19.6	19.1	19.6	22.7
Secondary special	20.4	20.5	21.0	21.0	21.5	20.8	22.8
Higher	22.2	21.7	22.6	22.6	23.3	22.4	23.5
Ethnicity							
Uzbek	19.6	20.1	20.4	20.3	19.8	20.0	22.7
Other	20.3	20.5	21.4	21.3	20.4	20.7	23.8
Total	19.7	20.2	20.5	20.4	19.9	20.1	22.8

Note: The medians for men and women age 15-19 and 20-24 could not be determined because less than 50 percent had married for the first time before reaching the beginning of the age group.

7.3 AGE AT FIRST SEXUAL INTERCOURSE

While age at first marriage is frequently used as a proxy for first exposure to intercourse, the two events do not necessarily occur at the same time. In the 2002 UHES, respondents were also asked the age at which they first had sexual intercourse.

Table 7.4 shows that the median age at first intercourse for women age 25-49 is about 20 years and about two years older for men age 25-59 (22 years).

Comparison of the data on age at first marriage and age at first intercourse can provide insight into premarital sexual relations. The extent of premarital sexual relations can be seen by comparing the proportions first married and first having sexual relations by specific ages. Among women, the proportions first married and first having sexual relations by age 18 are identical: 13 percent in both cases (Tables 7.2 and Table 7.4). This indicates that first exposure to sexual intercourse coincides with marriage. However, in the case of men, first sexual intercourse often occurs before marriage. For example, 8 percent of men are first married by age 20 (Table 7.2), but 21 percent had had sexual relations by age 20 (Table 7.4).

Table 7.4 Age at first sexual intercourse

Percentage of women and men who had first sexual intercourse by specific exact ages and median age at first intercourse, according to current age, Uzbekistan 2002

Current age	Percentage who had first sexual intercourse by exact age: 15	18	20	22	25	Percentage who never had intercourse	Number	Median age at first intercourse
WOMEN								
15-19	0.2	na	na	na	na	92.8	1,091	a
20-24	0.3	13.0	44.7	na	na	30.0	1,049	a
25-29	0.4	16.4	55.4	76.9	88.5	4.6	809	19.7
30-34	0.2	8.7	45.8	74.6	89.4	1.8	734	20.2
35-39	0.2	9.2	40.7	70.5	87.5	1.9	687	20.6
40-44	0.1	11.9	43.4	70.7	86.8	1.7	626	20.4
45-49	1.3	19.5	49.0	71.6	85.4	1.0	466	20.1
20-49	0.4	12.8	46.5	70.8	83.1	9.0	4,372	a
25-49	0.4	12.8	47.1	73.2	87.7	2.4	3,322	20.2
MEN								
15-19	1.8	na	na	na	na	89.8	380	a
20-24	0.4	6.4	24.5	na	na	47.6	388	a
25-29	0.1	7.0	26.9	55.1	86.1	8.0	399	21.7
30-34	0.0	5.8	21.6	58.5	87.0	0.7	293	21.5
35-39	0.0	2.7	19.4	45.9	84.3	0.0	256	22.3
40-44	0.4	3.1	15.4	48.2	91.5	0.0	227	22.1
45-49	0.0	4.6	21.7	61.3	95.7	0.0	196	21.5
50-54	0.2	5.4	20.8	44.1	79.4	0.0	140	22.4
55-59	0.0	3.9	9.7	28.0	75.1	0.0	54	23.2
20-59	0.2	5.2	21.9	50.1	80.1	11.2	1,953	22.0
25-59	0.1	4.9	21.2	52.1	87.0	2.2	1,565	21.9

na = Not applicable

[a] Omitted because less than 50 percent had had intercourse for the first time before reaching the beginning of the age group

7.4 RECENT SEXUAL ACTIVITY

In the absence of effective contraception, the frequency of exposure to intercourse is a primary determinant of the probability of conception. In the 2002 UHES, adult respondents were asked how long ago they last had sexual relations.

Tables 7.5.1 and 7.5.2 show information on the timing of last sexual intercourse for women and men by background characteristics. Sixty-two percent of women age 15-49 reported being sexually active in the four weeks preceding the survey, 5 percent within a year of the survey, and another 5 percent

Table 7.5.1 Recent sexual activity: women

Percent distribution of women by timing of last sexual intercourse, according to background characteristics, Uzbekistan 2002

Background characteristic	Timing of last sexual intercourse: Within the last 4 weeks	Within 1 year[1]	One or more years ago	Missing	Never had sexual intercourse	Total	Number of women
Age							
15-19	6.6	0.1	0.0	0.5	92.8	100.0	1,091
20-24	59.9	4.8	2.3	2.9	30.0	100.0	1,049
25-29	81.3	6.9	4.6	2.6	4.6	100.0	809
30-34	84.3	7.5	5.7	0.6	1.8	100.0	734
35-39	85.0	4.1	8.3	0.7	1.9	100.0	687
40-44	82.0	6.8	9.5	0.0	1.7	100.0	626
45-49	71.7	11.3	15.7	0.4	1.0	100.0	466
Marital status							
Never married	0.3	0.5	0.3	0.2	98.8	100.0	1,421
Married or living together	90.8	6.3	1.3	1.5	0.1	100.0	3,720
Divorced/separated/widowed	8.5	13.4	74.4	3.7	0.0	100.0	322
Residence							
Urban	60.3	6.7	8.8	1.0	23.2	100.0	2,175
Rural	63.8	4.2	3.1	1.4	27.5	100.0	3,288
Region							
Western	56.7	6.2	5.0	1.3	30.8	100.0	699
Central	60.6	7.0	4.3	2.0	26.2	100.0	1,311
East-Central	63.4	4.9	5.1	1.1	25.5	100.0	1,431
Eastern	67.4	2.6	4.7	0.8	24.5	100.0	1,518
Tashkent City	57.4	8.1	11.4	1.1	21.9	100.0	503
Oversampled areas							
Karakalpakstan	53.9	7.1	6.1	1.3	31.6	100.0	387
Ferghana	71.2	2.7	5.0	0.5	20.7	100.0	632
Education							
Primary/middle	48.8	4.9	3.9	1.3	41.1	100.0	578
Secondary	64.5	4.9	4.4	1.4	24.9	100.0	3,189
Secondary special	62.7	5.9	6.5	0.9	24.0	100.0	1,122
Higher	64.1	6.2	10.3	1.2	18.3	100.0	574
Ethnicity							
Uzbek	63.6	4.4	4.6	1.3	26.1	100.0	4,669
Other	55.1	10.3	9.8	1.2	23.6	100.0	794
Current contraceptive method							
Female sterilization	79.6	13.8	5.2	1.3	0.0	100.0	106
Pill	94.8	3.1	2.1	0.0	0.0	100.0	63
IUD	92.7	4.6	2.0	0.7	0.0	100.0	1,975
Condom	90.9	7.3	1.8	0.0	0.0	100.0	82
Rhythm/Natural family planning	88.6	9.8	1.6	0.0	0.0	100.0	44
Other method	89.0	9.1	0.7	1.3	0.0	100.0	324
No method	36.0	4.8	8.5	1.7	49.0	100.0	2,869
Total	62.4	5.2	5.4	1.3	25.7	100.0	5,463

[1] Excludes women who had sexual intercourse within the last 4 weeks

more than a year ago. Not surprisingly, women who are using a method of family planning are more likely to be sexually active than women who are not using a method (most of the difference is due to the fact that many of the women not using a method have not yet had intercourse).

Among men age 15-59, 49 percent reported being sexually active in the four weeks preceding the survey, 25 percent were sexually active in the past year, and 2 percent had last had sexual relations more than a year ago.

Table 7.5.2 Recent sexual activity: men

Percent distribution of men by timing of last sexual intercourse, according to background characteristics, Uzbekistan 2002

Background characteristic	Timing of last sexual intercourse: Within the last 4 weeks	Within 1 year[1]	One or more years ago	Missing	Never had sexual intercourse	Total	Number of men
Age							
15-19	1.9	6.0	2.3	0.0	89.8	100.0	380
20-24	29.0	19.3	4.0	0.0	47.6	100.0	388
25-29	65.4	23.6	3.0	0.0	8.0	100.0	399
30-34	71.6	25.3	2.4	0.0	0.7	100.0	293
35-39	71.6	26.7	1.0	0.7	0.0	100.0	256
40-44	67.6	32.2	0.2	0.0	0.0	100.0	227
45-49	61.8	35.7	2.5	0.0	0.0	100.0	196
50-54	51.3	46.8	1.9	0.0	0.0	100.0	140
55-59	31.4	68.2	0.4	0.0	0.0	100.0	54
Marital status							
Never married	3.1	10.9	5.2	0.0	80.9	100.0	692
Married or living together	69.4	30.0	0.4	0.1	0.0	100.0	1,600
Divorced/separated/widowed	12.1	59.3	28.6	0.0	0.0	100.0	40
Residence							
Urban	51.4	23.5	3.0	0.0	22.1	100.0	916
Rural	47.0	25.7	1.8	0.1	25.3	100.0	1,417
Region							
Western	52.7	13.8	3.2	0.0	30.2	100.0	314
Central	52.0	24.1	2.8	0.0	21.1	100.0	510
East-Central	42.9	32.7	2.3	0.0	22.0	100.0	646
Eastern	47.3	25.6	1.5	0.3	25.2	100.0	665
Tashkent City	57.7	16.1	2.3	0.0	24.0	100.0	198
Oversampled areas							
Karakalpakstan	49.7	14.5	1.8	0.0	34.1	100.0	185
Ferghana	64.4	14.4	0.3	0.0	20.8	100.0	259
Education							
Primary/middle	31.7	19.1	4.4	1.0	43.8	100.0	188
Secondary	46.9	25.1	2.2	0.0	25.8	100.0	1,311
Secondary special	50.1	23.1	2.4	0.0	24.5	100.0	470
Higher	62.6	29.3	1.4	0.0	6.7	100.0	364
Ethnicity							
Uzbek	48.8	24.5	2.3	0.1	24.3	100.0	2,011
Other	48.1	27.2	2.7	0.0	22.0	100.0	322
Total	48.7	24.9	2.3	0.1	24.0	100.0	2,333

[1] Excludes men who had sexual intercourse within the last 4 weeks

INFANT AND CHILD MORTALITY

8

J.M. Sullivan and N.K. Tureeva

This chapter presents information on mortality among children less than five years of age. The estimated mortality rates provide information on levels and trends in mortality as well as differentials between population subgroups. The rates of mortality presented in this chapter are defined as follows:

- Neonatal mortality (NN): the probability of dying within the first month of life
- Postneonatal mortality (PNN): the difference between infant and neonatal mortality
- Infant mortality (${}_1q_0$): the probability of dying between birth and the first birthday
- Child mortality (${}_4q_1$) the probability of dying between exact ages one and five
- Under-five mortality (${}_5q_0$): the probability of dying between birth and the fifth birthday.

All rates are expressed as deaths per 1,000 live births, except child mortality, which is expressed as deaths per 1,000 children surviving to age one.

8.1 Background and Assessment of Data Quality

In the 2002 Uzbekistan Health Examination Survey (UHES), survey respondents were asked to report reproductive events in terms of the internationally recognized definitions of the World Health Organization (WHO, 1993). The definition of a live birth is a birth, irrespective of the duration of pregnancy, which after separation from the mother breathes or shows any other signs of life, such as beating of the heart or movement of voluntary muscles. Infant deaths are deaths of live-born infants under one year of age.

The mortality estimates were calculated from information in the reproductive section of the Women's Questionnaire. This section of the questionnaire includes a pregnancy history in which specific questions are asked about each pregnancy that a woman has had. For each live birth reported in the pregnancy history, questions are asked about the month and year of birth, sex of the child, survivorship status, and age (current age for surviving children and age at death for deceased children).

The accuracy of mortality estimates calculated from survey data depends on the sampling variability of the estimates and on nonsampling error (i.e., the completeness and accuracy with which births and deaths are reported and recorded). Sampling variability is discussed in section 8.2. This section considers nonsampling error.

The most serious source of nonsampling error in mortality data collected by a retrospective survey is underreporting of the births and deaths of children who did not survive (United Nations, 1982). Such underreporting results in underestimation of mortality rates. When there is underreporting of deceased children in a survey, it is usually most severe for deaths that occurred in early infancy (i.e., in the neonatal period). If there were underreporting of early neonatal deaths, this would result in an abnormally low ratio of neonatal mortality to infant mortality. In retrospective surveys, underreporting of early infant deaths is usually more common for births that occurred further back in time than for births that occurred close to the time of the survey. Thus, when considering nonsampling error, the ratio of neonatal mortality to infant mortality is examined for various periods preceding the survey.

Neonatal and infant mortality rates from the UHES are shown in Table 8.1 for three five-year periods preceding the survey (1988-1992, 1993-1997, and 1998-2002). Also shown are the neonatal mortal-

ity/infant mortality (NNM/IM) ratios for those periods. In countries known for having complete and accurate mortality data at a level of infant mortality of approximately 50 to 60 per 1,000 (i.e., the level of infant mortality estimated by the 2002 UHES), the value of this ratio is typically between 0.50 and 0.60.[1] Based on these statistics, a value for the NNM/IM ratio of less than 0.50 would suggest underreporting of neonatal deaths (and underestimation of the infant mortality rate). The values of the NNM/IM ratios in Table 8.1 (0.51, 0.53, and 0.55) all exceed 0.50. Accordingly, there is no evidence of substantial underreporting of neonatal deaths in the 2002 survey.

It should be noted that the NNM/IM ratios from the 2002 UHES and especially the values for 1993-1997 and 1998-2002 (0.53 and 0.55) are greater than the ratio (0.46) corresponding to the infant mortality estimate of 49 per 1,000 from the 1996 UDHS (Institute of Obstetrics and Gynecology and Macro International Inc., 1997). This suggests less complete reporting of neonatal deaths in the 1996 survey and that 49 per 1,000 was an underestimate of the infant mortality rate.

Table 8.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Uzbekistan 2002

Years preceding the survey	Approximate calendar period	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Ratio neonatal mortality/ infant mortality	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	1998-2002	33.9	27.8	61.7	0.55	12.3	73.3
5-9	1993-1997	33.8	30.3	64.1	0.53	13.4	76.6
10-14	1988-1992	26.5	25.2	51.7	0.51	10.7	61.9

[1] Computed as the difference between the infant and the neonatal mortality rates

8.2 Levels and Trends in Early Childhood Mortality

The most recent childhood mortality estimates reference the five-year calendar period 1998-2002 (Table 8.1). For that period, infant mortality is estimated at 62 per 1,000, with estimates of neonatal and postneonatal mortality of 34 per 1,000 and 28 per 1,000, respectively. Child mortality (age 1-4) is estimated at 11 per 1,000, and under-five mortality is 73 per 1,000.

The trend in infant mortality for the three periods preceding the survey is from 52 per 1,000 (1988-1992) to 64 per 1,000 (1993-1997) to 62 per 1,000 (1998-2002), suggesting that there has been relatively little change in infant mortality over the past ten years.

The estimates of infant mortality for the two most recent periods are higher than the estimate for the earliest period, which could reflect a recent increase in infant mortality. However, all three estimates are within sampling error of each other (i.e., variability arising because the estimates are based on a sample of births rather than all births occurring in the specified periods), so it is just as likely that the difference represents the presence of sampling error rather than an actual increase in infant mortality.[2] Additionally, the earliest estimate is for a retrospective period 10-14 years preceding the survey, and respon-

[1] For example, see the neonatal and infant mortality rates for Hungary (1955), Italy (1955), and Puerto Rico (1957) (United Nations, 1961) and for Portugal (1968) (United Nations, 1975).

[2] The mortality estimates of the UHES are based on data provided by a sample of 5,463 women and are subject to sampling variability. Of interest here is the 95-percent confidence interval for the estimated infant mortality rates. The confidence intervals are very broad, extending about 12 points per 1,000 plus and minus of infant mortality estimate (Appendix B, Sampling Errors). Thus, the point estimates of infant mortality (52, 64, and 62 per 1,000) cannot be considered exact, and the true rate in each time period could be higher or lower by 12 points.

dent reporting error is typically more prevalent for periods more distant from the survey than for those closer to the survey. Bearing this in mind, it is appropriate to focus on the rates for the ten-year period preceding the survey, and the conclusion is that the infant mortality rate has remained basically unchanged over the past ten years at about 62 per 1,000.

8.3 Recent IMR Estimates from Various Sources

Recent infant mortality estimates for Uzbekistan are available from three national-level surveys: the 2002 UHES, the 2000 Multiple Indicator Cluster Survey (MICS), and the 1996 UDHS. All of these surveys used the World Health Organization's definitions of live birth and child death.[3]

Infant mortality rates are also available from the Ministry of Health. The MOH rates are based on data collected in a national registration system that relies on local health officials to register events following protocols that were established during the Soviet era. These protocols define live births somewhat differently than the World Health Organization does. One difference is that a pregnancy ending at a gestation age of less than 28 weeks (or weighing less than 1,000 grams or measuring less than 35 centimeters) is considered premature and is classified as a late miscarriage—even if signs of life are present at the time of delivery—unless the child survives for seven days. Only if the child survives the early neonatal period is it classified as a live birth. A second difference concerns full-term births (pregnancy ending at a gestation age of 28 weeks or more). The event is classified as a live birth if the child breathes at the time of delivery, but is considered a stillbirth if breathing is not evident at delivery (even though other signs of life are present). Thus, some events classified as miscarriages or stillbirths in the registration system would be classified as live births and infant deaths according to the WHO definitions used in the three surveys.

In addition to the differences in definitions between the surveys and the registration system, there are differences in the methodology of data collection. In all three surveys, information about births and child deaths was obtained from the mother. In contrast, data collection for the registration system requires that either a health official or a family member be proactive and take the initiative to register the occurrence of births and deaths of deceased children.

Infant mortality estimates from the various sources are shown in Table 8.2 and Figure 8.1. It is evident that the estimates from the three surveys and the estimates based on the registration data represent different levels of mortality. The survey estimates are substantially higher than those from the MOH. For the most recent period (1998-2002), the survey estimate of infant mortality (62 per 1,000) is three times the MOH estimate (19 per 1,000).

[3] The 2002 UHES and the 1996 UDHS used similar data collection processes and direct estimation techniques to produce infant mortality estimates. The 2000 MICS employed a different methodology for both data collection and rate estimation. MICS estimates are based on the reported proportion dead of children ever born to respondents and involves the conversion of those proportions to a mortality rate—a procedure known as the "Brass Estimation Technique" (United Nations Children's Fund, 2001). The important point here is that despite the differences in methodology between these surveys, all IMR estimates are quite close and far exceed recent IMRs reported by the Ministry of Health.

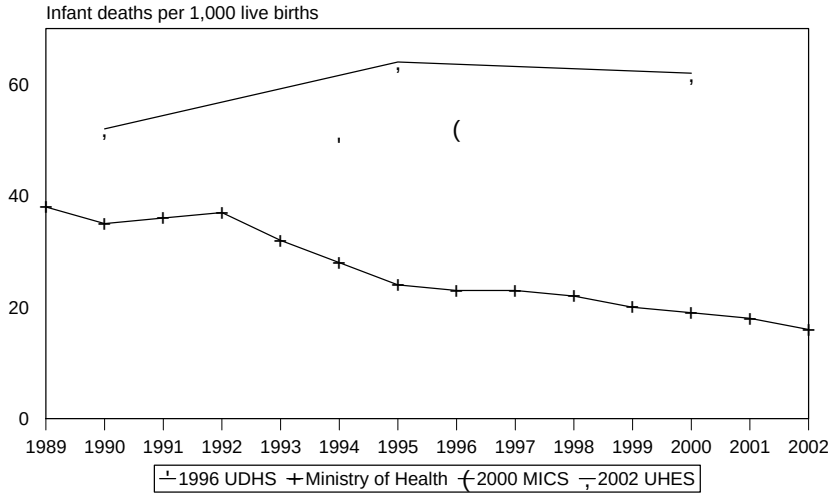
Table 8.2 Infant mortality estimates from various sources

Recent infant mortality estimates from three surveys (2002 UHES, 2000 MICS, 1996 UDHS) and the Ministry of Health, by time period, Uzbekistan 1988-2002

Calendar period	2002 UHES	2000 MICS	1996 UDHS	Ministry of Health
1998-2002	61.7			19.1
1993-1997	64.1	52[a]		27.2
1992-1996			49.1	
1988-1992	52.2			37.6

[a] Calendar period for MICS estimate was not specified in the MICS report; can be taken as the period 1993-1997.
Sources: 2000 MICS (UNICEF, 2001), Ministry of Health (WHO/EURO, 2003)

Figure 8.1 **Infant Mortality Estimates from Three Surveys and the Ministry of Health**



There are a number of reasons for placing greater credibility in the infant mortality estimates from surveys than from the MOH. First, several studies of mortality in the Central Asian Republics during the Soviet era have concluded that the registration systems in those countries undercounted infant deaths and that infant mortality rates based on the register data are underestimates.[4] There is no evidence that the collection of infant mortality data by the registration systems has improved in these countries in the post-Soviet era. Second, all three recent population-based surveys report infant mortality rates substantially higher than those of the MOH. Third, there is overwhelming evidence that to the extent that there is error in reporting of infant and child deaths in surveys, it is in the direction of underreporting of deceased children. Thus, the survey estimates should be considered minimal estimates. And fourth, the results of the 2002 UHES are similar to the rates estimated by survey methods for other countries in the region with similar health care systems, for example, Kazakhstan (61.9 per 1,000) and the Kyrgyz Republic (61.3 per 1,000) (Sullivan and Themme, 2003).

[4] For example, see Anderson and Silver, 1986, 1997; Ksenofontova, 1994; Velkoff and Miller, 1995; Kingkade and Sawyer, 2001.

8.4 DIFFERENCES IN ESTIMATES OF INFANT MORTALITY

As suggested above, some of the differences between the infant mortality estimates from the 2002 UHES and the MOH are due to definitional issues. However, definitional issues can only account for differences during the early neonatal period (the mortality rate for children less than seven days old). Table 8.3 shows the degree to which the overall difference in the infant mortality for the period 1998-2002 arises from mortality before age seven days or from the remainder of infancy. Of the overall difference of 42 deaths per 1,000 (62 as opposed to 20 per 1,000), about two-thirds (63 percent) is attributable to the period from age seven days to the end of infancy.

This indicates that definitional issues account for less than half of the overall difference between infant mortality estimates from the surveys and those from the MOH. If the survey mortality rates are valid, the apparent conclusion is that there is considerable underreporting of events in the registration system that is independent of issues of definition. The implication is that even if Uzbekistan were to adopt the WHO definitions of live birth and infant death, underestimation of infant mortality by the MOH would not be eliminated. There are factors other than the definitional issues that result in underreporting of infant deaths in the registration system.

Table 8.3 Mortality rates for segments of infancy

Percent contribution of differences in the mortality rates for segments of infancy to the total difference in infant mortality estimates, 2002 UHES and Ministry of Health

Segment of infancy	Mortality rates 1998-2002			Percent contribution of segment of infancy to the difference in IMR estimates
	2002 UHES	Ministry of Health[1]	Absolute difference	
Under 7 days	19.8	4.3	15.5	37.0
7-365 days	41.9	15.5	26.4	63.0
Total	61.7	19.8	41.9	100.0

[1] Calendar period for MOH estimate is 1998-2001.
Source: Ministry of Health (WHO/EURO, 2003)

8.5 SOCIOECONOMIC DIFFERENTIALS IN CHILDHOOD MORTALITY

Table 8.4 show differentials in infant and child mortality from the 2002 UHES by socioeconomic characteristics. The estimated rates for subgroups of the population are for the 10-year period preceding the survey.

Infant mortality is significantly higher in rural areas (75 per 1,000) than in urban areas (43 per 1,000). Mortality rates for the neonatal, postneonatal, and child segments of childhood mortality are all higher in rural than in urban areas.

There are substantial differences in mortality by mother's level of education. Estimates of infant mortality differ by a factor of three between the least educated women (95 per 1,000) and the most educated women (29 per 1,000).

Mortality differentials by ethnicity indicate that children born to women of Uzbek ethnicity are at greater risk of dying at all ages than children born to women of other ethnicities.

Table 8.4 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the ten-year period preceding the survey, by socioeconomic characteristics, Uzbekistan 2002

Socioeconomic characteristic	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Residence					
Urban	26.8	16.1	42.9	11.0	53.4
Rural	37.9	36.6	74.6	14.0	87.5
Mother's education					
Primary/middle	58.8	35.8	94.6	8.4	102.2
Secondary	34.9	33.3	68.1	14.9	82.0
Secondary special	25.9	23.7	49.7	12.3	61.4
Higher	21.0	8.4	29.4	6.3	35.5
Ethnicity					
Uzbek	35.9	29.1	65.1	13.3	77.5
Other	18.4	28.4	46.8	9.8	56.1
Making ends meet					
Great difficulty	31.9	35.0	66.9	13.4	79.4
Some difficulty	34.3	28.0	62.4	12.0	73.6
A little difficulty	35.1	25.2	60.3	13.4	72.9
Easily	34.4	26.0	60.4	12.6	72.2
Total	33.9	29.1	62.9	12.9	75.0

[1] Computed as the difference between the infant and the neonatal mortality rates

Mortality differentials by indicator of household economic stability (making ends meet) are in the expected direction, but the differences are modest. For children of women residing in households having great difficulty in making ends meet, infant mortality is 67 per 1,000, while for children of women in households that easily make ends meet, infant mortality is 60 per 1,000.

8.6 Demographic Differentials in Childhood Mortality

The relationship between early childhood mortality and demographic variables is shown in Table 8.5. For most populations in Uzbekistan, male children experience higher mortality than female children. Nationally, the level of infant mortality is 67 per 1,000 for males and 59 per 1,000 for females. Thus, infant deaths are 14 percent more likely among males than females.

Differentials in infant mortality by age of mother or birth order are small except for the relatively high rate among children of birth order four or higher (78 per 1,000).

There is a clear association between mortality risk and the length of the preceding birth interval. Children born after a short birth interval (i.e., less than 24 months after a preceding birth) are at greater risk of dying than those born after longer intervals. The infant mortality rate for births following an interval of less than 24 months (80 per 1,000) is greater than the rate for births following an interval of 24-35 months (64 per 1,000), and much greater than the rate for births following an interval of 36-47 months (32 per 1,000). This relationship suggests that some mortality reduction would result if the proportion of births occurring after a short birth interval were reduced.

Table 8.5 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the ten-year period preceding the survey, by demographic characteristics, Uzbekistan 2002

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Child's sex					
Male	37.4	29.4	66.8	12.1	78.1
Female	30.1	28.7	58.8	13.6	71.6
Mother's age at birth					
<20	39.8	23.7	63.5	14.1	76.7
20-29	32.6	27.6	60.2	9.9	69.5
30-39	33.8	35.8	69.5	21.2	89.3
40-49	*	*	*	*	*
Birth order					
1	36.1	22.0	58.1	7.9	65.6
2-3	29.2	30.1	59.3	12.3	70.8
4+	41.3	37.0	78.3	20.6	97.2
Preceding birth interval					
<24 months	42.9	37.5	80.4	10.4	90.0
24-35 months	29.5	34.3	63.9	16.6	79.4
36-47 months	13.1	19.2	32.3	12.3	44.2
48+ months	30.4	31.7	62.2	22.2	83.0
Total	33.9	29.1	62.9	12.9	75.0

Note: An asterisk indicates that the figure is based on fewer than 250 unweighted cases and has been suppressed.
[1] Computed as the difference between the infant and the neonatal mortality rates

8.7 DIFFERENTIALS IN CHILDHOOD MORTALITY BY WOMEN'S STATUS

Several questions were included in the 2002 UHES from which indicators of women's status could be developed. These indicators are meant to provide insight into a woman's ability to act effectively in her own interest and in the interest of those who depend on her. It follows that if women—the primary caretakers of children—enjoy high status, the health and survival of their infants should be enhanced.

Female respondents were asked about their participation in household decisionmaking and about the circumstances under which a wife is justified in refusing to have sexual relations with her husband. Indicators were developed that scale 1) a woman's participation in household decisionmaking and 2) her right to refuse sexual relations (see chapter 16). The higher the scores on these indicators, the higher a woman's status and the more empowered she is to care for her children.

Table 8.6 shows childhood mortality rates according to two indicators of women's status. For both indicators, there is a strong association between increasing status of women (higher scores on the index) and decreasing levels of childhood mortality. Infant mortality among children of women who have no say in household decisionmaking is 102 per 1,000, while for women who participate extensively in decisionmaking, the rate is half as high (50 per 1,000). Similarly, infant mortality is much higher among children of women who believe there is no justifiable reason for a woman refusing sexual relations with her husband (92 per 1,000) than among women who believe there are 3 or 4 reasons (60 per 1,000) that justify a woman refusing sexual relations with her husband.

Table 8.6 Early childhood mortality by women's status

Neonatal, postneonatal, infant, child and under-five mortality rates for the ten-year period preceding the survey, by women's status indicators, Uzbekistan 2002

Indicator of women's status	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Number of decisions in which woman has final say[2]					
0	42.6	59.5	102.0	8.7	109.9
1-3	32.2	26.8	59.0	10.4	68.8
4-6	37.3	23.1	60.5	16.3	75.8
7-8	26.0	24.3	50.3	15.6	65.2
Number of reasons to refuse sex with husband					
0	26.7	65.7	92.4	6.7	98.4
1-2	40.8	53.5	94.2	8.0	101.5
3-4	33.4	26.2	59.6	13.4	72.1
Total	33.9	29.1	62.9	12.9	75.0

[1] Computed as the difference between the infant and the neonatal mortality rates
[2] Either by herself or jointly with others

8.8 HIGH-RISK FERTILITY BEHAVIOR

Many research studies have shown a strong relationship between fertility patterns and children's risk of dying. Typically, mortality risks are greater for children born to mothers who are too young or too old, who are born after a short birth interval, or who have a high birth order. In this analysis, a mother is classified as "too young" if she is less than 18 years of age, and "too old" if she is over 34 years of age. A "short birth interval" is defined as a birth occurring within two years of the previous birth, and a child is of "high birth order" if the mother had previously given birth to four or more children.

Table 8.7 shows the distribution of children born in the five years before the survey by risk category. While first births to women age 18-34 are shown in Table 8.7, they are not included in the analysis because they are not considered an avoidable risk.

Column 1 of Table 8.7 shows that, in the five-year period before the survey, 27 percent of births were in a single high-risk category and 7 percent were in a multiple high-risk category.

Column 2 of the table shows risk ratios for high-risk births relative to births not having any high-risk characteristics. The risk ratio for births in a single high-risk category is 1.07 (i.e., elevated by 7 percent over births in the not-in-any-high-risk category). For births with multiple high-risk characteristics, the risk ratio is 2.52 (i.e., elevated by 152 percent over births in the not-in-any-high-risk category).

Column 3 of Table 8.7 looks to the future and addresses the question: how many currently married women have the potential for having a high-risk birth? The results were obtained by simulating the risk category into which a birth to a currently married woman would fall if she were to become pregnant at the time of the survey. For example, a woman who is 37 years old at the time of the survey and has had four previous births, the last of which occurred three years before the survey, would be classified in the multiple high-risk category *age > 34 and birth order > 3*, which carries a risk ratio of 3.03 (i.e., elevated by 203 percent over births in the not-in-any-high-risk category).

Seventy-one percent of currently married women have the potential to give birth to a child with an elevated risk of dying. Forty-one percent of women have the potential to give birth to a child with multiple high-risk factors.

Table 8.7 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of dying and the risk ratio, and the percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Uzbekistan 2002

Risk category	Births in the 5 years preceding the survey		Percentage of currently married women[1]
	Percentage of births	Risk ratio	
Not in any high-risk category	36.0	1.00	23.0[a]
Unavoidable risk category			
First-order births between ages 18 and 34 years	30.0	0.77	6.50
Single high-risk category			
Mothers's age <18	1.0	0.00	0.0
Mother's age >34	1.8	1.31	6.7
Birth interval <24 months	12.9	1.14	9.3
Birth order >3	11.2	1.05	13.4
Subtotal	26.9	1.07	29.3
Multiple high-risk category[2]			
Age <18 and birth interval <24 months	0.1	0.00	0.0
Age >34 and birth interval <24 months	0.1	2.13	0.1
Age >34 and birth order >3	3.9	3.03	34.2
Age >34 and birth interval <24 months and birth order >3	0.4	3.64	1.1
Birth interval <24 months and birth order >3	2.5	1.67	5.8
Subtotal	7.0	2.52	41.2
In any avoidable high-risk category	34.0	1.37	70.5
Total	100.0	na	100.0
Number of births	2,444	na	3,720

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births *not in any high-risk category*.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth occurred less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the combined categories *age<18* and *birth order>3*
[a] Includes sterilized women

CHILD HEALTH 9

A.M. Hadjibaev and R.Y. Stallings

This chapter summarizes information about general physical and dental health status, use of health and dental services, recent episodes of asthma, and recent injuries or poisonings for all children under five years of age whose mothers were interviewed in the 2002 Uzbekistan Health Examination Survey (UHES).

9.1 General Health Status and Health Care Utilization

The government of Uzbekistan has worked closely with international health organizations since 1995 to improve the health care system, with special emphasis on transitioning from hospital-based to primary health care service provision. Under the restructuring plan begun in 1998, primary health care is guaranteed to all citizens through a network of urban and rural medical centers, with some remote rural areas maintaining smaller community hospitals or feldsher-midwifery posts. Evidence of improvement in primary health care for children has recently been reported by the Ministry of Health (MOH), such as an increase in vaccination coverage for the 3-dose DPT vaccine from 89 to 96 percent among children age 12-23 months between 1995 and 2000 (PHNI Project, 2003).

In the 2002 UHES, mothers were asked questions about the general health status, usual source of care, and hospitalizations of their children under age five years.

Mothers were asked to rate their child's general health on a scale ranging from excellent to poor. The results are shown in Table 9.1. Almost 18 percent of children were described as being in excellent or very good health, 72 percent were in good health, and 11 percent were in fair or poor health.

Figure 9.1 shows the distribution of health ratings by region. Children in the Western region are the least likely to be rated in excellent or very good health by their mothers. Interestingly, children in Tashkent City are the least likely to be considered average or in good health. Urban children are twice as likely to be rated in fair or poor health compared with rural children. These patterns could reflect either true health differences or simply differences in how mothers in different settings perceive a "healthy" child.

Seventeen percent of all children have ever been hospitalized overnight for an illness or injury. This proportion increases with age, rising from 6 percent of infants to 24 percent of four-year-old children. Differences in proportions by other background characteristics are not marked.

Mothers were asked to describe the place where their child most often goes for health care. The majority of children are taken to a polyclinic (46 percent) or a rural medical center (37 percent), 9 percent of children are taken to a hospital, and less than 1 percent are seen by a private clinic or provider (Table 9.2). The source of health care is usually determined by residence, in keeping with the government's service provision strategies. In urban areas, the majority of young children (88 percent) receive health care at a polyclinic, while in rural areas, the majority (57 percent) are taken to a rural medical center. Nearly all children in urban areas are seen by a doctor when they go for care (98 percent), while in rural areas, feldshers or nurses are the usual providers of care for 10 percent of children.

Table 9.1 Mother's assessment of child's general health and number of medical admissions

Percent distribution of children under five years by mother's rating of child's general health, and percent distribution by number of medical admissions, according to background characteristics, Uzbekistan 2002

	Mother's rating of child's general health					Number of lifetime overnight admissions for illness or injury					
Bcckground characteristic	Excellent	Very good	Good	Fair/ poor	Total	None	1	2	3+	Total	Number
Child's sex											
Female	5.5	12.6	72.1	9.8	100.0	84.8	11.1	2.7	1.4	100.0	1,093
Male	5.3	11.8	71.4	11.5	100.0	80.7	13.5	3.0	2.8	100.0	1,195
Age in months											
<12	6.3	14.1	70.1	9.5	100.0	93.7	4.6	1.1	0.6	100.0	483
12-23	3.9	10.6	73.0	12.5	100.0	84.5	12.6	1.6	1.2	100.0	418
24-35	7.2	12.4	68.4	12.0	100.0	80.9	13.4	3.6	2.1	100.0	502
36-47	5.2	12.3	72.7	9.8	100.0	77.5	15.6	3.8	3.1	100.0	434
48-59	3.9	11.2	75.3	9.6	100.0	76.0	16.2	4.0	3.7	100.0	450
Birth order											
1	6.3	14.9	70.4	8.5	100.0	80.5	13.4	4.0	2.2	100.0	731
2-3	4.9	11.8	71.3	12.0	100.0	82.6	12.6	2.4	2.4	100.0	1,159
4+	5.3	8.1	75.6	10.9	100.0	86.8	9.8	2.0	1.3	100.0	397
Residence											
Urban	6.4	11.3	66.4	15.9	100.0	81.3	12.6	3.5	2.6	100.0	820
Rural	4.9	12.6	74.7	7.8	100.0	83.4	12.2	2.5	1.9	100.0	1,468
Region											
Western	2.4	3.1	81.8	12.7	100.0	88.0	7.3	3.0	1.7	100.0	296
Central	9.6	9.9	69.4	11.1	100.0	79.7	15.3	3.0	1.9	100.0	582
East-Central	3.3	9.8	76.6	10.3	100.0	79.3	14.1	4.2	2.4	100.0	602
Eastern	3.5	20.9	69.7	5.9	100.0	84.3	11.5	1.7	2.5	100.0	628
Tashkent City	10.1	11.8	54.1	24.0	100.0	89.0	9.1	0.9	1.0	100.0	180
Oversampled areas											
Karakalpakstan	1.4	1.1	89.7	7.8	100.0	92.8	4.9	1.8	0.5	100.0	161
Ferghana Oblast	5.2	19.1	69.9	5.7	100.0	83.5	11.4	2.4	2.7	100.0	316
Education											
Primary/middle	8.8	8.3	76.4	6.4	100.0	81.6	14.2	2.7	1.5	100.0	219
Secondary	5.0	12.8	73.2	8.9	100.0	83.4	12.2	2.7	1.7	100.0	1,429
Secondary special	5.5	9.6	68.5	16.4	100.0	80.4	13.9	3.2	2.5	100.0	453
Higher	4.0	17.9	62.8	15.3	100.0	83.8	7.7	3.4	5.1	100.0	186
Total	5.4	12.2	71.8	10.7	100.0	82.7	12.4	2.8	2.1	100.0	2,288

Figure 9.1 Mother's Rating of Child's Health by Region for Children Age 0-59 Months

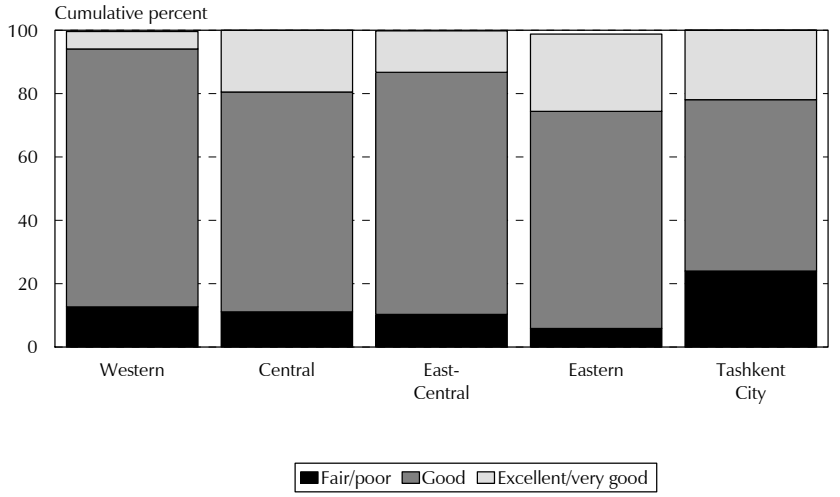


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Table 9.2 Usual source of child's medical care and usual medical care provider

Percent distribution of children under five years by usual source of medical care, and percent distribution by usual care provider, according to background characteristics, Uzbekistan 2002

	Child's usual source of medical care									Child's usual medical care provider					
Background characteristic	Institute, oblast, or city hospital	Rayon hospital	Village hospital	Polyclinic/ ambu-latory/ workplace	Rural doctor's medical center	Other public clinic or provider	Private clinic or provider	None/ don't know/ missing	Total	Doctor	Feldsher	Nurse/ other	None/ not applicable	Total	Number
Child's sex															
Female	2.1	2.6	3.5	45.9	38.2	6.6	0.0	1.1	100.0	92.9	4.8	1.2	1.1	100.0	1,093
Male	2.8	2.9	3.3	46.6	35.8	7.2	0.4	0.9	100.0	92.4	5.2	1.5	0.8	100.0	1,195
Age in months															
<12	2.7	2.1	4.5	39.7	43.1	7.5	0.0	0.3	100.0	94.6	3.5	1.6	0.3	100.0	483
12-23	3.3	2.5	3.4	44.5	37.3	8.3	0.4	0.3	100.0	91.3	7.0	1.4	0.3	100.0	418
24-35	1.4	2.9	4.1	45.7	38.4	5.9	0.4	1.3	100.0	93.4	4.0	1.3	1.3	100.0	502
36-47	2.7	2.9	2.5	47.0	34.5	8.6	0.3	1.5	100.0	90.7	6.8	1.3	1.2	100.0	434
48-59	2.4	3.4	2.3	55.0	30.6	4.6	0.0	1.6	100.0	93.0	4.1	1.4	1.6	100.0	450
Residence															
Urban	5.7	2.9	0.0	88.1	1.6	0.0	0.4	1.3	100.0	98.3	0.1	0.3	1.3	100.0	820
Rural	0.7	2.7	5.3	22.9	56.7	10.8	0.1	0.8	100.0	89.5	7.8	2.0	0.7	100.0	1,468
Region															
Western	4.7	4.2	3.6	41.1	37.3	5.9	0.3	2.8	100.0	93.0	0.9	3.3	2.8	100.0	296
Central	2.4	1.7	7.6	30.9	42.9	14.6	0.0	0.0	100.0	88.8	10.3	0.9	0.0	100.0	582
East-Central	1.7	3.4	3.5	40.2	44.9	5.6	0.5	0.2	100.0	91.5	6.3	2.0	0.2	100.0	602
Eastern	2.7	2.9	0.3	54.6	34.2	3.6	0.0	1.6	100.0	95.8	2.1	0.8	1.4	100.0	628
Tashkent City	0.7	1.2	0.0	96.0	0.0	0.0	0.4	1.7	100.0	98.0	0.4	0.0	1.7	100.0	180
Oversampled areas															
Karakalpakstan	6.1	2.5	6.5	48.9	22.2	8.5	0.6	4.8	100.0	89.8	1.1	4.4	4.8	100.0	161
Ferghana Oblast	5.4	1.9	0.2	61.5	25.3	5.3	0.0	0.4	100.0	96.6	1.8	1.1	0.4	100.0	316
Education															
Primary/middle	1.3	0.7	7.0	38.2	44.7	8.1	0.0	0.0	100.0	95.6	3.8	0.6	0.0	100.0	219
Secondary	1.7	2.8	3.7	39.6	42.4	8.5	0.2	1.1	100.0	91.4	6.2	1.3	1.0	100.0	1,429
Secondary special	5.0	3.9	2.2	58.9	25.4	3.5	0.0	1.1	100.0	93.6	3.2	2.0	1.1	100.0	453
Higher	3.3	2.4	0.2	76.3	14.2	1.9	0.9	0.9	100.0	96.6	1.2	1.3	0.9	100.0	186
Total	2.5	2.8	3.4	46.3	36.9	6.9	0.2	1.0	100.0	92.7	5.0	1.4	0.9	100.0	2,288

9.2 BRONCHIAL ASTHMA

Asthma is a disease characterized by recurrent attacks of wheezing and breathlessness. These symptoms occur when the air passages of the lungs become inflamed, their lining swells, and the airways narrow, reducing airflow in and out of the lungs.

Besides a family history of asthma or allergies, other risk factors for asthma include early exposure to indoor allergens, low birthweight, and respiratory infections. Exposure to tobacco smoke is a known risk factor, while the role of external air pollutants is currently inconclusive. Allergic rhinitis, which is an allergen-induced inflammation of the nose membranes, has recently been recognized as a risk factor for asthma by the World Health Organization (WHO).

Poor air quality is a risk factor for respiratory illnesses that can lead to asthma. In Uzbekistan, the largest source of air pollutants is automobiles; 60 percent nationwide and 80 percent in major cities. Most industrial plants, which are concentrated in Tashkent City, Kashkadarya, Bukhara, Ferghana, and Navoi, are not equipped with pollution-control equipment (WHO/EURO, 1999).

Worldwide, the incidence rate for asthma has been increasing at an average rate of 50 percent every ten years and is responsible for an estimated 250,000 child deaths per year (WHO, 2000). Respiratory diseases accounted for 14 percent of all deaths among persons age 0-64 years in Uzbekistan in 1997, twice the average for the entire European region (6 percent). In 1998, half of all infant deaths in Uzbekistan were attributed to respiratory diseases (WHO/EURO, 1999).

Mothers were asked several questions about their child's breathing to estimate the prevalence of asthma symptoms among children under five years of age.

Nine percent of children under age five years were reported to have experienced a wheezing or whistling episode in the 12 months preceding the survey. The prevalence rates peaked at ages 6-23 months, were lowest in the Eastern region and in Tashkent City, and increased as the level of maternal education increased (Table 9.3).

Table 9.3 Prevalence of symptoms of asthma

Percentage of children under five years with symptoms of asthma in the past 12 months, by background characteristics and environmental exposure, Uzbekistan 2002

Background characteristic	Percentage of children wheezing or whistling when breathing	Number
Child's sex		
Female	8.9	1,093
Male	9.8	1,195
Child age in months		
<6	6.6	237
6-11	17.9	246
12-23	15.1	418
24-35	7.6	502
36-47	5.8	434
48-59	6.4	450
Residence		
Urban	9.8	820
Rural	9.2	1,468
Region		
Western	14.7	296
Central	11.2	582
East-Central	12.3	602
Eastern	4.0	628
Tashkent City	3.7	180
Oversampled areas		
Karakalpakstan	8.7	161
Ferghana Oblast	2.3	316
Education		
Primary/middle	6.2	219
Secondary	9.7	1,429
Secondary special	9.0	453
Higher	11.7	186
Exposure to tobacco smoke at age 0-40 days		
Yes	20.5	185
No	8.4	2,103
Primary household cooking fuel		
Electricity	15.2	58
LPG/natural gas/biogas	10.0	1,776
Kerosene/coal/lignite/charcoal/ firewood/dung/other	6.3	454
Total	9.4	2,288

Of the 215 children who experienced an episode of wheezing or whistling in the past year, half had only one attack, while 22 percent had three or more attacks (data not shown). Mothers of children with a recent episode (in the past 12 months) were asked how frequently the child's sleep was disturbed due to wheezing and whether or not, during an attack, the child had difficulty speaking between breaths. According to the mothers, 45 percent of children with a recent episode of wheezing or whistling had sleep disturbances at least once per week during the past 12 months. Among the 154 children with a recent episode of wheezing or whistling who can speak, almost 20 percent had experienced difficulty speaking between breaths during an attack.

Two crude measures of exposure to tobacco smoke and biomass fuels are available from the questionnaires. For each child under the age of five years, mothers were asked to recall if that child was ever in the same room with someone smoking at any time during his/her first 40 days of life.[1] In the Household Questionnaire, the respondent was asked to state the type of fuel mainly used for cooking.

Twenty percent of children who were exposed in early infancy to tobacco smoke experienced an episode of wheezing or whistling in the past 12 months, compared with 8 percent of nonexposed children; this translates into a relative risk of 2.4. Children in homes where biomass fuels are used for cooking are less likely than children in homes using gas or electricity to have had a recent episode (6 versus 10 percent), yielding a relative risk of 0.6. Since more than 90 percent of households using biomass fuels are in rural areas, these results are counterintuitive and may be confounded by the greater exposure of urban children to air pollutants outside the home than rural children.

9.3 Injuries

Childhood injuries are a major problem in the Newly Independent States (NIS) according to a 1998 report prepared by the European Centre on Health of Societies in Transition (ECOHOST, 1998). For both male and female children age 1-4 years, mortality rates for acts of violence and other external causes (including drowning, accidental poisoning, fire, and falls) are higher in the Southern NIS than in any other region of Europe, based on data from 1992 to 1993.

In 1998, cause of death data from Uzbekistan for children under five years of age indicate approximate rates of 2.75 per 100,000 for transportation-related deaths, 2.42 per 100,000 for violence-related deaths, and 37.9 for deaths from other external causes (WHO, 2003c).

In the 2002 UHES, mothers were asked a set of questions about any injuries or poisonings requiring medical attention that occurred in the three months preceding the survey for each child under the age of five years, and the use of medical services in response to those events.[2]

The incidence of an injury or poisoning requiring medical attention in the past three months was 2 percent for all children under age five years. As seen in Table 9.4, the percentages do not differ substantially by sex or age. However, urban children are twice as likely as rural children to have had a recent incident (relative risk of 2.0). Of the 50 children with an incident, one-fourth were hospitalized overnight (data not shown), and in 60 percent of cases the incident occurred inside the home. Most of the children (29 of 50) were injured in a fall, while 12 were burned (including fires). There were just two cases of poisoning and no cases of violence-related injuries.

[1] Mothers were asked questions regarding their own smoking habits. Less than 1 percent are past or current smokers. Thus, asthma prevalence was not examined by maternal smoking variables.

[2] The 2002 UHES was not designed to collect information on causes of deaths in childhood. Since questions about injuries and poisonings were only asked for living children, their incidence could be underestimated by these data. However, this is unlikely here because these particular questions refer to a period of just three months.

Table 9.4 Rates of child injury and poisoning requiring medical attention

Percentage of injuries and poisonings among children under five years in the three months preceding the survey for which medical advice was sought, by background characteristics, Uzbekistan 2002

Background characteristic	Percentage of cases of injury or poisoning for which medical advice was sought	Number
Child's sex		
Female	2.0	1,093
Male	2.1	1,195
Age in months		
<12	1.6	483
12-23	2.5	418
24-35	2.2	502
36-47	1.7	434
48-59	2.5	450
Residence		
Urban	3.1	820
Rural	1.5	1,468
Total	2.1	2,288

9.4 DENTAL HEALTH

Scientific evidence supporting the role of oral infections or diseases as risk factors for systemic illnesses, including bacterial pneumonia, has been growing in recent years. Despite the potential benefit to one's general health, preventive dental care is quite often given low priority in resource-poor settings and low-income populations. In Uzbekistan, dentists (stomatologists) have normally been included as staff in urban and rural polyclinics and in the more recently introduced rural medical centers now replacing many of the polyclinics and feldsher-midwifery posts as the main source of primary care.

As a result of a presidential decree on reform of the health system issued in 1998 by the Cabinet of Ministers, a list of diseases eligible for emergency health care services is being developed by the Ministry of Health. After 2005, dental diseases will not be included in the state package and must be covered by the patient, his/her employer, or an insurance fund (European Observatory on Health Care Systems, 2001). This will likely lead to a reduction in the use of primary dental care services by low-income families, including their children.

Pediatric dentists recommend that children be seen soon after their first birthday to be assessed for developmental problems and that routine cleaning by a dentist begin at age three years at a six-month frequency. With regard to daily cleaning, the gums of young infants should be cleaned to remove plaque. When teeth begin to erupt, the teeth should be brushed gently using water. The use of toothpaste or powder should begin at age two years.

In a 1996 survey conducted in Uzbekistan for WHO, 83 percent of children age 5-6 years and 59 percent of children age 12 years were found to have one or more decayed, missing (extracted), or filled teeth. The mean number of decayed, missing, or filled teeth (DMFT) was 4.0 among children age 5-6 years and 1.4 among children age 12 years (Leous, 1996).

In the 2002 UHES, mothers were asked a set of questions regarding the dental health and use of dental services for all children under age five years.

Table 9.5 summarizes the mothers' responses to questions about the frequency and method of cleaning their children's teeth at home. Among children age 6-59 months with any erupted teeth, 65 percent clean their teeth less than monthly by any method. As expected, the frequency of cleaning teeth increases with age. By age 48-59 months, 58 percent of children clean their teeth more than once a week,

Table 9.5 Frequency of teeth cleaning by background characteristics

Percent distribution of children age 6-59 months who have their natural teeth by the frequency of teeth cleaning, and the percentage that use a brush with tooth powder/paste for teeth cleaning, according to background characteristics, Uzbekistan 2002

Bcckground characteristic	Frequency of cleaning teeth						Percentage that clean their teeth with a brush and powder/ paste	Number of children with natural teeth	Percentage of children with natural teeth	Number of children
	Daily	A few times a week	Weekly	Monthly	Rarely/ never	Total				
Child's sex										
Female	20.8	10.0	5.4	1.3	62.5	100.0	30.8	894	91.0	982
Male	19.1	8.7	4.0	0.9	67.3	100.0	26.4	994	93.0	1,069
Child's age in months										
6-11	0.4	0.0	0.0	0.0	99.6	100.0	1.1	115	46.8	246
12-23	3.3	1.3	0.6	0.0	94.7	100.0	3.9	396	94.7	418
24-35	12.7	7.9	4.4	1.2	73.9	100.0	19.2	498	99.1	502
36-47	26.3	13.0	5.9	1.8	53.0	100.0	37.4	430	99.1	434
48-59	41.5	16.8	8.7	1.6	31.4	100.0	58.9	448	99.6	450
Residence										
Urban	27.1	7.8	4.8	1.0	59.4	100.0	34.9	716	94.5	757
Rural	15.5	10.3	4.6	1.2	68.4	100.0	24.5	1,172	90.6	1,293
Region										
Western	16.2	5.6	3.2	0.0	75.1	100.0	18.3	241	91.8	262
Central	23.9	8.5	8.4	0.9	58.3	100.0	34.3	487	92.6	526
East-Central	16.0	6.9	0.9	1.3	74.9	100.0	21.3	493	92.7	531
Eastern	22.2	12.1	4.4	1.4	60.0	100.0	29.9	509	89.7	568
Tashkent City	18.0	16.3	8.7	1.5	55.4	100.0	43.8	158	96.8	163
Oversampled areas										
Karakalpakstan	11.5	3.6	4.8	0.0	80.1	100.0	16.4	131	92.2	142
Ferghana Oblast	18.1	14.1	7.2	2.6	58.0	100.0	36.2	268	95.4	281
Education										
Primary/middle	23.4	9.5	5.4	0.7	61.1	100.0	34.4	178	92.0	194
Secondary	17.3	8.9	4.6	1.3	67.9	100.0	26.5	1,161	91.2	1,273
Secondary special	22.7	7.3	4.1	1.1	64.7	100.0	25.7	376	92.6	406
Higher	27.6	16.6	5.7	0.0	50.1	100.0	41.6	172	96.7	178
Making ends meet										
Great difficulty	18.4	6.4	6.6	0.8	67.8	100.0	26.3	520	91.8	566
Some difficulty	19.8	9.8	3.2	0.9	66.4	100.0	25.7	649	91.7	708
A little difficulty	21.0	9.8	5.2	1.4	62.6	100.0	32.3	566	91.9	616
Easily	22.0	15.0	3.0	1.8	58.2	100.0	33.2	151	95.2	159
Total	19.9	9.3	4.7	1.1	65.0	100.0	28.5	1,888	92.0	2,051

but one-third rarely or never clean their teeth. Children from the Western and East-Central regions are the least likely to clean their teeth on any regular basis compared with children from other regions, and children whose mothers are the most highly educated are the most likely to clean their teeth daily or several times per week. Children from households with greater economic stability, defined as easily making ends meet, are more likely than other children to clean their teeth daily or several times per week.

The same patterns by age, region, maternal education, and "making ends meet" are seen for the use of a brush with powder or paste for cleaning. Overall, about 30 percent of children use a brush with powder or paste for cleaning their teeth.

Mothers were asked to rate the condition of their children's teeth from excellent to poor. The results are shown in Table 9.6 for children age 12-59 months. Nineteen percent of mothers rated their children's teeth excellent or very good, while 11 percent rated them fair or poor. Mothers in urban areas were twice as likely to rate their child's teeth fair or poor as mothers in rural areas (16 versus 8 percent). The percentage of fair or poor ratings also increased positively with mother's education, from 5 percent for

Table 9.6 Condition of children's teeth

Percent distribution of children age 12-59 months by mother's rating of child's teeth, and percentage who have ever been seen by a dentist, according to background characteristics, Uzbekistan 2002

Bcckground characteristic	Mother's rating of condition of child's teeth: Excellent/ very good	Good	Fair/ poor	No teeth/ missing	Total	Percentage ever seen by a dentist	Number
Child's sex							
Female	18.4	69.2	10.8	1.6	100.0	5.9	861
Male	19.6	67.7	10.8	1.9	100.0	5.8	944
Child's age in months							
12-23	16.2	70.0	8.6	5.3	100.0	4.5	418
24-35	21.5	68.8	8.9	0.9	100.0	3.7	502
36-47	21.3	67.7	10.1	0.9	100.0	7.0	434
48-59	16.7	67.2	15.7	0.4	100.0	8.6	450
Residence							
Urban	18.1	64.3	16.2	1.4	100.0	6.9	686
Rural	19.6	70.9	7.5	2.0	100.0	5.3	1,118
Region							
Western	7.7	80.6	11.3	0.5	100.0	3.1	225
Central	31.7	56.7	10.3	1.3	100.0	6.6	467
East-Central	10.7	76.7	12.0	0.5	100.0	9.4	463
Eastern	17.6	72.2	5.8	4.4	100.0	4.3	500
Tashkent City	27.2	48.0	24.5	0.4	100.0	2.4	149
Oversampled areas							
Karakalpakstan	4.8	82.3	12.5	0.3	100.0	1.9	123
Ferghana Oblast	20.1	70.8	8.2	0.9	100.0	2.9	251
Education							
Primary/middle	22.1	69.6	5.3	2.9	100.0	4.7	175
Secondary	18.8	69.4	9.5	2.2	100.0	5.8	1,110
Secondary special	18.6	68.9	12.0	0.5	100.0	5.6	354
Higher	18.1	59.0	22.5	0.4	100.0	8.6	166
Making ends meet							
Great difficulty	19.6	65.6	12.6	2.2	100.0	3.2	501
Some difficulty	15.5	72.6	9.9	2.0	100.0	6.7	622
A little difficulty	20.1	67.7	10.9	1.2	100.0	7.0	535
Easily	28.2	62.3	7.7	1.8	100.0	7.8	145
Total	19.0	68.4	10.8	1.8	100.0	5.9	1,805

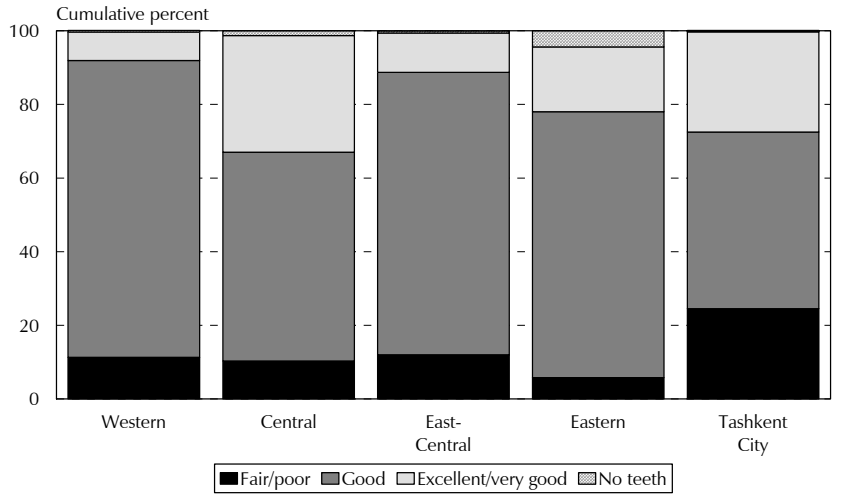
children of mothers with less than secondary schooling to 22 percent of mothers with the highest educational attainment. These findings seem somewhat counterintuitive and may suggest that urban and more educated women are judging their children's teeth by a higher perceived standard.

Children from households with greater economic stability were more likely than other children to be given an excellent or very good rating on their teeth by their mothers. Figure 9.2 shows the cumulative distribution of mothers' ratings of their children's teeth by region. Mothers from the Western region most often rated their children's teeth in the middle category (good), while Tashkent City mothers were nearly equally likely to rate their children's teeth at either end of the scale (excellent/very good or fair/poor).

By 12 months of age, nearly all children have erupted primary teeth and should thus be evaluated by a dentist, according to recommended practices. As Table 9.6 indicates, only 6 percent of children age 12-59 months have ever been seen by a dentist. The proportion ever seen increases gradually by age, by level of maternal education, and rating of the household's ability to make ends meet. It is noteworthy that children in Tashkent City, with the largest percentage of teeth rated fair or poor by their mothers, are the least likely to have ever seen a dentist (2 percent).

Most of the children who had ever been seen by a dentist had been seen most recently in the past six months. Among the 104 children ever seen by a dentist, half reportedly had a cavity detected in the past year, and two-thirds of these children were treated (data not shown). Six percent of children age 12-59 months reportedly experienced tooth pain unrelated to eruption in the three months preceding the survey.

Figure 9.2 **Mother's Rating of Teeth Condition by Region for Children Age 12-59 Months**



UHES 2002

NUTRITION 10

R.Y. Stallings and N.K. Tureeva

This chapter covers nutritional status and dietary patterns for adult men and women and for children under five years of age, breastfeeding and supplementary feeding practices, and anemia in children age 6-59 months. Where feasible, data collected in this 2002 Uzbekistan Health Examination Survey (UHES) are compared with data collected in the 1996 Uzbekistan Demographic and Health Survey (UDHS).

10.1 ADULT NUTRITIONAL STATUS

10.1.1 Measures of Adult Nutritional Status

Height is a measure of past nutritional status and reflects in part the cumulative effect of access to nutritional foods during childhood and adolescence, as well as ancestral nutritional status. For women, height can be used to predict the risks associated with childbirth, since small stature is associated with obstructed labor, low birth weight at delivery, and higher rates of miscarriage and stillbirth. The height below which a woman is considered to be at nutritional risk is in the range of 140 to 150 centimeters.

The body mass index (BMI) is a measure of a person's energy reserves (thinness or obesity) and is defined as weight in kilograms divided by the square of height in meters (kg/m^2). A BMI value of less than 18.5 is considered an indication of chronic energy deficiency among nonpregnant women and men, based on cutoffs set by the World Health Organization (WHO, 1995). Values of 25.0 to 29.9 indicate that a person is "overweight," while values of 30.0 and higher indicate "obesity."

Overweight and obesity are becoming increasingly prevalent worldwide and across age groups. This is attributed to rapid changes in diets and lifestyles that have accompanied industrialization and urbanization. Dietary patterns have changed with an increased consumption of foods high in fat, especially saturated fat, and low in carbohydrates, while physically demanding work has been increasingly replaced by sedentary forms of employment. Particularly alarming is the rapid rise in overweight and obesity among children and adolescents. However, in most industrialized countries, both the number and proportion of older persons is rising, leading to increased health expenditures for chronic illnesses that typically increase with age. Overnutrition, that is, overweight and obesity, is a leading risk factor for multiple chronic diseases, including hypertension, type 2 diabetes, ischemic heart disease, stroke, and certain forms of cancer (WHO, 1998).

10.1.2 Adult Nutritional Status Based on the 2002 UHES

In the 2002 UHES, the nutritional status of women age 15-49 and men age 15-59 years was assessed by measuring height and weight. An additional index of nutritional status, body mass index (BMI), was then calculated. The figures for women's height are for all measured women, while those for the BMI are for all nonpregnant women who are at least three or more months postpartum. Height measurements were obtained for 99 percent of interviewed women, and BMI was calculable for 98 percent of nonpregnant women. BMI was calculable for 88 percent of men interviewed based on their weight and height measurements.

Table 10.1.1 indicates that the mean height of women in Uzbekistan is 159.5 centimeters; only 0.5 percent of women are below 145 centimeters. Mean height varies little by background characteristics. Short stature is most prevalent among women with the least education (i.e., women with a primary/middle school education—2.2 percent are below 145 centimeters).

The table further indicates that 6 percent of women are undernourished (BMI less than 18.5), 66 percent are in the normal range, 21 percent are overweight, and 7 percent are obese. The highest rates of thinness occur among women age 15-24 years (8 to 13 percent), women living in the Western and Eastern regions (7 and 9 percent), and women with no education or only a primary/middle school education (9 percent), compared with other women.

Table 10.1.1 Nutritional status by background characteristics: women

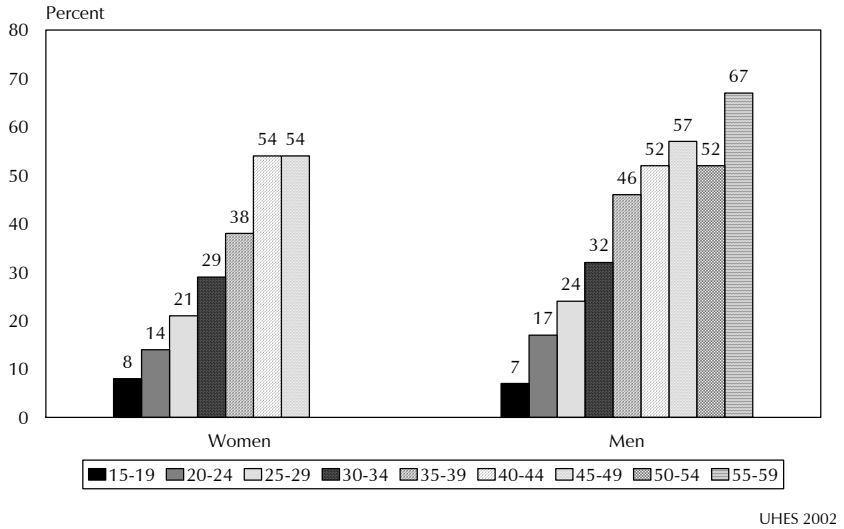
Among women age 15-49, mean height, percentage under 145 cm, mean body mass index (BMI), and percentage with specific BMI levels, by background characteristics, Uzbekistan 2002

	Height			Body mass index[1]									
					Normal	Thin				Overweight/obese			
Background characteristic	Mean height in cm	Percentage below 145 cm	Number of women	Mean BMI	18.5-24.9 (normal)	<18.5 (thin)	17.0-18.4 (mildly thin)	16.0-16.9 (moderately thin)	<16.0 (severely thin)	≥25.0 (overweight/obese)	25.0-29.9 (overweight)	≥30.0 (obese)	Number of women
Age													
15-19	158.5	0.7	1,087	21.2	79.6	12.8	9.9	2.2	0.7	7.6	7.3	0.3	1,056
20-24	159.5	0.2	1,041	22.1	77.8	7.6	6.4	1.1	0.1	14.6	12.9	1.7	834
25-29	159.7	0.5	803	23.0	74.0	4.7	4.2	0.2	0.4	21.3	17.8	3.5	680
30-34	160.1	0.3	717	23.8	66.6	3.6	2.8	0.4	0.5	29.8	24.0	5.8	666
35-39	160.2	0.6	681	24.5	58.9	2.6	2.0	0.3	0.4	38.5	29.5	9.0	659
40-44	159.9	0.9	618	26.1	44.4	1.8	1.5	0.3	0.0	53.8	36.2	17.6	614
45-49	159.4	0.9	460	26.8	43.9	1.7	1.4	0.3	0.0	54.5	31.3	23.1	458
Residence													
Urban	160.3	0.2	2,134	23.6	63.7	6.7	5.2	1.0	0.6	29.5	21.6	7.9	1,988
Rural	159.1	0.8	3,272	23.4	68.2	5.3	4.4	0.7	0.2	26.6	20.0	6.6	2,980
Region													
Western	158.6	0.9	705	23.5	65.2	7.2	5.2	1.4	0.6	27.5	17.6	9.9	645
Central	157.5	1.0	1,317	23.7	67.1	3.8	3.1	0.4	0.2	29.1	20.9	8.2	1,213
East-Central	159.8	0.3	1,362	23.9	67.4	3.5	2.5	0.8	0.2	29.1	20.8	8.2	1,228
Eastern	160.9	0.3	1,533	22.8	67.5	9.0	7.6	1.1	0.3	23.5	20.3	3.2	1,419
Tashkent City	161.4	0.3	488	24.3	59.9	6.0	4.8	0.6	0.6	34.1	24.6	9.5	461
Oversampled areas													
Karakalpakstan	159.1	0.8	390	23.0	68.7	9.0	6.3	1.9	0.8	22.3	15.9	6.4	357
Ferghana Oblast	161.3	0.3	633	22.9	65.5	8.8	7.1	1.2	0.6	25.7	21.0	4.7	583
Education													
Primary/middle	157.8	2.2	582	23.0	68.3	8.9	5.6	2.4	0.8	22.8	14.7	8.2	537
Secondary	159.4	0.4	3,163	23.4	67.7	5.7	4.8	0.7	0.2	26.5	20.5	6.1	2,883
Secondary special	160.1	0.3	1,098	23.6	64.1	6.1	5.1	0.6	0.4	29.7	21.6	8.2	1,011
Higher	161.2	0.0	563	24.4	61.5	3.0	2.5	0.3	0.1	35.5	25.9	9.7	536
Total	159.5	0.5	5,406	23.5	66.4	5.9	4.7	0.8	0.3	27.8	20.6	7.1	4,967

[1] The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2). Excludes pregnant women and women with a birth in the preceding 3 months

According to the 2002 UHES, approximately three in ten women are either overweight or obese (28 percent). There is a very strong positive relationship between age and BMI scores, as illustrated in Figure 10.1. While 8 percent of women age 15-19 are overweight or obese, the figure for women age 45-49 is 54 percent, a more than sixfold increase. Overnutrition also increases with increasing level of education, as shown in Figure 10.2. Women living in Tashkent City have the highest rate of overweight/obesity combined (34 percent), while women from the Eastern region have the lowest (24 percent).

Figure 10.1 **Percentage of Women and Men Overweight or Obese by Age**



Nutritional status of men is tabulated for BMI only (Table 10.1.2). Values of BMI indicate that 4 percent of men are undernourished, 64 percent are in the normal range, 27 percent are overweight, and 5 percent are obese. The highest rates of male thinness occur in the youngest age group of 15-19 years of age (14 percent) and among men with less than secondary education (9 percent) versus their respective counterparts.

Thirty-two percent of men are overnourished. As was the case with women, overweight and obesity among men is positively associated with both age and level of education. As seen in Figure 10.1, the percentage of overnourished men rises from a low of 7 percent in the youngest age group, 15-19, to 67 percent in the highest age group, 55-59. Overnutrition increases with level of education, and almost half (48 percent) of men with a higher education are overweight or obese (Table 10.1.2).

Table 10.1.2 Nutritional status by background characteristics: men

Among men age 15-59, mean body mass index (BMI), and percentage with specific BMI levels, by background characteristics, Uzbekistan 2002

		Body mass index[1]								
		Normal	Thin				Overweight/obese			
Background characteristic	Mean BMI	18.5-24.9 (normal)	<18.5 (thin)	17.0-18.4 (mildly thin)	16.0-16.9 (moderately thin)	<16.0 (severely thin)	≥25.0 (over-weight/ obese)	25.0-29.9 (over-weight)	≥30.0 (obese)	Number of men
Age										
15-19	21.1	78.9	14.0	10.0	2.8	1.2	7.1	6.5	0.6	343
20-24	22.8	81.0	2.0	1.8	0.2	0.0	16.8	15.9	0.9	331
25-29	23.4	72.3	3.5	3.3	0.2	0.0	24.2	22.0	2.2	346
30-34	24.0	66.8	0.7	0.4	0.2	0.2	32.5	29.4	3.1	254
35-39	24.9	52.6	1.5	1.5	0.0	0.0	45.8	37.8	8.1	221
40-44	25.4	47.2	1.3	0.8	0.0	0.6	51.5	42.8	8.7	214
45-49	26.2	41.9	0.7	0.4	0.3	0.0	57.4	44.4	13.0	170
50-54	25.6	47.8	0.4	0.4	0.0	0.0	51.8	34.7	17.1	125
55-59	26.7	31.3	1.3	0.0	1.3	0.0	67.4	48.5	18.8	53
Residence										
Urban	24.0	61.2	5.1	3.9	0.8	0.3	33.7	27.4	6.3	973
Rural	23.7	67.2	2.6	1.9	0.5	0.2	30.3	25.7	4.6	1,086
Region										
Western	23.2	68.9	5.1	4.0	0.7	0.3	26.0	18.8	7.2	242
Central	23.9	62.6	2.1	1.7	0.4	0.0	35.3	29.3	6.0	399
East-Central	24.2	58.2	4.3	3.0	1.0	0.3	37.5	30.6	6.9	463
Eastern	23.5	72.8	2.8	2.1	0.2	0.5	24.4	22.1	2.3	519
Tashkent City	24.1	59.7	5.2	3.9	0.9	0.3	34.9	29.2	5.7	435
Oversampled areas										
Karakalpakstan	22.9	69.6	6.0	5.2	0.3	0.5	24.4	18.8	5.6	142
Ferghana Oblast	24.4	56.6	3.0	2.2	0.4	0.4	40.5	37.0	3.4	203
Education										
Primary/middle	22.5	70.5	8.6	5.8	2.4	0.4	20.9	18.1	2.7	175
Secondary	23.6	67.8	4.0	3.2	0.4	0.3	28.2	23.9	4.3	1,112
Secondary special	24.0	64.2	3.4	2.4	0.9	0.1	32.2	25.5	6.7	410
Higher	25.0	50.8	1.1	0.7	0.0	0.3	48.2	39.8	8.3	361
Total	23.8	64.3	3.8	2.9	0.6	0.3	31.9	26.5	5.4	2,058

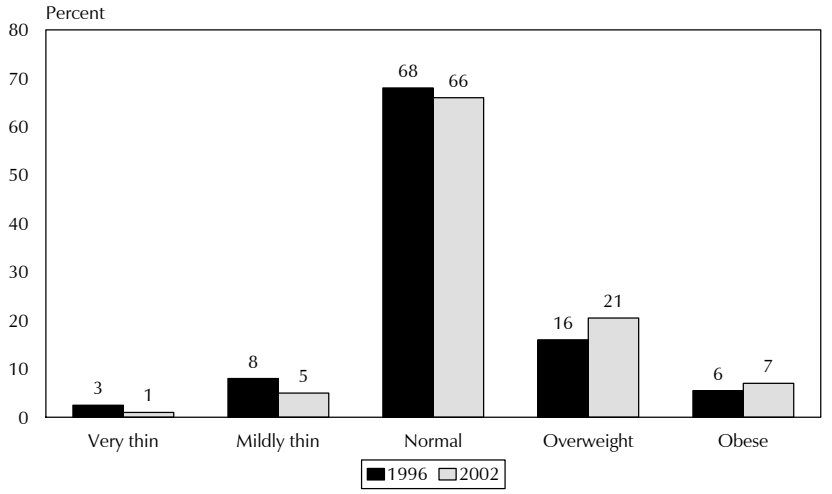
[1] The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2).

10.1.3 Changes in Adult Nutritional Status Between 1996 and 2002

The BMI was measured for female respondents during the 1996 UDHS. Figure 10.2 shows the distribution of women in the 1996 UDHS and the 2002 UHES by nutritional status based on the BMI. Women who were pregnant or were less than three months postpartum are excluded from these BMI calculations.

Between 1996 and 2002, there appears to have been an upward shift in the female BMI: fewer women are thin and more are overweight or obese. This is consistent with worldwide trends in most developed countries.

Figure 10.2 **Percent Distribution of Women by Nutritional Status 1996 UDHS and 2002 UHES**



Note: Nutritional status is based on body mass index (BMI). UHES 2002

These anthropometric data for Uzbekistan suggest that both women and men are becoming increasingly sedentary as they enter middle age and may be adopting less nutritionally sound diets. The substantial links between overnutrition and adult morbidity via chronic illnesses underscore the importance of addressing this public health problem nationally through health education campaigns promoting healthy food choices and exercise.

10.2 ADULT DIETS

10.2.1 Frequency of Foods Consumed

A simple food frequency tool was included to collect information about the diets of adults in Uzbekistan. Respondents were asked to estimate the number of days over the past week on which they consumed particular types of foods. The range of days is thus 0 to 7. The median was chosen as the best estimate for the average number of days that a particular type of food was consumed by various subgroups. Tables 10.2.1 and 10.2.2 present this data for women and men, respectively.

Both women and men report, on average, daily consumption of fresh fruits, foods made from grains, roots, and tubers (median value of 7 days per week). Fresh fruits are a primary source of vitamins A and C, while grain-based foods are good sources of niacin and B vitamins in addition to calories. Dark yellow and orange roots and tubers are high in vitamin A. The inclusion of these three food groups on a daily basis is a positive finding. Women also report, on average, daily consumption of dark green, leafy vegetables, which are important sources of vitamin A and iron; the median number of days consumed is somewhat lower for men (5.1). Other fresh vegetables, sources of micronutrients, are consumed about 4 days per week by both sexes.

Table 10.2.1 Frequency of foods consumed in preceding seven days: women

Median number of days specific foods were received by women in the seven days preceding interview, by background characteristics, Uzbekistan 2002

Background characteristics	Milk products	Eggs	Red meats	Fish/ poultry	Beans/ peas/ legumes	Nuts/ seeds	Dark green leafy vege-tables	Other fresh vege-tables	Fresh fruits	Dried fruits	Foods made from grains	Roots/ tubers	Foods made with sugars	Number
Age														
15-19	4.4	2.0	5.2	0.0	2.1	2.3	4.9	3.3	7.0	0.0	7.0	7.0	7.0	1,091
20-24	4.8	2.2	7.0	0.0	2.3	2.4	7.0	3.6	7.0	0.0	7.0	7.0	7.0	1,049
25-29	4.8	2.2	4.8	0.0	2.3	2.6	7.0	4.2	7.0	0.0	7.0	7.0	7.0	809
30-34	4.8	2.3	4.7	0.0	2.3	1.9	7.0	4.2	7.0	0.0	7.0	7.0	7.0	734
35-39	5.0	2.2	3.9	0.0	2.3	1.9	7.0	4.3	7.0	0.0	7.0	7.0	7.0	687
40-44	4.5	2.3	4.6	0.0	2.3	2.1	7.0	4.7	7.0	0.0	7.0	7.0	7.0	626
45-49	4.5	2.1	4.3	0.0	2.2	2.1	7.0	5.3	7.0	0.0	7.0	7.0	7.0	466
Residence														
Urban	4.8	2.3	7.0	0.0	1.4	1.6	7.0	7.0	7.0	0.0	7.0	7.0	7.0	2,175
Rural	4.5	2.1	3.9	0.0	2.8	2.7	4.7	3.3	7.0	0.0	7.0	7.0	7.0	3,288
Region														
Western	7.0	1.3	4.6	0.0	1.3	1.4	1.4	2.7	7.0	0.0	7.0	7.0	7.0	699
Central	3.6	1.4	4.0	0.0	3.2	2.1	3.4	4.7	7.0	0.0	7.0	7.0	6.0	1,311
East-Central	5.6	1.9	5.9	0.0	2.9	3.0	7.0	3.6	7.0	0.0	7.0	7.0	7.0	1,431
Eastern	4.4	2.6	5.1	0.0	2.3	2.8	7.0	2.8	7.0	0.0	7.0	7.0	3.9	1,518
Tashkent City	4.9	2.9	7.0	1.3	0.0	1.2	7.0	7.0	7.0	0.0	7.0	7.0	7.0	503
Oversampled areas														
Karakalpakstan	7.0	0.0	3.9	0.0	0.0	1.2	0.0	2.7	3.7	0.0	7.0	7.0	7.0	387
Ferghana Oblast	4.9	2.8	5.9	0.0	2.5	2.8	7.0	7.0	7.0	2.5	7.0	7.0	4.7	632
Education														
Primary/middle	3.9	1.9	3.9	0.0	2.2	2.2	4.3	3.6	7.0	0.0	7.0	7.0	7.0	578
Secondary	4.5	2.1	4.3	0.0	2.4	2.3	7.0	3.5	7.0	0.0	7.0	7.0	7.0	3,189
Secondary special	5.0	2.3	7.0	0.0	2.1	2.0	7.0	4.6	7.0	0.0	7.0	7.0	7.0	1,122
Higher	6.8	2.8	7.0	0.0	1.8	2.1	7.0	7.0	7.0	0.0	7.0	7.0	7.0	574
Ethnicity														
Uzbek	4.5	2.2	4.9	0.0	2.4	2.4	7.0	3.8	7.0	0.0	7.0	7.0	7.0	4,669
Russian	4.7	2.7	6.4	1.4	0.0	1.3	7.0	7.0	7.0	0.0	7.0	7.0	7.0	149
Karakalpak	7.0	0.0	3.9	0.0	0.0	1.3	0.0	2.4	3.4	0.0	7.0	7.0	7.0	134
Tajik	5.8	2.2	7.0	0.0	2.0	2.3	7.0	4.3	7.0	0.0	7.0	7.0	7.0	157
Kazakh	7.0	1.2	7.0	0.0	1.0	1.1	2.9	4.4	7.0	0.0	7.0	7.0	7.0	140
Tatar	4.5	2.4	4.5	0.0	1.4	1.5	7.0	7.0	7.0	0.0	7.0	7.0	7.0	75
Other	4.4	1.9	7.0	0.0	2.0	1.5	7.0	6.6	7.0	0.0	7.0	7.0	7.0	138
Making ends meet														
Great difficulty	3.4	1.6	2.9	0.0	2.0	1.5	3.6	3.7	7.0	0.0	7.0	7.0	7.0	1,541
Some difficulty	4.9	2.2	5.4	0.0	2.3	2.3	7.0	4.1	7.0	0.0	7.0	7.0	7.0	1,889
A little difficulty	6.0	2.4	7.0	0.0	2.5	2.6	7.0	3.8	7.0	0.0	7.0	7.0	7.0	1,636
Easily	7.0	2.6	7.0	0.0	2.7	3.2	7.0	7.0	7.0	0.0	7.0	7.0	7.0	383
Total	4.7	2.2	5.0	0.0	2.3	2.2	7.0	4.0	7.0	0.0	7.0	7.0	7.0	5,463

Two types of foods are consumed less than once per week, on average (median value of 0 days per week). These are fish and poultry and dried fruits. Fish and poultry, like red meats, are good sources of animal protein, zinc, and iron but have the advantage of being generally lower in saturated fats than red meats. Many fish species also produce omega-3 fatty acid, which appears to be linked to decreased risk of heart disease. Hence, it is a negative finding that fish and poultry are eaten far less frequently in Uzbekistan than red meats, with a median of 5 days per week for both sexes.

Table 10.2.2 Frequency of foods consumed in preceding seven days: men

Median number of days specific foods were received by men in the seven days preceding interview, by background characteristics, Uzbekistan 2002

Background characteristics	Milk products	Eggs	Red meats	Fish/ poultry	Beans/ peas/ legumes	Nuts/ seeds	Dark green leafy vege-tables	Other fresh vege-tables	Pickled vege-tables	Fresh fruits	Dried fruits	Foods made from grains	Roots/ tubers	Foods made with sugars	Number
Age															
15-19	3.7	1.8	4.9	0.0	2.6	1.9	4.3	3.4	0.0	7.0	0.0	7.0	7.0	7.0	380
20-24	3.7	1.8	6.6	0.0	2.9	2.3	4.3	3.3	0.0	7.0	0.0	7.0	7.0	7.0	388
25-29	3.6	1.8	5.0	0.0	2.6	2.3	5.0	3.4	0.0	7.0	0.0	7.0	7.0	6.9	399
30-34	3.6	2.0	4.9	0.0	2.4	2.1	7.0	3.4	0.0	7.0	0.0	7.0	7.0	7.0	293
35-39	3.9	2.0	4.0	0.0	2.8	1.8	4.8	3.5	0.0	4.9	0.0	7.0	7.0	7.0	256
40-44	3.5	2.2	5.3	0.0	2.7	2.0	5.2	4.0	0.0	7.0	0.0	7.0	7.0	7.0	227
45-49	3.7	2.0	5.0	0.0	3.2	2.2	7.0	3.4	0.0	7.0	0.0	7.0	7.0	7.0	196
50-54	3.7	1.6	5.5	0.0	2.6	1.8	6.9	3.9	0.0	7.0	0.0	7.0	7.0	7.0	140
55-59	3.9	1.5	7.0	0.0	3.0	1.6	7.0	3.7	0.0	7.0	0.0	7.0	7.0	7.0	54
Residence															
Urban	3.4	1.9	7.0	0.0	2.3	1.7	7.0	3.7	0.0	6.5	0.0	7.0	7.0	7.0	916
Rural	3.8	1.9	4.1	0.0	3.0	2.3	4.4	3.4	0.0	7.0	0.0	7.0	7.0	7.0	1,417
Region															
Western	4.0	0.0	3.7	0.0	1.3	0.0	2.2	4.2	0.0	7.0	0.0	7.0	7.0	7.0	314
Central	4.3	1.6	4.9	0.0	4.5	1.1	4.5	7.0	0.0	7.0	0.0	7.0	7.0	7.0	510
East-Central	4.0	2.0	7.0	0.0	2.9	2.6	4.7	2.8	0.0	5.6	0.0	7.0	7.0	7.0	646
Eastern	3.4	2.1	3.9	0.0	2.7	2.6	7.0	3.1	0.0	5.3	1.8	7.0	7.0	3.7	665
Tashkent City	2.7	2.8	7.0	1.4	1.2	1.4	7.0	3.7	1.5	4.9	0.0	7.0	7.0	7.0	198
Oversampled areas															
Karakalpakstan	7.0	0.0	3.5	0.0	2.3	0.0	1.6	4.9	0.0	4.8	0.0	7.0	7.0	7.0	185
Ferghana Oblast	3.3	1.8	3.4	0.0	2.6	2.2	6.0	3.4	0.0	3.1	2.2	7.0	6.2	4.1	259
Education															
Primary/middle	3.2	1.2	3.8	0.0	2.8	1.3	4.1	2.9	0.0	7.0	0.0	7.0	7.0	7.0	188
Secondary	3.5	1.8	4.3	0.0	2.7	2.0	4.7	3.3	0.0	7.0	0.0	7.0	7.0	7.0	1,311
Secondary special	3.7	1.8	5.4	0.0	2.5	2.2	5.0	3.5	0.0	7.0	0.0	7.0	7.0	7.0	470
Higher	4.6	2.6	7.0	1.1	3.0	2.4	7.0	4.6	0.0	7.0	0.0	7.0	7.0	7.0	364
Ethnicity															
Uzbek	3.6	2.0	5.0	0.0	2.8	2.2	5.2	3.4	0.0	7.0	0.0	7.0	7.0	7.0	2,011
Russian	3.4	2.1	7.0	1.8	1.6	0.0	6.7	4.6	0.0	4.7	0.0	7.0	7.0	7.0	48
Karakalpak	7.0	0.0	3.0	0.0	1.5	0.0	0.0	4.9	0.0	7.0	0.0	7.0	7.0	7.0	67
Tajik	(3.9)	(2.4)	(5.7)	(0.0)	(2.7)	(2.5)	(7.0)	(2.9)	(0.0)	(7.0)	(0.0)	(7.0)	(7.0)	(5.5)	60
Kazakh	7.0	0.0	4.6	0.0	2.1	0.0	3.0	4.9	0.0	7.0	0.0	7.0	7.0	7.0	65
Tatar	(3.4)	(2.0)	(5.6)	(0.0)	(1.8)	(0.0)	(7.0)	(7.0)	(0.0)	(7.0)	(0.0)	(7.0)	(7.0)	(7.0)	48
Other	2.8	2.5	7.0	1.0	3.0	1.9	7.0	3.7	2.4	7.0	0.0	7.0	7.0	7.0	33
Making ends meet															
Great difficulty	2.9	1.0	3.5	0.0	2.5	1.2	3.3	3.1	0.0	5.9	0.0	7.0	7.0	4.7	607
Some difficulty	3.8	2.1	5.4	0.0	2.7	2.1	5.0	3.3	0.0	6.6	0.0	7.0	7.0	7.0	845
A little difficulty	4.0	2.2	5.8	0.0	2.8	2.5	7.0	3.6	0.0	7.0	0.0	7.0	7.0	7.0	698
Easily	4.5	2.5	7.0	1.0	3.1	2.6	7.0	5.7	0.0	7.0	0.0	7.0	7.0	7.0	183
Total	3.7	1.9	5.0	0.0	2.7	2.1	5.1	3.5	0.0	7.0	0.0	7.0	7.0	7.0	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

Milk products and eggs are other good sources of animal protein, zinc, and iron. However, higher fat milk products and eggs are also sources of dietary cholesterol and should be consumed in moderation. The fat content of milk products was not ascertained in this food frequency tool. The median days consumed per week for any milk products is 4.7 for women and 3.7 for men, while eggs are consumed a median of 2.2 and 1.9 days per week for women and men, respectively.

Beans, peas, and legumes and nuts and seeds are vegetable sources of protein and micronutrients. Although they are generally less expensive than animal sources of protein, both of these food groups are only consumed about twice per week in this population.

Foods made with sugars, which often also contain fats, are not nutritious, and daily consumption is a negative finding. Dried fruits (median of 0 days per week) are a healthier alternative to sugar-added foods (median of 7 days per week). But, it is probable that dried fruits tend not to be eaten often in this population because fresh fruits are regularly consumed (median of 7 days per week).

Tables 10.2.1 and 10.2.2 also show the frequency of foods consumed by an index of household economic stability.[1] There are substantial differences in the number of days per week specific foods are consumed by women and men living in households in the lowest and highest categories. It is apparent that adults in households that are assumed to be more affluent consume foods rich in protein, minerals, and vitamins more frequently than adults in less affluent households.

10.2.2 Consumption of Fried Foods and Addition of Salt and Fats

Fried foods are higher in fat and calories than the same foods prepared by other methods. Respondents were asked the number of days in the past week on which they ate fried foods. The median was again chosen as the best representation of the average number of days per week that fried foods were consumed. As seen in Table 10.3, women report eating fried foods more frequently than men (median of 6 versus 4 days per week). In particular, women from the Eastern region and Tashkent City report, on average, daily consumption of fried foods (median of 7 days per week), as do women of Uzbek ethnicity.

Women and men were asked if they ever add salt or fats (including oil, cream, and butter) to cooked foods, salads, or breads before eating them and if so, how frequently. As shown in Table 10.3, women and men are equally likely to add salt (13 percent). However, there are significant differences in salt use by sex across regions and ethnic groups. Males in Tashkent City are ten times more likely than their female counterparts to report using salt on cooked foods, while females in the Central region are twice as likely as males to use salt. Similarly, Russian men are more than five times as likely as Russian women to add salt to cooked foods. Half of women (52 percent) and somewhat more men (62 percent) who ever add salt say that they do so only occasionally.

Women are three times as likely as men to report adding fats to cooked foods, breads, or salads before eating them (18 versus 6 percent). Women from every region except Tashkent City are much more likely than men to add fats. The same is true of almost every ethnic group. Fifty-eight percent of women and three-fourths of men (75 percent) who ever add fats say that they do so only occasionally.

Regional and ethnic differences in eating habits are not unexpected. However, the interesting finding in these data is that within some regions and ethnic groups, men and women exhibit substantial differences. Nutrition education about the negative health effects of high-fat and high-salt (sodium) diets may be more effective if targeted to specific audiences.

[1] The household respondent was asked to rate the household's ability to "make ends meet" on a six-point scale ranging from "with great difficulty" to "very easily." In Tables 10.2.1 and 10.2.2, responses of "fairly easily," "easily," and "very easily" are combined as a single category, "easily."

Table 10.3 Eating fried foods and adding salt or fat to foods: women and men

Median number of days per week women and men eat fried foods and percentage who add salt or fat to prepared foods, by background characteristics, Uzbekistan 2002

	Women				Men			
Background characteristic	Median number of days per week eating fried foods	Percent who add salt to cooked food	Percent who add fat to cooked food	Number	Median number of days per week eating fried foods	Percent who add salt to cooked food	Percent who add fat to cooked food	Number
Age								
15-19	6.4	11.1	14.1	1,091	3.5	4.6	3.0	380
20-24	6.9	10.6	16.0	1,049	3.5	11.6	7.5	388
25-29	6.7	13.8	18.5	809	4.0	11.1	4.2	399
30-34	5.6	13.9	21.0	734	3.7	16.9	8.1	293
35-39	5.2	14.1	18.7	687	3.5	18.6	5.7	256
40-44	5.7	13.2	19.2	626	3.6	18.0	8.1	227
45-49	6.1	13.3	18.5	466	3.5	13.1	5.4	196
50-54	na	na	na	na	3.4	21.7	6.7	140
55-59	na	na	na	na	4.0	21.9	8.0	54
Residence								
Urban	7.0	12.7	19.5	2,175	3.8	18.6	8.9	916
Rural	5.5	12.5	16.3	3,288	3.5	10.0	4.1	1,417
Region								
Western	3.9	10.0	15.7	699	3.2	9.8	2.0	314
Central	3.4	22.5	15.8	1,311	2.3	10.2	1.7	510
East-Central	5.6	17.3	27.0	1,431	3.5	17.1	9.6	646
Eastern	7.0	3.9	15.8	1,518	6.3	8.0	4.5	665
Tashkent City	7.0	3.3	3.8	503	4.1	33.5	16.3	198
Oversampled areas								
Karakalpakstan	3.8	5.5	14.4	387	3.2	6.1	1.0	185
Ferghana Oblast	7.0	4.6	15.7	632	4.2	7.1	6.4	259
Education								
Primary/middle	5.6	15.0	17.2	578	3.7	8.0	2.1	188
Secondary	6.2	12.1	16.1	3,189	3.6	14.2	5.9	1,311
Secondary special	5.8	13.5	20.7	1,122	3.6	9.9	5.5	470
Higher	6.3	11.2	20.0	574	3.8	18.1	8.7	364
Ethnicity								
Uzbek	6.6	13.0	17.0	4,669	3.6	13.0	5.6	2,011
Russian	4.6	7.1	18.7	149	3.3	40.3	23.0	48
Karakalpak	3.7	1.4	12.6	134	3.4	7.2	1.9	67
Tajik	5.5	13.8	26.5	157	(4.3)	(12.3)	(4.7)	60
Kazakh	4.4	5.9	13.7	140	3.3	6.7	3.2	65
Tatar	(4.6)	11.4	15.8	75	(3.3)	(25.1)	(14.0)	48
Other	4.6	20.8	36.2	138	4.1	12.1	6.9	33
Total	6.0	12.6	17.6	5,463	3.6	13.4	5.9	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable

10.2.3 Food Security

In the 2002 UHES, respondents were asked whether, in the past six months, they had gone for one or more days without food and if so, what was the reason. Six percent of both women and men answered yes to this question. Table 10.4 shows the results by background characteristics. Among women, there is substantial variability by region, ranging from 1 percent in Tashkent City to 10 percent in the Western region. Among Uzbek women, 6 percent reported going without eating, compared with 2 percent of Russian women, and 13 percent of "other" women. Rates for men were more consistent.

Table 10.4 Days without food, last six months: women and men

Percentage of women and men going one or more days without eating in the last six months, by background characteristics, Uzbekistan 2002

Background characteristic	Went one or more days without eating in past 6 months			
	Women		Men	
	Percent	Number	Percent	Number
Age				
15-19	4.1	1,091	3.1	380
20-24	6.6	1,049	4.7	388
25-29	7.0	809	8.2	399
30-34	7.1	734	4.1	293
35-39	7.4	687	5.6	256
40-44	7.5	626	13.6	227
45-49	6.9	466	6.1	196
50-54	na	na	6.5	140
55-59	na	na	4.4	54
Residence				
Urban	5.9	2,175	5.9	916
Rural	6.8	3,288	6.3	1,417
Region				
Western	10.1	699	7.2	314
Central	7.7	1,311	6.2	510
East-Central	6.7	1,431	6.0	646
Eastern	5.2	1,518	5.2	665
Tashkent City	1.0	503	8.3	198
Oversampled areas				
Karakalpakstan	11.7	387	5.3	185
Ferghana Oblast	9.1	632	4.0	259
Education				
Primary/middle	7.8	578	3.7	188
Secondary	6.3	3,189	7.5	1,311
Secondary special	7.5	1,122	5.0	470
Higher	3.8	574	4.0	364
Ethnicity				
Uzbek	6.3	4,669	6.3	2,011
Russian	1.9	149	6.2	48
Karakalpak	8.2	134	5.0	67
Tajik	8.2	157	(9.3)	60
Kazakh	8.3	140	6.4	65
Tatar	3.0	75	(3.6)	48
Other	12.9	138	0.0	33
Making ends meet				
Great difficulty	10.0	1,541	10.1	607
Some difficulty	5.0	1,889	5.1	845
A little difficulty	4.7	1,636	5.3	698
Easily	6.6	383	1.2	183
Total	6.4	5,463	6.2	2,333

na = Not applicable

The household economic stability index shows that those persons in households reporting "great difficulty" in making ends meet were the most likely (10 percent) to report going without eating for at least one day in the past six months.

Women and men differed somewhat in the reasons they gave for going without food for one of more days. Women were almost three times as likely as men to cite "medical problems" as the reason they went without eating, while men were more likely to cite "insufficient money" or religious fast," or gave a response that was not precoded ("other").

10.3 Child Nutritional Status

The data on height and weight of children in the 2002 UHES permit the evaluation of nutritional status and the identification of subgroups of children that are at increased risk of faltered growth and morbidity.

Malnutrition results in increased risk of illness and death (Pelletier et al., 1993) and can also result in a lower level of cognitive development, which leads to lower educational attainment (Brozek and Schurch, 1984). Malnutrition also has intergenerational effects: infants born to women who themselves were malnourished during early childhood are smaller than infants born to better-nourished women (Villar and Rivera, 1988). Infants born at a low birth weight (defined as less than 2.5 kg) are at greater risk of illness and death compared with infants of normal birthweight (IOM, 1985).

Malnutrition is a direct result of both inadequate intake of food and infectious disease episodes. Inadequate food intake results from insufficient food at the household level and/or improper feeding practices. Infectious disease episodes, particularly those with diarrhea, acute respiratory illness, malaria, and measles, are more frequent in the presence of inadequate health care, contaminated drinking water, poor sanitation, and other poor environmental conditions. As stated by Scrimshaw et al. (1968), the simultaneous presence of malnutrition and infection results in an interaction that is more serious for the host than would be expected from the combined effect of the two working independently.

10.3.1 Measures of Child Nutritional Status

The assessment of nutritional status is based on the concept that in a well-nourished population, the distribution of children's heights and weights, for a given age, will approximate a normal distribution. This assumption means that 68 percent of children will have a height or weight within one standard deviation of the median for their age. Of the remainder, 2 percent will have a height or weight less than two standard deviations from the median for their age. Because all populations have similar genetic potential for growth (Habicht et al., 1974), the U.S. National Center for Health Statistics (NCHS) Reference Data are recommended by WHO to be used in the evaluation of nutritional status.

The following three standard indices of physical growth that describe the nutritional status of children are presented:

- height-for-age
- weight-for-height
- weight-for-age.

Each of these indices gives different information about growth and body composition that can be used to assess nutritional status.

Height-for-age is a measure of growth. A child who is below minus two standard deviations (-2 SD) from the median of the NCHS reference population for height-for-age is considered short for his/her age, or *stunted*, a condition reflecting chronic malnutrition. If a child is below minus three standard deviations (-3 SD) from the reference median, the child is considered to be severely stunted.

Weight-for-height describes current nutritional status. A child who is below minus two standard deviations (-2 SD) from the reference median is considered too thin for his/her height, or *wasted*, a condition reflecting an acute or recent nutritional deficit. If a child is below minus three standard deviations (-3 SD) from the reference median, the child is considered severely wasted.

The weight-for-age index does not distinguish between chronic malnutrition (stunting) and acute malnutrition (wasting). A child can be *underweight* for age because of stunting, wasting, or both stunting and wasting. Weight-for-age is a good overall indicator of a population's nutritional health. Children who fall below -2 SD but are equal to or above -3 SD are considered moderately malnourished, whereas children who are below -3 SD are considered severely malnourished. Although a child may be both stunted and wasted, these two indicators often reflect different etiologies and consequences and hence have different implications for programmatic action.

In the 2002 UHES, all children born since January 1997 who slept in the house the night before the survey were eligible for height and weight measurement. Complete and plausible anthropometric data were collected for a total of 2,536 children age 0-59 months, or 91 percent of all eligible children in that age range.

10.3.2 Child Nutritional Status Based on the 2002 UHES

Table 10.5 shows the percentage of children under five years of age classified as either severely (≤ 3 SD) or moderately/severely (≤ 2 SD) malnourished according to height-for-age, weight-for-height, and weight-for-age by background characteristics. Twenty-one percent of children are moderately or severely stunted, 7 percent are moderately or severely wasted, and 8 percent are moderately or severely underweight. Based on the NCHS reference population, only 2.3 percent of healthy, well-nourished children would be expected to fall below -2 SD on each of these three indices. Thus, it is clear that in Uzbekistan, at least one in five children under five is malnourished, especially with respect to linear growth (stunting).

Figure 10.3 shows changes in the percentage of children under five years falling below -2 SD for the three nutritional indices.[2] Moderate to severe stunting rises rapidly over the first year, reaching a peak at age 10-11 months (35 percent). It remains elevated through age 42-43 months (at 20 to 33 percent), with the exception of a brief dip at 26-27 months. Global prevalence estimates indicate a rise in stunting in the second or third year subsequent to extended periods of inadequate food intake and increased morbidity (WHO, 1986). Thus, unless exposure to infectious disease agents is especially high in this population, these data suggest that many infants in Uzbekistan are not receiving an adequate intake of breast milk and/or nutritional weaning foods during this normally rapid period of growth.

Moderate to severe wasting rises slowly over the second year of life, with an initial peak at age 24-25 months (12 percent), followed by a rapid fall to 1 percent at age 30-31 months. This is consistent with global prevalence estimates wherein peak wasting is observed in the second year of life, when weaning has generally taken place (WHO, 1986). However, in these Uzbekistani children, there is a subsequent rise to higher levels of wasting over the fourth and fifth years of life.

The proportions of children moderately to severely underweight by age follows a similar pattern to that observed for wasting. An initial rise over the second year of life to a peak at age 20-21 months (17 percent) is followed by a fall to 5 percent at age 30-31 months and subsequent fluctuation between 3 and 16 percent.

[2] Prevalence estimates by month of age have been smoothed by means of a five-month moving average.

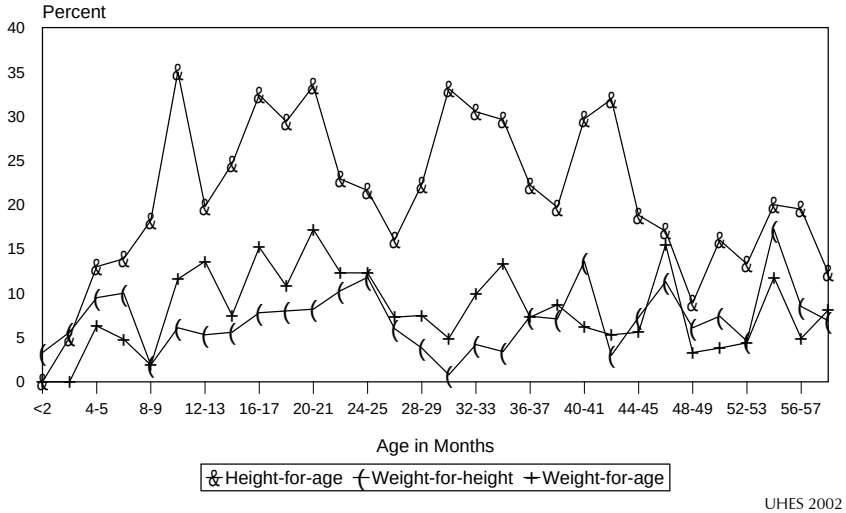
Table 10.5 Nutritional status of children

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, Uzbekistan 2002

	Height-for-age (stunted)			Weight-for-height (wasted)			Weight-for-age (underweight)			
Background characteristic	Percent below -3 SD	Percent below -2 SD[1]	Mean z-score (SD)	Percent below -3 SD	Percent below -2 SD[1]	Mean z-score (SD)	Percent below -3 SD	Percent below -2 SD[1]	Mean z-score (SD)	Number of children
Child's age in months										
<6	2.2	8.0	0.2	2.6	7.1	0.3	0.3	3.0	0.4	186
6-9	4.8	16.1	-0.6	0.0	5.9	0.3	1.4	3.4	-0.2	152
10-11	11.4	35.0	-1.2	3.3	6.1	0.2	2.4	11.6	-0.8	68
12-23	9.5	27.1	-1.2	1.1	7.3	0.0	3.0	13.0	-0.7	400
24-35	10.5	25.2	-1.1	1.1	4.8	0.2	2.4	8.9	-0.5	522
36-47	8.2	23.5	-0.8	1.8	8.4	0.0	1.1	7.8	-0.6	497
48-59	5.2	15.2	-0.6	1.9	8.4	-0.2	0.7	6.1	-0.6	575
0-35	8.4	22.8	-0.9	1.3	6.1	0.2	2.2	8.8	-0.4	1,328
Sex										
Male	8.4	21.9	-0.9	1.4	7.2	0.0	1.8	7.8	-0.5	1,266
Female	6.8	20.3	-0.7	1.7	7.1	0.0	1.3	8.1	-0.5	1,134
Birth order										
1	6.7	20.1	-0.8	1.3	5.2	0.1	1.1	9.0	-0.5	660
2-3	8.1	22.5	-0.9	1.6	7.4	0.1	2.2	9.0	-0.5	1,041
4+	7.8	21.0	-0.8	1.6	6.0	0.1	1.7	8.1	-0.5	360
Birth interval in months										
First birth	6.9	20.3	-0.8	1.3	5.2	0.1	1.1	9.0	-0.5	662
<24	9.1	23.3	-1.0	1.6	5.5	0.0	2.5	11.5	-0.6	332
24-35	6.5	22.4	-0.8	0.9	9.3	0.0	1.2	6.4	-0.5	391
35-47	9.0	20.7	-1.0	2.2	7.7	0.1	2.5	11.8	-0.5	256
48-59	6.2	20.3	-0.8	1.0	6.0	0.3	2.1	6.8	-0.3	141
60+	8.1	20.4	-0.6	2.1	8.7	-0.1	1.3	4.6	-0.5	618
Residence										
Urban	5.5	16.3	-0.5	1.6	7.9	-0.1	0.9	5.8	-0.4	849
Rural	8.8	23.8	-1.0	1.5	6.7	0.1	2.0	9.1	-0.6	1,551
Region										
Western	2.6	15.3	-0.9	1.1	3.9	0.2	1.0	5.6	-0.4	295
Central	7.3	19.5	-0.9	1.0	6.8	0.0	0.7	9.0	-0.6	565
East-Central	7.7	23.2	-1.0	2.3	7.2	0.1	4.1	13.4	-0.6	530
Eastern	10.4	25.7	-1.0	1.2	5.7	0.1	1.2	5.5	-0.5	792
Tashkent City	5.0	11.6	0.5	3.1	17.3	-0.5	0.0	3.8	-0.2	218
Oversampled areas										
Karakalpakstan	2.6	16.0	-0.9	0.4	4.6	0.2	0.9	5.5	-0.4	163
Ferghana Oblast	9.4	25.5	-0.9	1.6	6.7	0.0	0.9	4.6	-0.5	522
Mother's education										
Primary/middle	8.2	19.5	-0.9	2.2	7.3	0.1	0.7	6.6	-0.5	198
Secondary	7.7	23.1	-0.9	1.4	6.7	0.1	2.2	9.9	-0.6	1,316
Secondary special	6.3	17.7	-0.8	1.5	5.4	0.1	1.0	7.5	-0.4	413
Higher	7.9	19.2	-0.7	1.8	5.8	0.2	1.4	5.8	-0.3	168
Mother's age										
15-19	*	*	*	*	*	*	*	*	*	25
20-24	7.6	22.4	-0.9	1.1	5.2	0.1	1.6	8.8	-0.5	702
25-29	7.2	21.2	-0.9	1.5	7.1	0.0	1.8	8.1	-0.5	739
30-34	7.3	20.4	-0.9	2.4	7.4	0.0	1.9	10.9	-0.5	399
35-49	9.4	21.9	-0.9	1.4	6.3	0.0	2.0	7.9	-0.5	229
Mother's status										
Mother interviewed	7.6	21.5	-0.9	1.5	6.5	0.1	1.8	8.8	-0.5	2,061
Mother not interviewed but in household	(1.4)	(14.5)	-1.1	(3.6)	(3.6)	-0.2	(3.6)	(5.4)	-0.6	33
Mother not interviewed and not in household	8.3	19.4	-0.3	1.9	12.1	-0.3	0.2	2.2	-0.5	306
Total	7.6	21.1	-0.8	1.6	7.1	0.0	1.6	7.9	-0.5	2,400

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

Figure 10.3 **Percentage of Children Under Five Years That Are Malnourished, by Age, According to Three Indices of Nutritional Status: Height-for-age (Stunting), Weight-for-height (Wasting), and Weight-for-age (Underweight)**



When subgroups are examined, no clear patterns emerge, other than by region. Stunting is highest in the East-Central and Eastern regions (23 and 26 percent, respectively) and lowest in Tashkent City (12 percent). In Tashkent City, having the lowest rate of stunting is consistent with having the highest rate of wasting (18 percent) and the lowest rate of underweight (i.e., taller children may have an appropriate weight-for-age and thus appear thinner). The highest rate of underweight (13 percent) is found in the East-Central region. The East-Central region falls in the middle of the range of values for wasting at 7 percent. These values together with its high rate of stunting (23 percent) suggest that the underweight children in the East-Central region are most likely either stunted or genetically short rather than acutely malnourished.

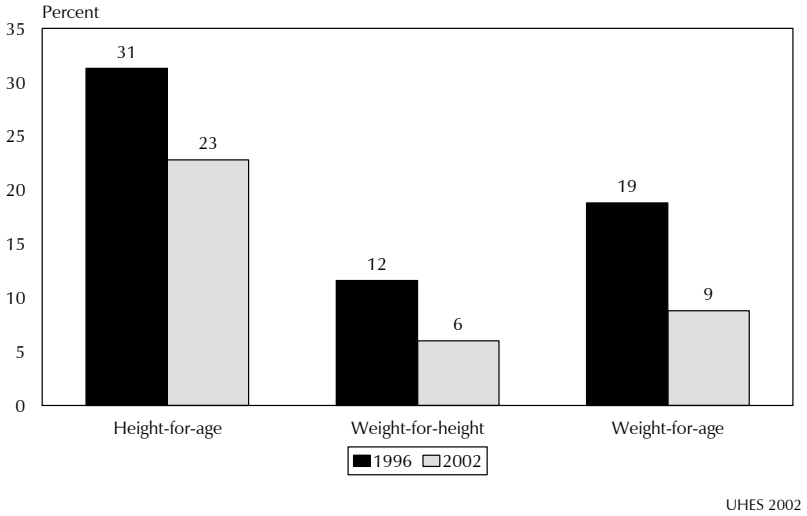
10.3.3 Changes in Child Nutritional Status Between 1996 and 2002

In the 1996 UDHS, children under the age of three years were eligible to be measured in households selected for the nationally representative sample. In the 2002 UHES, children under the age of five in the households selected for the sample were eligible to be measured. Since both surveys were designed to be representative of the entire country, comparisons can be made between the indices of nutritional status obtained in the two surveys for all children under the age of three years.

In the 1996 UDHS, height-for-age, weight-for-height, and weight-for-age indices are available for 989 (weighted count) or 75 percent of eligible children under age three. In the 2002 UHES, these three indices are available for 1,320 (weighted count) or 89 percent of children under three.

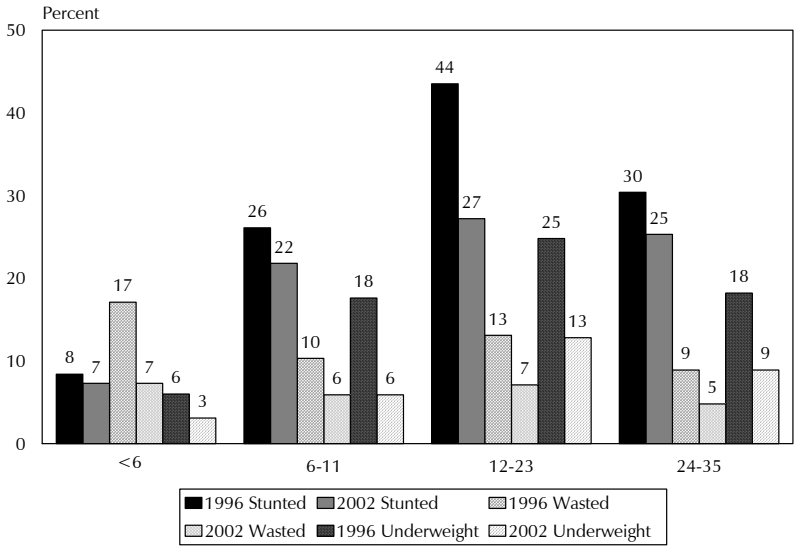
Figure 10.4 shows the shift between 1996 to 2002 to lower proportions of children classified as moderately to severely malnourished by height-for-age, weight-for-height, and weight-for-age. The overall proportion of children under three who are stunted declined by one-third, while the proportions wasted and underweight declined by one-half. For each index, the 2002 estimate of the proportion of children falling below -2 SD is well below the lower limit of the 95 percent confidence interval for the same estimated proportion in 1996. These improvements are remarkable for a time span of only six years.

Figure 10.4 **Percentage of Children Under 3 Years of Age Malnourished, According to Three Nutritional Indices, 1996 UDHS and 2002 UHES**



Changes in the three malnutrition indices are further examined by age in Figure 10.5. With respect to stunting (height-for-age), the largest decline (16 percentage points) is in the age group 12-23 months, which is also the age at which the proportion of children stunted peaks in both survey samples. If both the 1996 and 2002 estimates of stunting in this age group are reasonably accurate, this pattern suggests that there has been an improvement in the intake of breast milk and/or other nutritional foods during late infancy and weaning.

Figure 10.5 **Percent of Children Under 3 Years of Age Malnourished, by Age in Months, 1996 UDHS and 2002 UHES**



Improvement from 1996 to 2002 in the proportion of children wasted is also consistent for children six months and older, declining 4-6 percentage points. A greater decline of 10 percentage points is observed in the prevalence of wasting for young infants 0-5 months. It should be noted that the 1996 estimates of wasting by age are inconsistent with global norms in which peak wasting occurs in the second year of life. Data collected on breastfeeding and supplementation in the two surveys suggest that the median duration of any breastfeeding and the age at introduction of other (nonbreast) milk, liquid, solid, and/or semisolid foods have both increased, although methodological differences in the wording of questions and inclusion criteria for the infant/young child feeding sections in the two surveys warrant caution about making direct comparisons. If valid, shifts in early feeding behaviors may help explain both the high percentage of wasting in young infants in the 1996 sample and the improvement shown across all age groups in the 2002 sample.

Age patterns for the proportion underweight (weight-for-age) are similar to those for stunting, with the highest proportions observed for the age group 12-23 months in both survey samples. In this case, however, there is a consistent differential of 9-12 percentage points improvement in children six months and older between survey years. As underweight is an index of acute malnutrition, this suggests an overall improvement in the diets of young children between the survey periods.

10.4 Breastfeeding and Supplementation

Infant feeding practices have important influences on both the child and the mother. For example, they determine the young child's nutritional status, which in turn influences his/her susceptibility to illness, particularly infectious diseases. Breastfeeding also affects the health of a woman because it prolongs the return of ovulation after a birth and hence promotes longer birth intervals, which benefit the health of both the mother and subsequent offspring.

Optimal infant feeding is defined by WHO and UNICEF (UNICEF, 1990) as follows:

- Initiation of breastfeeding within about one hour of birth
- Frequent, on-demand feeding (including night feeds)
- Exclusive breastfeeding (defined as breast milk only and no other foods or liquids until the infant is about six months of age)
- Breastfeeding complemented with hygienically prepared, appropriate local foods starting about six months of age
- Increased breastfeeding during illness episodes and recovery
- Continued breastfeeding well into the second year of life and beyond.

Exclusive breastfeeding, defined as breast milk as the only source of infant food or liquid, meets nutritional requirements (Cohen et al., 1994) and protects against illness (Huffman and Combest, 1990) for about the first six months of life. Exclusively breastfed infants are 4 times less likely than partially breastfed infants and 14 times less likely than formula-fed infants to die from episodes of diarrhea (Victora et al., 1987). Exclusive breastfeeding is the infant feeding behavior most predictive of infant survival.

At about six months of age, breast milk alone will no longer satisfy the energy and protein requirements of most infants. Local foods that are rich in energy, protein, and micronutrients, and that are hygienically prepared and soft to eat need to be provided. Other (nonbreast) milk is also acceptable for introduction at this age. During this transitional period when complementary foods are being introduced, on-demand and frequent breastfeeding should be continued to ensure that infants receive all the benefits of breastfeeding. Increased diarrheal morbidity due to the introduction of other foods and liquids can be prevented with proper hygiene.

Increased breastfeeding during illness and recovery is important to reduce the risk of inadequate nutrient intake during illness, reduce the risk of dehydration, and to promote catchup growth. Illness-associated anorexia leads to a decrease in consumption of other (nonbreast) milk foods, but appetite for breast milk is maintained (Brown et al., 1990). Thus breastfeeding, by providing a continual source of high-quality and hygienic food, plays a critical role in the maintenance of infant and young child nutritional status in and around periods of illness.

The use of bottles with nipples is discouraged at any age. One primary reason is that, since the flow of milk is faster from an artificial nipple, the infant/child may become dissatisfied with suckling and refuse to breastfeed. Another reason is that the health of the gums and incoming teeth can be adversely affected if the infant/child drinks at will, especially if the liquid contains sugar.

10.4.1 Information on Breastfeeding and Supplementation from the 2002 UHES

In the 2002 UHES, for each child born in the last five years, mothers were asked if they had ever breastfed the child, and if yes, if the child was still breastfeeding. For those still breastfed, the mothers were asked about the types of foods or liquids that the child consumed during the prior day and night. From the data on current breastfeeding status (i.e., status at the time of the survey), the percentage of children breastfeeding by age can be calculated as well as median durations of breastfeeding by background characteristics of mothers. The data on foods and liquids consumed in the past 24 hours allows breastfed infants to be classified into more specific feeding patterns.

As shown in Table 10.6 and Figure 10.6, newborns are almost universally breastfed in Uzbekistan (99 percent of infants age 0-2 months). By the beginning of the second year of life (12-13 months), 89 percent of infants are still breastfed, declining rapidly to less than half by age 20-21 months. The median duration of any breastfeeding is 20.4 months, which is within recommended guidelines from WHO/UNICEF (UNICEF, 1990). However, exclusive breastfeeding falls far short of the six months as recommended by WHO/UNICEF. Even at the youngest age of 0-2 months, only 42 percent of infants are exclusively breastfed. By age 4-5 months, this percentage drops to 9 percent.

Plain water is a popular supplement to breastfeeding from age 0-5 months. Other water-based liquids and juices are also popular and are introduced even at the earliest age of 0-2 months to one-fourth of young infants. Other (nonbreast) milk is a much less frequent supplement than plain water and other liquids/juices in the first year of life. This is likely an artifact of the availability and price of other types of milk compared with water-based liquids or juices. The extensive use of plain water and water-based liquids/juices suggests that many younger infants, in particular, have a diet that is inadequate in both protein and energy and are thus at risk of being undernourished.

Table 10.6 shows the percentage of children who received a bottle with a nipple on the day or night preceding the survey. The percentage increases from 27 percent among children less than 2 months of age to a high of 41 percent among children 2-3 months, and declines substantially after the first year. The latter drop is to be expected as children become more competent at drinking from a cup. As noted above, the use of bottles with nipples may discourage breastfeeding by the infant, lessening his/her access to nutritious and protective breast milk.

Table 10.6 Breastfeeding status by age

Percent distribution of 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, Uzbekistan 2002

Age in months	Not breast-feeding	Exclu-sively breast-fed	Breastfeeding and consuming: Plain water only	Water-based liquids/ juice	Other milk	Comple-mentary foods	Total	Percentage using a a bottle with a nipple	Number of children
<2	1.1	42.0	24.7	23.5	8.8	0.0	100.0	26.9	58
2-3	0.0	14.5	36.7	29.1	11.5	8.1	100.0	41.3	76
4-5	4.5	9.0	21.6	29.4	13.4	22.2	100.0	37.8	101
6-7	2.6	2.5	8.0	32.0	11.3	43.5	100.0	34.6	88
8-9	3.7	1.5	6.3	17.7	13.5	57.4	100.0	24.9	82
10-11	7.8	0.0	3.7	20.7	11.9	55.9	100.0	20.3	74
12-13	11.2	0.0	3.3	24.1	11.5	49.8	100.0	8.6	90
14-15	24.7	5.7	5.6	15.7	14.2	34.2	100.0	13.2	55
16-17	35.6	0.0	3.5	13.1	15.7	32.1	100.0	11.8	75
18-19	34.6	0.0	1.0	1.9	20.0	42.6	100.0	8.8	69
20-21	52.8	0.0	0.0	6.8	6.6	33.8	100.0	5.6	71
22-23	58.0	0.0	1.5	7.0	3.8	29.7	100.0	10.4	45
24-25	80.4	0.0	2.7	2.7	8.3	5.9	100.0	1.7	56
26-27	83.7	0.0	0.0	7.9	4.2	4.2	100.0	2.5	73
28-29	95.6	0.0	0.0	0.0	0.5	3.9	100.0	1.9	72
30-31	97.6	0.0	0.0	1.2	1.2	0.0	100.0	1.8	58
32-33	86.3	0.0	0.0	6.1	3.5	4.1	100.0	4.7	72
34-35	92.0	0.0	0.0	5.9	2.1	0.0	100.0	1.5	50
<6	2.2	18.9	27.3	27.8	11.7	12.2	100.0	36.3	235
6-9	2.0	2.5	7.3	26.8	12.7	48.7	100.0	30.3	137

Figure 10.6 **Distribution of Children by Breastfeeding (BF) Status, According to Age**

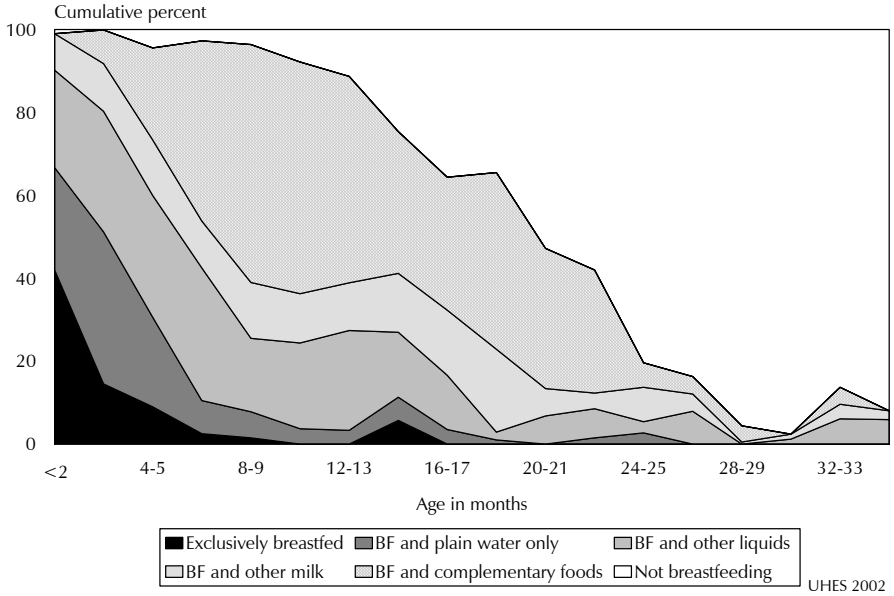


Table 10.7 summarizes the median duration of any, exclusive, and predominant breastfeeding based on children born in the three years preceding the 2002 UHES. The variability in the median duration of any breastfeeding is fairly small. The largest differences are seen by region, with children in Tashkent City having the shortest median duration of any breastfeeding at 15 months. Women from the West and East regions breastfeed the longest, on average, about 22 months. Exclusive breastfeeding (nothing

Table 10.7 Median duration and frequency of breastfeeding

Median duration of any breastfeeding exclusive breastfeeding and predominant breastfeeding among children born in three years preceding the survey, by background characteristics, Uzbekistan 2002

Background characteristic	Any breastfeeding	Exclusive breastfeeding	Predominant breastfeeding	Number
Sex				
Male	22.0	0.6	5.5	753
Female	18.7	0.6	6.2	651
Residence				
Urban	20.6	0.5	4.1	469
Rural	20.3	0.9	6.5	934
Region				
Western	22.2	0.6	4.6	191
Central	20.9	0.4	6.6	376
East-Central	17.5	1.1	4.5	380
Eastern	21.6	0.9	8.4	371
Tashkent City	14.9	0.4	3.7	84
Oversampled areas				
Karakalpakstan	23.1	0.7	4.0	99
Ferghana Oblast	18.8	1.5	6.8	170
Mother's education				
Primary/middle	20.5	1.2	2.8	127
Secondary	20.3	0.6	6.2	893
Secondary special	16.1	1.0	5.0	291
Higher	20.9	0.4	3.7	93
Total	20.4	0.6	5.8	1,403

else, including plain water) is very brief in this population, a median of just 0.6 months. Predominant breastfeeding (including plain water, water-based liquids/juices) averages six months. There are no clear patterns by background characteristics; however, it is notable that women with the least amount of education, who are likely to be the most economically disadvantaged and thus the least likely to be providing nutritious substitutes for breast milk, average just three months of predominant breastfeeding, compared with six months for women with a secondary education.

10.5 Anemia in Children

Anemia is a condition characterized by a reduction in the red blood cell volume and a decrease in the concentration of hemoglobin in the blood. About half of the global burden of anemia is due solely to iron deficiency. Iron deficiency, in turn, is largely due to an inadequate dietary intake of bioavailable iron, increased iron requirements during rapid growth periods, such as pregnancy and infancy, and increased blood loss due to hookworm or schistosome infestation. Nutritional anemia includes the anemic burden due to deficiency in iron plus folate, vitamins A and B_{12}, and certain trace elements involved with erythropoiesis, or red blood cell production. Nonnutritional causes of anemia are largely due to hookworm and malarial infections, and HIV, particularly in sub-Saharan Africa.

With regard to its impact on children, iron-deficiency anemia has been demonstrated in many studies to be associated with impaired cognitive performance, motor development, coordination, language development, and scholastic achievement (Scrimshaw, 1984; Lozoff, 1991). Iron deficiency also increases the susceptibility of children to poisoning from heavy metals, including lead. Anemia increases morbidity from infectious diseases because of its adverse impact on the immune system.

It is estimated that about one-third of the world's population is anemic and that iron deficiency is the primary cause. Hence, iron deficiency is the leading micronutrient deficiency worldwide, surpassing both vitamin A and iodine. Most national and regional estimates of iron deficiency are actually based on the prevalence of anemia, as measured by hemoglobin levels. In industrialized countries, iron deficiency is the main cause of anemia; thus, anemia prevalence approximates the prevalence of iron deficiency anemia in such settings.

Among preschool-age children, the prevalence of anemia is around 5 percent in North America and Western Europe, and 49 percent in Eastern Europe (UNICEF, 1999). A study conducted in 1993 by the Crosslink Group in Muynak District of Karakalpak, Republic of Uzbekistan found anemia levels of approximately 80 percent for children under the age of three (Morse, 1994). Because of correspondingly low serum levels of iron and ferritin, iron deficiency was recognized as the major cause of anemia among young children in that area. The nationally representative 1996 UDHS found an anemia prevalence of 61 percent among children under three years.

The WHO Regional Office for Europe issued a position paper in 2000 with recommendations for controlling iron deficiency anemia based on its investigation of feeding practices of children under three in the countries of the former Soviet Union (WHO/EURO, 2000). Their investigation found several factors related to feeding practices that contribute to the high rates of young child anemia in these countries: low rates of exclusive breastfeeding for four to six months; early introduction (before four months) of cow's milk in place of breast milk (with lower bioavailability of iron); frequent offerings of teas and wheat breads that inhibit absorption of nonheme iron; and late introduction of liver and other meats and fish (with high bioavailabilty of heme iron).

10.5.1 Anemia Testing Procedures in the 2002 UHES

In the 2002 UHES, the presence of anemia was assessed for children age 6-59 months by measuring the level of hemoglobin in capillary blood. The parent or caretaker of the child was asked to sign a consent form giving permission beforehand. Capillary blood was taken from a finger using sterile nonreusable instruments. Hemoglobin levels were measured by trained medical personnel using the HemoCue system. Measurements were obtained for 2,449 of 2,525 eligible children (97 percent).

Levels of anemia were classified as mild, moderate, and severe based on the hemoglobin concentration in the blood, as recommended by the World Health Organization (DeMaeyer et al., 1989). Because hemoglobin levels vary with altitude, the measurements were adjusted based on altitude measurements taken in each sample cluster. Levels of anemia were classified as follows:

- Mild: hemoglobin concentration 10.0-11.9 g/dl (10-10.9 g/dl for children under age three)
- Moderate: hemoglobin concentration 7.0-9.9 g/dl
- Severe: hemoglobin concentration less than 7.0 g/dl.

10.5.2 Anemia in Children Based on the 2002 UHES

Table 10.8 summarizes the findings for anemia in children age 6-59 months by background characteristics. The percentage of children with any anemia rises from 50 percent at age 6-9 months to a high of 70 percent in the second year of life, then declines to 36 percent in the fifth year. At 12-23 months, the percentage of children with moderate or severe anemia (45 percent) also peaks (Figure 10.7). These findings are consistent with the short median duration of exclusive breastfeeding (0.6 months) and the early introduction of plain water and other (nonbreast) milk foods (58 percent of infants less than 2 months old) described earlier in this chapter.

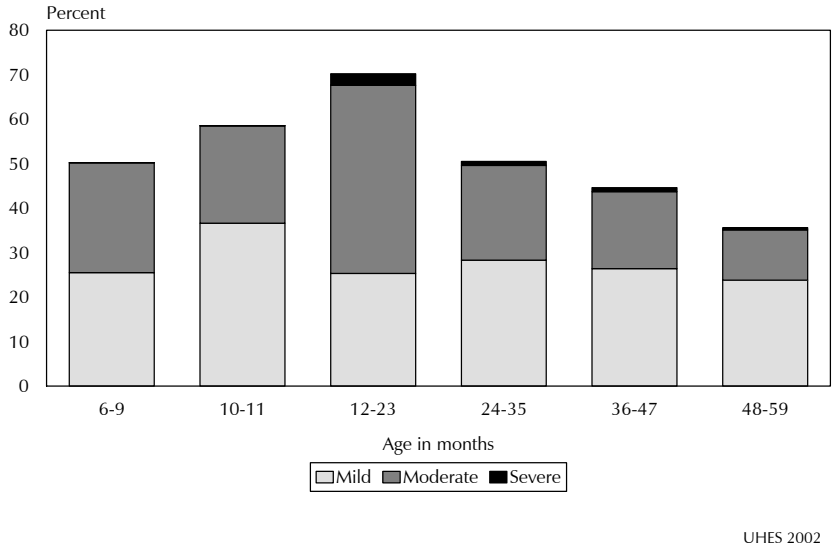
Table 10.8 Prevalence of anemia in children

Percentage of children age 6-59 months classified as having anemia, by background characteristics, Uzbekistan 2002

Background characteristic	Anemia status				Number
	Any anemia[1]	Mild[2]	Moderate[3]	Severe[4]	
Child's age in months					
6-9	50.2	25.5	24.7	0.0	165
10-11	58.6	36.6	21.9	0.0	68
12-23	70.2	25.3	42.3	2.6	429
24-35	50.6	28.3	21.3	0.9	545
36-47	44.5	26.4	17.3	0.9	504
48-59	35.5	23.8	11.3	0.5	594
6-35	57.9	27.3	29.3	1.3	1,208
Sex					
Male	50.8	25.0	24.8	1.0	1,217
Female	47.5	27.5	18.9	1.0	1,088
Birth order					
1	51.5	26.5	23.6	1.3	620
2-3	51.4	26.3	24.1	1.0	991
4+	55.1	28.4	26.1	0.6	338
Residence					
Urban	44.6	24.0	19.3	1.4	845
Rural	51.9	27.5	23.6	0.8	1,460
Region					
Western	49.8	20.6	25.6	3.7	268
Central	58.1	36.7	21.0	0.4	528
East-Central	57.6	24.2	31.7	1.8	499
Eastern	46.3	25.5	20.6	0.3	779
Tashkent City	19.8	15.7	4.0	0.2	231
Oversampled areas					
Karakalpakstan	53.6	19.6	28.7	5.4	146
Ferghana Oblast	37.1	23.5	13.2	0.4	497
Mother's education					
Primary/middle	49.3	27.1	21.4	0.8	188
Secondary	55.1	28.1	25.7	1.3	1,231
Secondary special	49.2	23.8	24.0	1.3	395
Higher	40.8	24.9	15.7	0.3	173
Mother's age					
15-19	*	*	*	*	16
20-24	53.1	26.6	25.0	1.5	633
25-29	51.3	26.6	23.7	0.9	717
30-34	54.5	28.9	24.2	1.3	394
35-49	46.8	24.3	21.9	0.6	226
Mother's status					
Mother interviewed	52.0	26.7	24.3	1.0	1,949
Mother not interviewed but in household	(57.1)	(33.6)	(16.0)	(7.6)	38
Mother not interviewed and not in household	31.1	22.1	9.1	0.0	319
Total	49.2	26.2	22.0	1.0	2,305

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.
[1] Hemoglobin level less than 12.0 g/dl
[2] Hemoglobin level 10.0-11.9 g/dl
[3] Hemoglobin level 7.0-9.9 g/dl
[4] Hemoglobin level less than 7.0 g/dl

Figure 10.7 **Percentage of Children with Anemia, by Severity of Anemia and Age**



Anemia also varies significantly by region. The Central and East-Central regions have the highest proportion of children age 6-59 months with any anemia (58 percent), in sharp contrast with Tashkent City at 20 percent. The highest proportions of children with moderate or severe anemia are found in the Western (29 percent) and East-Central (34 percent) regions. These regional differences might be explained by dietary differences, a wider variety of iron-rich or iron-enhancing foods, as well as sources of vitamin B_{12}, folate, and vitamin A, may be more available and affordable in Tashkent City compared with other regions. While a food frequency questionnaire was not included to collect information on children's diets, the food frequency data summarized in Tables 10.2.1 and 10.2.2 for adults and discussed earlier in this chapter support this hypothesis. Red meats, dark green leafy vegetables, fresh fruits, and grains are all consumed daily (median of 7 days per week), and eggs and fish or poultry are consumed at a higher rate by adults in Tashkent City compared with adults in other regions.

10.5.3 Changes in Child Anemia from 1996 to 2002

Anemia was assessed during the 1996 UDHS for children under three years. Thus, findings can be validly compared from the two surveys for children age 6-35 months. A comparison of anemia rates among these children by age, sex, birth order, residence, region, mother's education, and mother's age showed significant changes in only age and region.

Figure 10.8 shows the percentage of children with either moderate or severe anemia (hemoglobin < 10 g/dl) by age group, as detected in the 1996 UDHS and 2002 UHES. The proportion of children age 12-23 months that are moderately or severely anemic is 50 percent higher in 2002 compared with 1996 (45 versus 30 percent).

Figure 10.8 **Percentage of Children Age 6-35 Months with Moderate or Severe Anemia, by Age, 1996 UDHS and 2002 UHES**

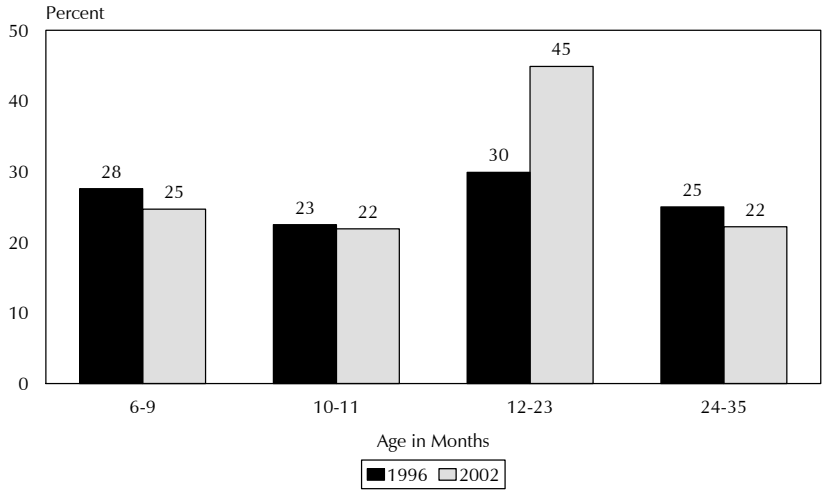
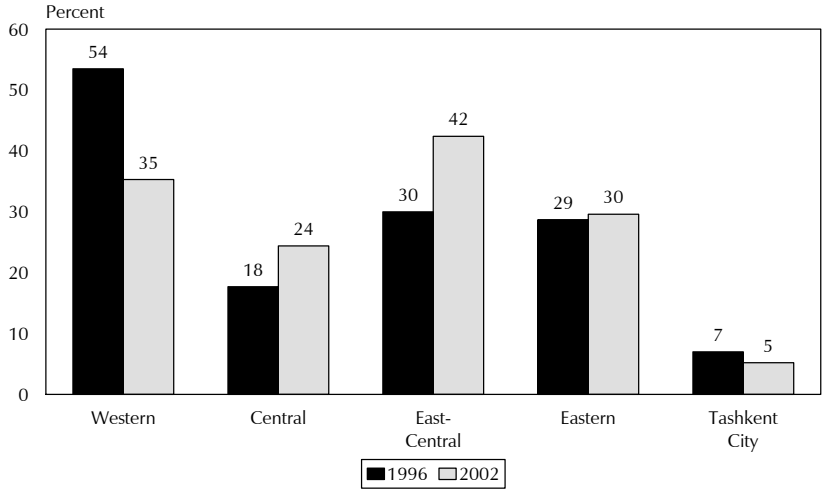


Figure 10.9 shows the percentage of children with either moderate or severe anemia, by region. There was a substantial decrease in moderate/severe anemia in the Western region (from 54 to 35 percent) and a significant increase in the East-Central region (from 30 to 42 percent).

Figure 10.9 **Percentage of Children Age 6-35 Months with Moderate or Severe Anemia, by Region, 1996 UDHS and 2002 UHES**



ADULT SEXUAL BEHAVIOR, HIV/AIDS, AND STIs

11

R.Y. Stallings and S. Aripov

Acquired immune deficiency syndrome (AIDS) is an almost universally fatal disease that is manifested during the late clinical stage of infection with the human immunodeficiency virus (HIV). Following initial infection, a substantial minority of persons will experience a short, flu-like illness lasting two to five weeks, during which the cellular immune system is depressed and infectivity is high. The immune system rebounds and the infected individual remains asymptomatic for a long period of time, ranging from months to years, during which the virus attacks and damages the cellular immune system. Nonspecific symptoms like weight loss, swollen lymph nodes, and night sweats appear first, followed typically by the development of opportunistic infections or cancers as a result of AIDS. The median latency period from initial HIV infection to AIDS is estimated to be seven to eight years in all populations, whereas the average time from untreated AIDS to death is estimated at two to four years in developed countries and six months or less in developing countries (WHO/SEARO, 2003).

AIDS is a worldwide pandemic, with cases reported in virtually every country. It is estimated that 3.1 million people died of AIDS in 2002, 5 million people were newly infected with HIV, and a total of 42 million were HIV infected (UNAIDS/WHO, 2002).

The United Nations estimate of the prevalence of HIV among adults age 15-49 for Uzbekistan was well under 1 percent for 2001. However, the incidence of new cases is increasing rapidly, with a tripling of new cases reported during the first quarter of 2003 as compared to the same quarter of 2002. While only an estimated 16 percent of cases are due to sexual transmission (the majority being associated with injecting drug use), that percentage has nonetheless been increasing. The government has opened 230 centers to distribute both syringes and condoms (UNIRIN, 2003).

The most common routes of transmission are through the exchange of body fluids during sexual intercourse and through the sharing of needles by injecting drug users. Commercial sex workers are a high-risk group for both infection and transmission of sexually transmitted bacteria and viruses, including HIV. Prostitution is both illegal and prosecutable in Uzbekistan. While there is little documentation to assess the magnitude of the sex trade, a delegate from Uzbekistan reported to the United Nations that among 4,182 persons registered for prostitution during 2000, more than 45 percent were infected with a venereal disease (UNCRC, 2001).

The countries of Eastern Europe and Central Asia are currently experiencing a rapidly increasing HIV epidemic. Multiple factors common to many of these countries appear to be responsible for this surge, including economic insecurity and high unemployment, rising dropout rates from secondary schools, deterioration of public health services, and perhaps most significantly, the erosion of social norms and high rates of injecting drug use among adolescents and young adults, facilitated by a proximity to new drug trafficking routes across Central Asia (WHO/EURO, 2002; UNAIDS, 2002).

Uzbekistan recently caught the attention of the Joint United Nations Programme on HIV/AIDS (UNAIDS) and other global organizations. By the end of 2001, the number of HIV-infected adults age 15-49 in Uzbekistan was estimated to be 740, together with less than 100 children (UNAIDS/WHO, 2002). Over the first six months of 2002, 620 new HIV infections were recorded (UNAIDS, 2002). Most recently, 2,000 new HIV infections were registered in the first three months of 2003. The majority of new cases (70 percent) were associated with injecting drug use, and 80 percent were men (UNIRIN, 2003).

This chapter presents information collected in the 2002 Uzbekistan Health Examination Survey (UHES) on adult sexual behavior, knowledge and attitudes towards HIV/AIDS and sexually transmitted infections (STIs), and all factors relevant to the spread of HIV/AIDS.

11.1 Preventing the Transmission of HIV through sexual contact

Strategies for preventing the transmission of HIV through sexual contact have centered largely on the promotion of safer sexual behaviors, commonly referred to as the ABCs of primary prevention. The three components, *abstinence*/delay of sexual debut, *being faithful*/partner reduction, and *condom* use, apply equally to the primary prevention of other common STIs such as chlamydia, gonorrhea, and syphilis. Adolescents and young adults, who are demographically at the highest risk for these diseases, are encouraged to delay or abstain from sexual activity outside of marriage (or another committed relationship), while sexually active adults are implored to remain faithful in a mutually monogamous relationship or to reduce the number of sexual partners and episodes outside marriage, and to use condoms consistently, especially with partners other than spouses.

Population-based data regarding sexual behaviors and condom use are needed for designing and monitoring programs for HIV and other STI prevention and control. In addition to questions discussed in Chapter 7 about age at first sexual intercourse and first marriage, which pertain to the A in the ABCs, the 2002 UHES included questions about sexual intercourse and use of condoms with sexual partners in the past year as well as access to condoms. These additional questions pertain to the B and C components of primary prevention (i.e., Being faithful/partner reduction and Condom use).

The spread of HIV and other STIs via sexual transmission is largely a function of the extent to which individuals engage in sexual intercourse with nonmarital, noncohabiting partners, without the use of a condom. Hence, it is important to collect national data to estimate the prevalence of behaviors or conditions that either increase or decrease the risk of HIV infection.

11.1.1 Number of Sexual Partners

Less than 1 percent of currently married women report having had any sexual partners other than their husband (or cohabiting partner) in the past year, compared with nearly 6 percent of currently married men (Table 11.1). Among men, this percentage decreases with increasing age, and increases with the level of education from 4 percent at the lowest level to almost 9 percent at the highest level. Urban married men are twice as likely to report recent nonmarital, noncohabiting partners as their rural counterparts. There is also significant variation by region, with the Central region and Tashkent City having the highest rates and Eastern region having the lowest rate.

Table 11.1 Number of sexual partners: married women and men

Percent distribution of currently married women and men by number of persons with whom they had sexual intercourse in the past 12 months, excluding spouses or cohabiting partners, according to background characteristics, Uzbekistan 2002

	Women						Men					
Background characteristic	0	1	2+	Don't know/ missing	Total	Number	0	1	2+	Don't know/ missing	Total	Number
Age												
15-19	*	*	*	*	*	*	*	*	*	*	*	5
20-24	99.9	0.0	0.1	0.0	100.0	696	90.2	7.8	2.0	0.0	100.0	128
25-29	99.4	0.4	0.0	0.2	100.0	726	93.4	5.8	0.9	0.0	100.0	340
30-39	99.4	0.6	0.0	0.0	100.0	1,271	93.2	4.6	1.8	0.4	100.0	531
40-49	99.4	0.6	0.0	0.0	100.0	950	95.5	3.9	0.6	0.0	100.0	410
50-59	na	na	na	na	na	na	97.0	2.7	0.3	0.0	100.0	186
Residence												
Urban	98.9	1.1	0.0	0.0	100.0	1,434	91.4	6.8	1.8	0.0	100.0	604
Rural	99.9	0.1	0.0	0.1	100.0	2,286	95.5	3.6	0.7	0.2	100.0	996
Region												
Western	99.8	0.2	0.0	0.0	100.0	446	93.8	5.0	1.2	0.0	100.0	198
Central	99.3	0.7	0.0	0.0	100.0	889	89.6	8.4	2.0	0.0	100.0	358
East-Central	99.0	0.8	0.0	0.1	100.0	999	93.6	4.7	1.7	0.0	100.0	450
Eastern	100.0	0.0	0.0	0.0	100.0	1,082	98.5	1.1	0.0	0.4	100.0	475
Tashkent City	99.1	0.7	0.2	0.0	100.0	304	90.1	9.0	0.9	0.0	100.0	119
Oversampled areas												
Karakalpakstan	100.0	0.0	0.0	0.0	100.0	238	95.3	3.5	1.2	0.0	100.0	113
Freghana	100.0	0.0	0.0	0.0	100.0	471	99.4	0.6	0.0	0.0	100.0	203
Education												
Primary/middle	99.5	0.5	0.0	0.0	100.0	316	94.0	3.8	0.2	2.0	100.0	94
Secondary	99.5	0.4	0.0	0.1	100.0	2,234	95.0	3.7	1.4	0.0	100.0	877
Secondary special	99.2	0.8	0.0	0.0	100.0	771	93.9	4.4	1.7	0.0	100.0	320
Higher	99.9	0.1	0.0	0.0	100.0	399	91.1	8.7	0.2	0.0	100.0	309
Total	99.5	0.5	0.0	0.0	100.0	3,720	93.9	4.8	1.1	0.1	100.0	1,600

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

Few unmarried women reported having a sexual partner in the past year (i.e., less than 3 percent) (Table 11.2). Sexually active unmarried women are more likely to be previously married (versus never married) and live in urban areas. The percentage reporting any sexual partner increases with age, but drops after age 39, and there is a small increase with level of education. Unmarried women from Tashkent City are more likely than those from other regions to report a recent sexual partner (10 percent).

The same general patterns are seen for unmarried men, but at higher levels. Sixteen percent of unmarried men reported having a sexual partner in the past year. Sexually active unmarried men are much more likely to be previously married (57 percent) than never married (14 percent), and live in urban areas (27 percent) rather than rural areas (8 percent). The percentage reporting any sexual partner increases with age, but estimates are unstable after age 29. The percentage of unmarried men reporting any recent sexual partners increases ninefold from those with the lowest level of education (5 percent) to those with the highest level (45 percent), and is highest among those living in Tashkent City.

Table 11.2 Number of sexual partners: unmarried women and men

Percent distribution of unmarried women and men by number of persons with whom they had sexual intercourse in the past 12 months, according to background characteristics, Uzbekistan 2002

Background characteristic	Women						Men				
	0	1	2+	Don't know/ missing	Total	Number	0	1	2+	Total	Number
Age											
15-19	99.8	0.1	0.0	0.2	100.0	1,015	93.4	5.3	1.3	100.0	375
20-24	97.4	2.6	0.0	0.0	100.0	353	77.3	17.7	5.0	100.0	260
25-29	87.0	10.2	2.8	0.0	100.0	83	75.0	16.7	8.2	100.0	59
30-39	88.0	10.1	1.1	0.8	100.0	150	(46.4)	(50.4)	(3.2)	(100.0)	19
40-49	94.0	5.5	0.2	0.2	100.0	143	*	*	*	*	12
50-59	na	na	na	na	na	0	*	*	*	*	8
Marital status											
Never married	99.1	0.7	0.0	0.1	100.0	1,421	86.1	10.7	3.3	100.0	692
Divorced, separated, widowed	88.6	9.5	1.3	0.5	100.0	322	43.0	54.8	2.2	100.0	40
Residence											
Urban	93.9	5.3	0.5	0.2	100.0	741	73.3	20.3	6.4	100.0	312
Rural	99.6	0.2	0.0	0.2	100.0	1,001	91.4	7.7	0.8	100.0	421
Region											
Western	99.1	0.6	0.1	0.1	100.0	253	90.9	8.6	0.5	100.0	116
Central	96.3	3.2	0.5	0.0	100.0	422	79.2	12.7	8.2	100.0	152
East-Central	98.6	0.8	0.4	0.3	100.0	432	81.3	17.7	0.9	100.0	196
Eastern	99.0	0.7	0.0	0.4	100.0	436	92.7	5.9	1.4	100.0	190
Tashkent City	90.0	10.0	0.0	0.0	100.0	199	66.3	26.3	7.4	100.0	79
Oversampled areas											
Karakalpakstan	98.5	1.1	0.2	0.2	100.0	149	92.7	6.5	0.9	100.0	72
Freghana	100.0	0.0	0.0	0.0	100.0	161	97.9	2.1	0.0	100.0	56
Education											
Primary/middle	98.3	0.3	0.7	0.6	100.0	261	95.3	4.4	0.3	100.0	94
Secondary	97.5	2.1	0.2	0.2	100.0	955	85.6	11.8	2.6	100.0	434
Secondary special	96.8	3.2	0.0	0.0	100.0	351	81.6	16.2	2.2	100.0	150
Higher	94.7	5.3	0.0	0.0	100.0	176	54.6	29.9	15.5	100.0	55
Total	97.2	2.4	0.2	0.2	100.0	1,743	83.7	13.1	3.2	100.0	733

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

11.1.2 Knowledge of a Source for Condoms

Both women and men were asked if they know of a place to get condoms and whether they could get a condom if they wanted to. Men were also asked if they have been circumcised. The responses to these questions are tabulated in Table 11.3. Thirty-six percent of women and 62 percent of men know a source for condoms. There are similar patterns of knowledge by background characteristics for women and men. Knowledge of a source for condoms generally increases with age, is highest among previously married persons compared with never-married or currently married persons, is higher in urban than in rural areas, particularly Tashkent City, and increases with level of education. Among never-married persons, those who have had sex are more likely to know a source for condoms than those who have never had sex.

Table 11.3 Knowledge of source for male condom, and access to condoms: women and men

Percentage of women and men who know a source for male condoms, percentage who think they could get a male condom, and percentage of men circumcised, by background characteristics, Uzbekistan 2002

	Women			Men			
Background characteristic	Knows a source for for male condoms	Could get a male condom	Number	Knows a source for male condoms	Could get a male condom	Circumcised	Number
Age							
15-19	11.2	2.0	1,091	32.2	21.3	94.5	380
20-24	29.5	11.3	1,049	56.4	46.6	97.8	388
25-29	44.2	23.4	809	69.8	60.1	97.4	399
30-39	50.0	25.6	1,421	75.4	64.2	98.5	550
40-49	42.1	21.7	1,092	70.3	55.7	94.3	423
50-59	na	na	na	54.4	39.5	94.0	193
Marital status							
Never married	15.1	3.3	1,421	43.8	33.1	95.2	692
Ever had sex	86.8	63.0	17	80.2	73.8	90.9	132
Never had sex	14.2	2.6	1,404	35.2	23.5	96.2	560
Married or living together	42.0	21.5	3,720	68.8	57.1	1,97.3	600
Divorced/separated/ widowed	57.2	26.3	322	80.4	59.1	84.2	40
Residence							
Urban	53.5	25.9	2,175	75.7	63.8	91.9	916
Rural	24.2	11.1	3,288	52.5	41.1	1,99.4	417
Region							
Western	39.2	17.5	699	49.0	39.4	99.1	314
Central	38.3	19.8	1,311	56.8	49.6	97.5	510
East-Central	38.0	18.0	1,431	65.1	55.2	98.1	646
Eastern	21.7	11.2	1,518	60.3	43.8	98.0	665
Tashkent City	61.7	23.9	503	87.1	71.7	78.9	198
Oversampled areas							
Karakalpakstan	39.8	15.8	387	50.9	43.2	98.5	185
Freghana	16.9	9.7	632	46.8	43.0	99.2	259
Education							
Primary/middle	18.3	5.6	578	36.7	21.0	96.9	188
Secondary	28.4	12.8	3,189	56.8	44.8	1,97.1	311
Secondary special	50.4	25.7	1,122	67.6	54.3	95.8	470
Higher	66.4	35.1	574	84.0	78.0	94.5	364
Total	35.9	17.0	5,463	61.6	50.0	2,96.4	333

na = Not applicable

These same patterns are evident when responses to the ability to obtain a condom are examined, with one exception: currently married and previously married women and men respond to this question at similar rates. Only half of women who know a place to get a condom report that they could get one if they wanted to (17 percent of all women). In contrast, most men who know a source of condoms say that they can get one (50 percent of all men).

It is not possible from this survey to distinguish between actual availability of condoms and knowledge of local sources for condoms. Significantly lower percentages of both men and women in rural areas and in regions other than Tashkent City are both aware of a source and believe they can obtain a condom. This may represent a nonavailability problem that can be addressed by condom distribution pro-

grams. The very low percentages of women responding positively to these questions may reflect cultural attitudes about condom use as a male-initiated behavior. Health education campaigns and materials should include messages designed to encourage women to be proactive in negotiating condom use with their sexual partners in order to protect their own health.

11.1.3 Condom Use by Type of Partner

Table 11.4 provides information on condom use at last sexual intercourse in the past year by type of partner. Overall, use of condoms with a spouse or cohabiting partner at last intercourse is very low among both women and men (2 and 1 percent, respectively). The level of recent condom use among women with the last nonmarital, noncohabiting partner is 27 percent. The level of condom use among men with the last nonmarital, noncohabiting partner is 39 percent. More highly educated men are more likely than those with less education to report use of a condom with such partners.

Table 11.4 Use of condoms by type of partner: women and men

Among women and men who had sexual intercourse in the past year, percentage who used a condom during last sexual intercourse with spouse or cohabiting partner, with noncohabiting partner, and with any partner, by background characteristics, Uzbekistan 2002

	Women						Men					
	Spouse or cohabiting partner		Noncobaniting partner		Any partner		Spouse or cohabiting partner		Noncobaniting partner		Any partner	
Background characteristic	Percent	Number of women	Percent	Number of women	Percent	Number of women	Percent	Number of men	Percent	Number of men	Percent	Number of men
Age												
15-19	1.3	76	*	1	1.3	77	*	5	(56.1)	27	(43.6)	30
20-24	1.8	699	*	10	2.6	708	0.4	128	47.8	72	14.0	188
25-29	2.0	715	*	14	2.9	728	1.3	338	16.2	37	2.8	355
30-39	3.2	1,268	*	25	3.4	1,291	0.4	525	44.1	44	0.9	536
40-49	2.1	929	*	14	2.1	942	0.1	406	(24.5)	26	1.0	417
50-59	na	na	na	na	na	na	1.5	184	*	9	2.8	190
Marital status												
Never married	na	na	*	11	*	11	na	na	43.2	96	43.1	97
Married or living together	2.2	3,651	*	18	2.2	3,665	0.5	1,580	37.7	95	0.8	1,592
Divorced/separated/ widowed	19.8	36	(24.6)	35	22.1	71	*	6	(28.9)	23	(30.4)	29
Residence												
Urban	4.2	1,416	28.6	60	5.2	1,472	1.2	595	38.3	135	6.0	686
Rural	1.2	2,271	*	3	1.2	2,274	0.4	991	40.8	80	2.2	1,031
Region												
Western	1.2	445	*	3	1.3	448	0.0	198	(5.5)	23	0.0	209
Central	1.5	884	*	22	1.7	906	0.0	353	(30.8)	69	2.7	388
East-Central	3.0	977	*	13	3.3	988	2.0	448	(59.6)	65	6.6	489
Eastern	1.9	1,069	*	3	1.9	1,072	0.0	470	*	19	1.1	485
Tashkent City	6.1	312	(47.3)	23	8.9	333	1.5	118	45.0	38	10.4	146
Oversampled areas												
Karakalpakstan	1.2	238	*	2	1.5	240	0.0	113	*	11	0.0	119
Freghana	1.5	468	*	0	1.5	468	0.0	203	*	2	0.0	205
Education												
Primary/middle	0.5	312	*	4	0.5	316	0.0	91	*	8	0.4	95
Secondary	1.9	2,213	(34.1)	32	2.4	2,245	0.9	874	34.5	107	3.5	943
Secondary special	3.8	765	*	17	4.0	779	0.1	315	46.0	47	3.8	344
Higher	3.7	397	*	10	4.7	406	0.9	306	47.0	53	5.1	335
Total	2.4	3,687	27.0	63	2.8	3,747	0.7	1,586	39.2	214	3.7	1,717

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases
na = Not applicable

The percentages of both unmarried women and men reporting recent sexual activity are significantly higher for previously married than never-married adults and generally increases with age. The relatively low levels of condom use under these circumstances with the last noncohabiting partner (i.e., 25 percent among women and 29 percent among men who were previously married) suggests targeting condom promotion messages to this potentially high risk group.

All adult men who reported having ever had sex were asked if they had ever paid for sex and if so, how long ago (Table 11.5). Approximately 3 percent of men who had ever had sex reported that they paid for sex within the past year. The rate of condom use at last paid sexual encounter in the past year was 41 percent.

Urban and more highly educated men, both married and unmarried, are most likely to report recent (within the past year) sexual activity with a nonmarital, noncohabiting partner. This is consistent with patterns observed in other countries. Such men are likely to have more disposable income, which can be used to buy sexual favors directly from sex workers, or indirectly through the provision of gifts and entertainment for their dates. While more highly educated men are also more likely than their counterparts to report using a condom during their last encounter with a noncohabiting partner, the proportion is still less than half, suggesting a need for increasing awareness of STI risks and the effectiveness of consistent condom use in reducing these risks.

Table 11.5 Commercial sexual activity and condom use among men

Among men who have ever had sex, the percentage who paid for sex in the past 12 months and among men who had commercial sex, the percentage who used a condom during last paid sexual intercourse, Uzbekistan 2002

	Men who ever had sex		Men who paid for sex in past 12 months	
	Percentage who paid for sex in past 12 months	Number of men	Percentage who used a condom at last paid sex	Number of men
Total	3.4	1,773	41.0	60

11.2 Knowledge of HIV/AIDS and HIV Prevention

The 2002 UHES included questions designed to assess correct knowledge about HIV transmission and prevention of infection, acceptability of HIV/AIDS messages, interest in or experience with HIV testing, and related topics. Information gathered in the survey can be used to plan effective prevention strategies to curb the rising HIV infection rate.

11.2.1 Awareness of AIDS and Knowledge of HIV Transmission and Prevention

Both women and men were asked whether they had heard of an illness called AIDS. As shown in Table 11.6, awareness of AIDS is high overall, 90 percent for women and 95 percent for men. Differences by age group, marital status, residence, and region are small. However, there is a noticeable increase in awareness by level of education, rising from 77 to 99 percent among women and 86 to 99 percent among men from the lowest to the highest level.

Table 11.6 Knowledge of AIDS : women and men

Percentage of women and men who have heard of HIV/AIDS and who believe there is a way to avoid HIV/AIDS, by background characteristics, Uzbekistan 2002

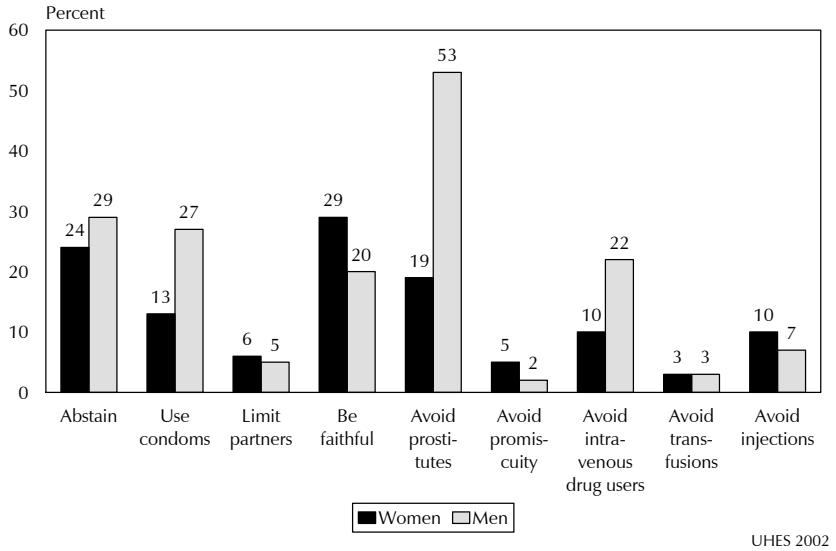
	Women			Men		
Background characteristic	Has heard of AIDS	Believes there is a way to avoid HIV/AIDS	Number of women	Has heard of AIDS	Believes there is a way to avoid HIV/AIDS	Number of men
Age						
15-19	84.4	55.4	1,091	89.4	66.8	380
20-24	88.7	66.8	1,049	93.0	77.6	388
25-29	93.6	74.7	809	96.3	83.6	399
30-39	93.4	74.8	1,421	96.1	84.4	550
40-49	90.5	72.1	1,092	95.7	86.0	423
50-59	na	na	na	97.0	81.5	193
Marital status						
Never married	85.7	59.3	1,421	92.1	70.7	692
Ever had sex	94.4	83.3	17	98.7	90.1	132
Never had sex	85.6	59.0	1,404	90.5	66.1	560
Married or living together	91.9	72.1	3,720	95.5	84.5	1,600
Divorced/separated/ widowed	90.1	73.3	322	98.4	79.1	40
Residence						
Urban	93.5	73.5	2,175	95.8	80.6	916
Rural	87.9	65.8	3,288	93.7	80.1	1,417
Region						
Western	93.0	74.3	699	95.5	89.2	314
Central	93.6	74.1	1,311	96.4	87.8	510
East-Central	82.8	66.8	1,431	95.4	82.0	646
Eastern	89.7	62.2	1,518	90.4	68.3	665
Tashkent City	99.3	73.4	503	99.4	81.5	198
Oversampled areas						
Karakalpakstan	90.1	60.4	387	93.7	86.7	185
Freghana	93.3	70.7	632	83.9	73.3	259
Education						
Primary/middle	77.0	48.2	578	85.5	68.0	188
Secondary	88.6	64.6	3,189	94.5	76.6	1,311
Secondary special	96.7	82.6	1,122	94.9	84.9	470
Higher	99.2	86.3	574	98.7	94.0	364
Total	90.1	68.8	5,463	94.5	80.3	2,333

na = Not applicable

Persons who were aware of AIDS were next asked if there is anything a person can do to avoid getting the virus that causes AIDS. Sixty-nine percent of women and 80 percent of men believe there is a way to protect oneself from becoming infected. Unlike the awareness question, responses to this question vary significantly by background characteristics. Women and men in the youngest age group (15-19) are less likely than those in older age groups to believe that there is a way to avoid HIV infection. Never-married, never sexually active persons are also less likely than ever-married persons to believe they can protect themselves from HIV.

Persons who said they believe they can avoid HIV infection were next asked, unprompted, to name ways to do so. A small percentage was unable to provide a spontaneous answer. Figure 11.1 shows the percentages of women and men who named correct ways to avoid HIV infection. In terms of the ABCs of HIV prevention, 24 percent of women and 29 percent of men mentioned abstaining, 33 percent of women and 24 percent of men said either be faithful to one partner or limit the number of partners, and 13 percent of women and 27 percent of men cited using condoms as ways to avoid becoming infected. Men were much more likely to cite avoiding sex with sex workers than were women (53 versus 19 percent), and twice as likely to mention avoiding sex with intravenous drug users (IDUs) (22 versus 10 percent). Incorrect ways to avoid HIV infection, such as avoiding kissing, avoiding mosquito bites, and seeking help from traditional practitioners, were rarely mentioned.

Figure 11.1 **Percentage of Women and Men who Named Specific Correct Ways to Avoid HIV Infection**



Following the unprompted responses, respondents were probed about specific correct and incorrect modes of transmission of HIV. In Table 11.7, prompted and unprompted responses are combined for the three programmatically important ABCs: abstain from sex (unprompted only), be faithful/limit partners, and use condoms.

Forty-nine percent of women and 65 percent of men were able to identify two or three of the three ABCs, while 34 percent of women and 22 percent of men identified none. Among both women and men, increasing age and level of education were associated with greater knowledge of the ABCs (i.e., knew two or three). Never-married persons who had never had sex were much less likely than persons with sexual experience to identify two or three of the ways to avoid HIV/AIDS. Persons from urban areas had greater knowledge than their rural counterparts; and regionally, the percentage of persons with greater knowledge ranged, for women, from 38 percent in the Eastern region to 69 percent in Tashkent City, and for men from 55 percent in the Eastern region to 77 percent in both Tashkent City and the Western region.

Table 11.7 Knowledge of programmatically important ways to avoid HIV/AIDS: women and men

Percent distribution of women and men by knowledge of three programmatically important ways to avoid HIV/AIDS, and percentage of women and men who know of two specific ways to avoid HIV/AIDS, according to background characteristics, Uzbekistan 2002

	Women							Men						
	Knowledge of ways to avoid HIV/AIDS				Specific ways to avoid HIV/AIDS			Knowledge of ways to avoid HIV/AIDS				Specific ways to avoid HIV/AIDS		
Background characteristic	None	One way	Two or three ways	Total	Use condoms	Limit number of sexual partners	Number of women	None	One way	Two or three ways	Total	Use condoms	Limit number of sexual partners	Number of men
Age														
15-19	53.2	19.7	26.9	100.0	20.0	39.8	1,091	38.1	18.6	43.2	100.0	43.7	47.6	380
20-24	35.6	20.4	43.9	100.0	38.1	59.4	1,049	26.5	15.2	58.3	100.0	60.5	63.1	388
25-29	26.5	16.4	57.1	100.0	50.9	68.5	809	18.8	7.1	74.1	100.0	72.1	76.2	399
30-39	26.7	13.3	60.0	100.0	54.3	69.5	1,421	17.3	11.5	71.2	100.0	70.1	75.5	550
40-49	28.9	17.5	53.6	100.0	48.8	67.4	1,092	14.7	11.3	74.1	100.0	73.1	78.1	423
50-59	na	na	na	na	na	na	na	19.4	14.8	65.7	100.0	64.2	71.4	193
Marital status														
Never married	48.0	21.1	30.8	100.0	24.3	44.5	1,421	33.8	16.6	49.5	100.0	50.6	53.9	692
Ever had sex	6.6	0.0	83.9	100.0	81.7	83.9	17	12.2	16.5	71.3	100.0	82.2	66.6	132
Never had sex	48.6	21.3	30.1	100.0	23.5	44.0	1,404	39.0	16.6	44.4	100.0	43.2	50.9	560
Married or living together	29.4	16.1	54.5	100.0	48.3	67.0	3,720	17.2	11.1	71.8	100.0	70.6	75.7	1,600
Divorced/separated/ widowed	27.4	13.1	59.5	100.0	59.4	65.2	322	20.9	13.4	65.7	100.0	66.5	69.6	40
Residence														
Urban	28.5	11.1	60.3	100.0	56.3	66.9	2,175	20.5	9.6	69.8	100.0	71.8	71.0	916
Rural	37.8	21.3	40.8	100.0	33.8	57.2	3,288	23.2	14.8	62.0	100.0	60.0	67.9	1,417
Region														
Western	26.7	11.8	61.6	100.0	45.2	69.2	699	12.7	10.2	77.1	100.0	74.5	84.7	314
Central	29.8	23.0	47.2	100.0	38.1	66.2	1,311	17.2	18.5	64.3	100.0	71.3	53.9	510
East-Central	36.9	15.5	47.5	100.0	45.8	57.6	1,431	21.1	12.8	66.1	100.0	60.0	75.7	646
Eastern	41.0	21.0	38.0	100.0	34.6	52.9	1,518	32.6	12.1	55.3	100.0	55.6	66.1	665
Tashkent City	26.9	3.8	69.3	100.0	67.1	70.6	503	18.5	4.3	77.1	100.0	77.3	72.4	198
Oversampled areas														
Karakalpakstan	40.6	6.8	52.6	100.0	42.7	55.4	387	15.0	6.9	78.1	100.0	75.9	81.5	185
Freghana	31.3	27.9	40.8	100.0	35.9	63.4	632	27.1	13.5	59.4	100.0	59.3	72.6	259
Education														
Primary/middle	55.6	18.9	25.5	100.0	21.0	40.5	578	36.2	12.0	51.8	100.0	44.3	54.6	188
Secondary	38.7	18.9	42.3	100.0	35.5	56.4	3,189	26.3	14.4	59.3	100.0	59.1	64.0	1,311
Secondary special	19.7	15.9	64.4	100.0	58.8	74.5	1,122	17.2	12.9	69.9	100.0	70.8	75.0	470
Higher	14.9	9.1	75.9	100.0	73.0	81.0	574	6.4	7.0	86.5	100.0	86.9	87.6	364
Total	34.1	17.2	48.6	100.0	42.7	61.0	5,463	22.2	12.8	65.1	100.0	64.6	69.1	2,333

na = Not applicable

Examination of these responses by background characteristics reveals a strong consistency with the patterns described above for greater knowledge of the ABCs. For both women and men, the percentage identifying condom use or staying faithful/limiting partners as a means of protection increases with age and education, is much lower for never-married persons who have never had sex versus persons with sexual experience, and is higher among persons in urban areas than in rural areas. Use of condoms was identified most frequently by women and men in Tashkent City and least frequently by those in the Eastern region. The same pattern was observed among women alone for the category staying faithful/limiting partners.

In summary, awareness of AIDS is high in Uzbekistan, where reports of newly identified HIV infection are rising rapidly. Data gathered in the 2002 UHES indicate that knowledge, with or without prompting, of the so-called ABCs of HIV prevention, Abstain, Be faithful/limit partners, and use Condoms, is not widespread in certain subgroups, particularly adolescents and the youngest adults (under 25 years), persons with the least amount of formal education (less than secondary), and never-married persons who have never had sex. Women from rural areas and from the Eastern region are also less aware of these strategies. Given the fact that an estimated 70 percent of new infections in the country are attributable to injecting drug use, it is noteworthy that few respondents spontaneously mentioned either avoiding injections (10 percent of women and 22 percent of men) or avoiding sex with persons who inject drugs (10 percent of women and 7 percent of men) as strategies for avoiding HIV infection.

11.2.2 Knowledge of Core HIV Education and Prevention Concepts

Health education materials and media campaigns promoting HIV prevention are designed around a set of core concepts. Correct knowledge of some of these important concepts was assessed in the 2002 UHES for all adults who were aware of AIDS.

Respondents were asked if it is possible for a healthy-looking person to have the AIDS virus. This concept is linked to the fact that there is a long latency period between initial HIV infection and the manifestation of AIDS. As shown in Table 11.8, 62 percent of women and 70 percent of men agreed with this statement. While the percentage of persons in agreement increases with age, only half of adolescents age 15-19 know this important concept. Never-married persons who have never had sex are significantly less likely than sexually experienced persons to know this concept, as are persons from rural areas versus urban areas. Knowledge increases steadily with level of education, doubling in women from 43 to 86 percent from the lowest to the highest education level, and from 62 to 85 percent in men.

Respondents were asked if the AIDS virus can be transmitted from a mother to her child. Persons who responded “yes” were then prompted regarding transmission during pregnancy, during delivery, and by breastfeeding. Knowledge of mother-to-child transmission is generally high at 78 percent of women and 79 percent of men. However, both women and men are less likely to know that HIV transmission can occur during delivery or by breastfeeding as compared to during pregnancy. Correct knowledge of all three routes increases with both age and level of education. Adolescents age 15-19 and young adults age 20-24, as well as persons with less than a secondary education, are particularly less knowledgeable than their counterparts about transmission during delivery or by breastfeeding. Knowledge of all three routes is higher among sexually experienced versus inexperienced (i.e., never married and never had sex) women and men. Urban respondents are more aware of transmission during delivery than rural respondents.

Table 11.8 Knowledge of HIV/AIDS-related issues: women and men

Percentage of women and men who gave specific responses to questions on various HIV/AIDS-related issues, by background characteristics, Uzbekistan 2002

	Women						Men					
			When AIDS virus can be transmitted from mother to child						When AIDS virus can be transmitted from mother to child			
Background characteristic	Percentage who say a healthy-looking person can have AIDS	Percentage who say AIDS can be transmitted mother to child	During delivery	During pregnancy	During breast-feeding	Number	Percentage who say a healthy-looking person can have AIDS	Percentage who say AIDS can be transmitted mother to child	During delivery	During pregnancy	During breast-feeding	Number
Age												
15-19	50.0	62.5	39.8	57.7	46.0	1,091	51.8	59.7	36.1	53.4	38.9	380
20-24	59.5	78.0	57.6	73.1	59.0	1,049	63.1	74.5	49.5	69.1	51.4	388
25-29	63.1	84.0	67.0	81.1	68.2	809	71.7	84.7	60.6	80.2	58.3	399
30-39	71.1	82.5	63.6	80.0	63.9	1,421	77.7	85.6	61.6	81.7	56.6	550
40-49	65.9	81.1	63.2	78.6	63.2	1,092	75.4	85.2	61.5	81.7	56.2	423
50-59	na	na	na	na	na	na	81.3	86.1	63.5	80.2	60.2	193
Marital status												
Never married	52.0	66.4	43.2	60.8	47.7	1,421	58.4	66.8	42.8	61.1	44.7	692
Ever had sex	79.6	82.8	70.1	82.8	56.6	17	75.5	75.8	50.6	71.2	48.5	132
Never had sex	51.7	66.2	42.9	60.5	47.6	1,404	54.3	64.7	40.9	58.7	43.8	560
Married or living together	65.8	81.7	63.1	78.9	64.5	3,720	74.8	84.6	60.9	80.4	56.9	1,600
Divorced/separated/ widowed	70.0	79.4	66.7	78.0	61.1	322	73.4	85.9	55.5	79.8	62.1	40
Residence												
Urban	70.7	80.9	65.0	77.6	59.8	2,175	72.0	79.8	61.8	75.9	52.5	916
Rural	57.0	75.4	53.5	71.8	59.9	3,288	68.6	79.1	51.3	73.8	53.9	1,417
Region												
Western	70.3	79.6	66.1	75.9	72.9	699	71.1	79.0	64.3	74.4	67.5	314
Central	65.5	83.6	61.7	78.4	68.8	1,311	79.2	82.7	60.4	75.7	69.9	510
East-Central	61.0	68.6	49.4	65.1	42.0	1,431	69.9	80.3	38.3	77.2	37.0	646
Eastern	55.2	81.1	55.5	78.6	65.5	1,518	64.4	78.0	62.3	72.6	46.6	665
Tashkent City	69.4	74.1	70.3	72.8	52.8	503	62.6	72.5	61.3	70.6	64.5	198
Oversampled areas												
Karakalpakstan	71.9	78.2	71.0	73.8	72.7	387	77.9	80.8	70.3	76.4	70.4	185
Freghana	60.9	87.7	61.0	85.9	69.2	632	58.5	71.3	54.6	70.0	48.9	259
Education												
Primary/middle	42.6	61.6	41.1	57.2	46.1	578	62.2	74.5	50.6	69.9	48.5	188
Secondary	57.4	75.0	54.6	71.4	59.6	3,189	64.9	76.0	52.3	70.9	52.2	1,311
Secondary special	75.2	86.6	69.7	83.5	65.2	1,122	75.0	81.6	58.6	75.4	59.2	470
Higher	85.7	90.3	71.8	88.0	64.9	574	85.3	91.0	65.0	89.4	52.4	364
Total	62.4	77.6	58.1	74.1	59.9	5,463	69.9	79.4	55.4	74.6	53.4	2,333

na = Not applicable

Another core concept is that of encouraging persons who are in a steady sexual relationship, married or not, to negotiate safer sex practices by openly discussing HIV and other STIs and ways to prevent such infections with their partner. In the 2002 UHES, respondents who were currently married or living with a partner and who had ever heard of AIDS were asked if they had ever talked with their partner about ways to prevent getting the virus. The results are summarized in Table 11.9. Sixty percent of currently married or cohabiting women have never discussed HIV prevention with their partner and an additional 8 percent have not heard of the illness AIDS. The percentage of women who report having discussed HIV prevention with their partners increases significantly with level of education, tripling from 16

to 48 percent. Seventy percent of currently married or cohabiting men have never discussed HIV prevention with their partner, and an additional 5 percent have not heard of AIDS. The proportion of men who report having discussed HIV prevention with their partners does not vary substantially by age, education, residence, or region.

Increasing age and education and prior sexual experience are all associated with greater awareness of two core HIV education concepts (i.e., that an infected individual can look healthy and that HIV can be transmitted from a mother to her child). A third core concept is that of talking openly with your sexual partner about HIV and other STIs and ways to protect oneself from infection. While most women and men in a steady sexual relationship are aware of the illness AIDS, the majority have not discussed ways to prevent becoming infected with their partner (60 percent of women and 70 percent of men). Urban and rural adults are equally unlikely to have done so.

Table 11.9 Discussion of HIV/AIDS with partner: women and men

Percent distribution of women and men who are currently married or living with a partner by whether they ever discussed HIV/AIDS prevention with their spouse/partner, according to background characteristics, Uzbekistan 2002

	Women						Men				
Background characteristic	Ever discussed HIV/AIDS prevention	Never discussed HIV/AIDS prevention	Don't know/ missing	Has not heard of AIDS	Total	Number	Ever discussed HIV/AIDS prevention	Never discussed HIV/AIDS prevention	Has not heard of AIDS	Total	Number
Age											
15-19	27.5	60.4	0.0	12.1	100.0	76	*	*	*	*	5
20-24	23.6	65.4	0.3	10.6	100.0	696	19.2	70.3	10.5	100.0	128
25-29	33.2	60.1	0.0	6.7	100.0	726	20.9	75.1	4.0	100.0	340
30-39	35.1	58.4	0.4	6.1	100.0	1,271	28.4	67.6	4.0	100.0	531
40-49	33.1	57.1	0.0	9.7	100.0	950	28.1	67.4	4.4	100.0	410
50-59	na	na	na	na	na	0	21.5	75.4	3.1	100.0	186
Residence											
Urban	33.1	61.7	0.2	5.0	100.0	1,434	24.9	72.0	3.1	100.0	604
Rural	31.2	58.5	0.2	10.1	100.0	2,286	25.4	69.2	5.3	100.0	996
Region											
Western	37.0	57.1	0.1	5.9	100.0	446	19.9	77.9	2.2	100.0	198
Central	30.9	64.0	0.1	4.9	100.0	889	20.4	75.7	4.0	100.0	358
East-Central	27.1	58.1	0.4	14.4	100.0	999	23.6	72.5	3.9	100.0	450
Eastern	36.0	55.8	0.2	8.1	100.0	1,082	31.5	61.1	7.4	100.0	475
Tashkent City	28.9	70.7	0.0	0.4	100.0	304	29.9	69.4	0.7	100.0	119
Oversampled areas											
Karakalpakstan	27.8	63.6	0.1	8.4	100.0	238	13.5	82.7	3.8	100.0	113
Freghana	42.6	51.2	0.4	5.8	100.0	471	41.2	45.5	13.3	100.0	203
Education											
Primary/middle	16.2	66.1	0.0	17.7	100.0	316	27.8	59.9	12.3	100.0	94
Secondary	28.7	61.3	0.2	9.8	100.0	2,234	22.2	73.0	4.8	100.0	877
Secondary special	39.3	57.6	0.3	2.9	100.0	771	23.0	72.8	4.2	100.0	320
Higher	48.4	50.3	0.2	1.0	100.0	399	35.4	63.1	1.5	100.0	309
Total	31.9	59.8	0.2	8.1	100.0	3,720	25.2	70.3	4.5	100.0	1,600

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

11.2.3 Social Aspects of AIDS and HIV Prevention

The effectiveness of HIV prevention campaigns and educational materials to influence the behaviors and decisions of their target audiences may be modified by the extent to which persons infected with HIV or ill with AIDS are stigmatized by their society. This stigma arises primarily from the association of HIV and AIDS with promiscuity and with marginalized groups, such as injecting drug users, sex workers, and homosexuals. Attitudes regarding adolescent sexual behavior and sex education are important to assess when designing messages for youth before and as they initiate sexual activity.

In the 2002 UHES, questions were included to measure these attitudes. Respondents who were aware of AIDS were first asked their opinion of the acceptability of radio, television, and newspapers for discussing AIDS. They were then asked the following hypothetical question: "If a member of your family got infected with the virus that causes AIDS, would you want it to remain a secret or not?" Last, respondents were asked if children age 12-14 years should be taught about using a condom to avoid AIDS.

Adults who are aware of AIDS were nearly unanimous in their agreement that radio, television, and newspapers are acceptable forums for the discussion of AIDS (97 to 99 percent; data not shown). In contrast, 33 percent of women and 23 percent of men reported that they would not want the HIV-positive status of a family member to be made public, and an additional 13 percent of women and 6 percent of men are unsure (Table 11.10).

Among women, the percentage opposed to revealing the HIV-positive status of a family member to the public does not differ markedly by age, marital status, residence, or region, and increases slightly with level of education. More variation in responses is seen among men to the same question. The percentage of men age 50-59 opposed to revealing a family member's HIV-positive status is lower at 14 percent than for any other age group. Men in rural areas are more likely to be opposed than men in urban areas. There are especially large differences by region, ranging from a low of 9 percent in the Western region to a high of 51 percent in Tashkent City.

Opposition to teaching adolescents age 12-14 about use of condoms in the context of avoiding AIDS is relatively low, at 19 percent of women and 15 percent of men who have ever heard of AIDS. However, high percentages of both women and men are unsure where they stand on this issue (39 and 22 percent, respectively). The percentage of women opposed to condom instruction for adolescents increases slightly with age and level of education, but does not vary meaningfully by marital status, residence, or region. Among men, only regional differences are noteworthy, with opposition ranging from 8 percent in the Eastern region to 35 percent in Tashkent City.

Table 11.10 Social aspects of HIV/AIDS: women and men

Among women and men who have heard of HIV/AIDS, percentage providing specific responses to questions on various social aspects of HIV/AIDS, by background characteristics, Uzbekistan 2002

	Women							Men						
	Believes HIV-positive status of family member should be kept secret			Believes children 12-14 should be taught about using a condom to avoid AIDS				Believes HIV-positive status of family member should be kept secret			Believes children 12-14 should be taught about using a condom to avoid AIDS			
Background characteristic	Yes	No	Don't know	Yes	No	Don't know	Number	Yes	No	Don't know	Yes	No	Don't know	Number
Age														
15-19	31.0	49.9	19.1	27.2	12.3	60.6	921	27.4	58.0	14.6	52.9	12.8	34.4	339
20-24	32.9	52.1	15.0	41.2	15.2	43.6	931	23.6	69.9	6.4	63.3	14.3	22.4	361
25-29	34.4	56.1	9.5	47.8	19.8	32.4	757	22.8	74.2	3.0	68.2	12.5	19.4	384
30-39	34.5	55.2	10.2	47.3	23.0	29.7	1,327	21.4	73.4	5.3	66.6	16.2	17.3	529
40-49	32.3	56.7	10.9	45.4	21.6	33.1	989	23.3	73.5	3.2	65.8	17.2	17.0	404
50-59	na	na	na	na	na	na	na	13.9	82.9	3.2	60.9	16.1	22.9	188
Marital status														
Never married	31.6	50.0	18.4	30.6	12.7	56.7	1,218	24.4	64.6	11.0	57.2	12.2	30.6	637
Ever had sex	44.7	30.1	25.2	95.8	0.0	4.2	16	26.9	69.8	3.3	75.0	10.7	14.3	131
Never had sex	31.4	50.3	18.3	29.8	12.9	57.3	1,202	23.7	63.2	13.0	52.6	12.6	34.8	507
Married or living together	33.1	56.0	11.0	45.2	20.5	34.3	3,417	22.0	74.2	3.8	66.3	15.8	17.9	1,528
Divorced/separated/ widowed	39.6	48.7	11.7	53.9	23.0	23.0	290	21.5	72.7	5.7	62.6	21.4	16.0	40
Residence														
Urban	37.0	48.1	14.9	52.4	17.5	30.1	2,034	30.2	65.5	4.3	71.4	15.4	13.2	877
Rural	30.4	58.3	11.4	34.8	19.6	45.6	2,890	17.7	75.3	7.0	58.4	14.5	27.1	1,328
Region														
Western	30.3	59.6	10.1	50.6	11.8	37.5	651	8.6	88.6	2.8	71.2	14.8	14.0	300
Central	29.2	62.7	8.1	35.8	16.5	47.7	1,228	17.5	78.3	4.3	75.2	14.5	10.3	491
East-Central	29.6	60.2	10.1	45.5	24.8	29.7	1,185	14.5	76.3	9.2	45.2	16.1	38.7	616
Eastern	39.4	46.5	14.1	37.6	18.2	44.2	1,361	33.0	61.0	6.0	70.3	7.5	22.2	601
Tashkent City	37.3	31.9	30.7	50.5	20.3	29.3	500	51.0	44.4	4.6	60.2	34.8	5.0	197
Oversampled areas														
Karakalpakstan	36.7	52.6	10.7	54.8	12.7	32.5	348	7.1	91.9	1.0	83.2	8.7	8.1	174
Freghana	41.3	38.7	19.9	48.4	25.8	25.8	590	69.2	23.3	7.5	88.9	3.4	7.7	218
Education														
Primary/middle	28.9	54.9	16.2	33.9	10.6	55.6	445	17.2	75.0	7.8	52.4	11.8	35.7	160
Secondary	31.4	55.8	12.9	36.5	19.2	44.2	2,824	23.7	69.0	7.2	61.8	14.2	24.0	1,239
Secondary special	36.7	50.7	12.6	51.2	18.4	30.4	1,086	21.2	74.3	4.5	65.7	15.9	18.4	446
Higher	38.0	51.6	10.4	58.6	23.3	18.2	570	23.1	74.4	2.5	72.1	17.2	10.7	360
Total	33.1	54.1	12.8	42.1	18.7	39.2	4,924	22.7	71.4	5.9	63.6	14.9	21.5	2,205

na = Not applicable

11.3 Sexually Transmitted Infections[1]

11.3.1 Public Health Importance of STIs

The World Health Organization (WHO) estimates that in 1999, 22 million new cases of sexually transmitted infections (STIs) occurred in Eastern Europe and Central Asia (WHO, 2001a). An increase in the prevalence of syphilis and gonorrhea during the 1990s throughout Eastern Europe and the Community of Independent States has been attributed in part to changes in sexual behaviors due to increased travel and migration, disruption of families, and changes in sexual mores (Axmann, 1998). From 1991 to 1997, reports of syphilis increased from 1.9 to 47.3 cases per 100,000 population in Uzbekistan, according to the Ministry of Health.

Many STIs can be effectively treated when diagnosed and treated early. However, many serious STIs, such as chlamydia, gonorrhea, and syphilis go undiagnosed until serious health problems develop, either because the infected individual is asymptomatic or because early symptoms are nonspecific or mild.

Chlamydia, gonorrhea, and syphilis are bacterial infections. Chlamydia is often asymptomatic in both women and men, but may cause an abnormal genital discharge and burning with urination. In the case of gonorrhea, men will often develop initial symptoms such as an usual discharge from the penis or burning with urination. Women may or may not develop these initial symptoms. Syphilis is often undetected because the initial symptom, an open sore or ulcer, is usually painless, disappears spontaneously, and may even be located internally. Two common virally transmitted infections are genital human papillomavirus infection and genital herpes. These infections are also frequently asymptomatic in newly infected individuals, but warts or blisters may appear on or near the genital areas and elsewhere.

All of these STIs can result in serious illness, such as pelvic inflammatory disease, infertility, and, in the case of syphilis, death. Additionally, each can be transmitted from a mother to her child during pregnancy or delivery, resulting in serious health problems, such as blindness and developmental delays, and can even be fatal.

Moreover, research has demonstrated that persons infected with an STI are two to five times more likely to become infected with HIV when exposed through sexual contact to HIV than are persons without an STI. Hence, the control and prevention of STIs is accepted as a key strategy for the prevention of HIV transmission and infection.

The basis of STI control is the correct diagnosis and treatment of symptomatic patients. Clearly, an individual must recognize a symptom, decide that it is sufficiently serious, and seek treatment in order to come to the attention of the health care system. STI prevention is based upon providing individual health education and counseling about partner notification to persons seeking treatment along with public health education through the media and the use of notifiable disease registries and partner tracing operations.

[1] In this section, the term STI is used to refer to sexually transmitted infections exclusive of HIV.

11.3.2 Awareness of STIs

All adults interviewed were asked if they had heard about infections apart from AIDS that are transmitted through sexual contact (Table 11.11). Thirty-nine percent of women and 64 percent of men are aware of non-HIV STIs. Awareness increases significantly with both age and level of education, and is higher in urban areas than rural areas for both sexes. Never-married persons who have never had sex are less likely than persons in other marital status categories to report having heard about STIs. In all regions except Tashkent City (where, at 90 percent, awareness of STIs is high among both women and men) men are about twice as likely as women (58-64 percent versus 30-38 percent, respectively) to be aware of STIs (Figure 11.2).

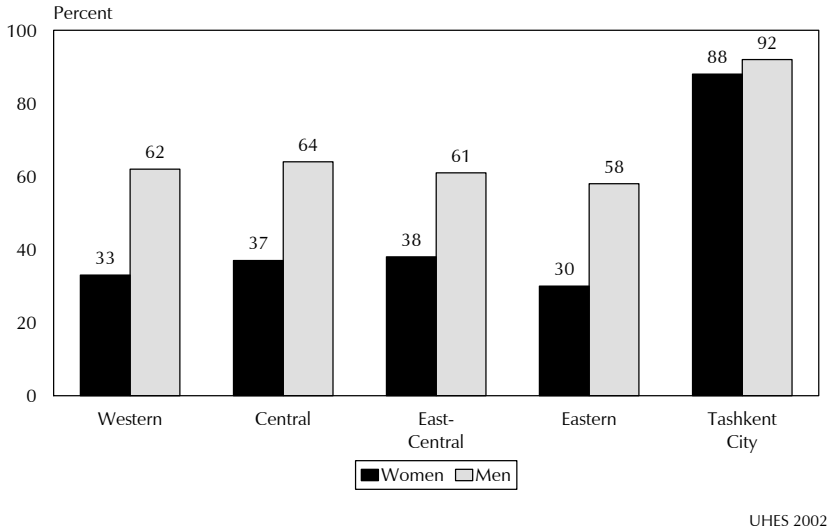
Table 11.11 Awareness of STIs: women and men

Percentage of women and men who have ever heard of sexually transmitted infections (STIs), by background characteristics, Uzbekistan 2002

Background characteristic	Women		Men	
	Knows STIs	Number	Knows STIs	Number
Age				
15-19	20.9	1,091	37.2	380
20-24	31.8	1,049	52.8	388
25-29	43.6	809	66.8	399
30-39	49.1	1,421	72.7	550
40-49	49.3	1,092	78.3	423
50-59	na	na	74.5	193
Marital status				
Never married	24.6	1,421	43.4	692
Ever had sex	75.1	17	74.5	132
Never had sex	23.9	1,404	36.1	560
Married or living together	42.8	3,720	72.0	1,600
Divorced/separated/widowed	65.4	322	86.2	40
Residence				
Urban	55.7	2,175	75.3	916
Rural	28.6	3,288	56.3	1,417
Region				
Western	33.0	699	62.0	314
Central	37.2	1,311	64.4	510
East-Central	37.5	1,431	61.4	646
Eastern	29.8	1,518	58.3	665
Tashkent City	88.1	503	91.5	198
Oversampled areas				
Karakalpakstan	32.8	387	65.2	185
Freghana	25.2	632	89.7	259
Education				
Primary/middle	21.2	578	41.3	188
Secondary	30.5	3,189	58.6	1,311
Secondary special	56.6	1,122	67.6	470
Higher	73.6	574	89.1	364
Total	39.4	5,463	63.8	2,333

na = Not applicable

Figure 11.2 **Percentage of Women and Men who Have Heard About Sexually Transmitted Infections (STIs) by Region**



The lower STI awareness level among women is an important finding because women are more susceptible than men to serious health consequences of certain untreated STIs and can transmit such infections in utero or during delivery to their infants.

Adults who had ever had sex were asked if they had experienced an abnormal genital discharge or a genital sore/ulcer in the past 12 months and if so, whether they had sought advice or treatment for the most recent episode and from what sources. As shown in Table 11.12, 7 percent of sexually experienced women report having had an abnormal genital discharge in the past 12 months, and 1 percent report having had a genital sore or ulcer. Less than 1 percent of men report having had either of these symptoms over the same time period. Among women, the percent reporting a symptom by age group is highest during the peak reproductive ages of 20-39, and is higher in the Western and Central regions compared to other regions.

It is well documented that women who are infected with an STI are more likely than men to be symptomatic. Hence, the miniscule number of men in Uzbekistan reporting a recent occurrence of the two most common symptoms of STIs, abnormal genital discharge or genital sore/ulcer, should not be construed as evidence of a lower prevalence of STIs among men than women.

In this survey, there was an insufficient number of men self-reporting STI symptoms in the past year to permit a description of their responses to these events. Among women, only half sought advice or treatment from a health provider. Use of a drug to treat an STI without a clinical diagnosis is inadvisable, since a number of different STIs present with the same symptoms but require different drugs, and also because antimicrobial resistance in populations increases when commonly used antibiotics are taken inappropriately.

Table 11.12 Self-reporting of sexually transmitted infections and STI symptoms: women and men

Among women and men who have ever had sex, the percentage who report having had an STI and/or STI symptoms in the 12 months preceding the survey, by background characteristics, Uzbekistan 2002

	Percentage of women with:					Percentage of men with:				
Background characteristic	An STI	Genital discharge	Genital sore/ ulcer	STI/ discharge/ genital sore/ ulcer	Number	An STI	Genital discharge	Genital sore/ ulcer	STI/ discharge/ genital sore/ ulcer	Number
Age										
15-19	0.0	3.7	0.0	3.7	77	0.0	0.0	0.0	0.0	39
20-24	0.2	7.4	1.2	7.9	733	0.4	0.7	0.0	0.7	203
25-29	0.2	8.3	1.9	8.6	771	0.5	1.7	0.7	1.7	367
30-39	0.4	8.6	1.1	8.9	1,396	0.0	0.0	0.0	0.0	548
40-49	0.2	4.3	0.5	4.3	1,077	0.0	0.2	0.0	0.2	423
50-59	na	na	na	na	na	0.0	0.1	0.0	0.1	193
Residence										
Urban	0.4	7.5	1.1	7.8	1,670	0.1	0.7	0.4	0.7	714
Rural	0.2	6.8	1.0	7.0	2,384	0.2	0.3	0.0	0.3	1,059
Region										
Western	0.5	11.7	1.6	12.5	484	0.4	0.7	0.0	0.7	219
Central	0.0	13.0	2.1	13.3	968	0.0	0.4	0.0	0.4	402
East-Central	0.1	3.1	0.4	3.2	1,065	0.4	0.4	0.0	0.4	504
Eastern	0.4	4.6	0.7	4.7	1,145	0.0	0.5	0.5	0.5	497
Tashkent City	0.7	4.7	0.6	5.0	393	0.0	0.6	0.0	0.6	150
Oversampled areas										
Karakalpakstan	0.7	16.1	1.2	16.6	264	0.7	1.3	0.0	1.3	122
Freghana	0.9	8.4	1.4	8.7	501	0.0	0.0	0.0	0.0	205
Education										
Primary/middle	0.1	8.3	0.8	8.8	340	0.0	0.0	0.0	0.0	105
Secondary	0.3	6.9	1.2	7.1	2,391	0.2	0.4	0.0	0.4	972
Secondary special	0.2	7.2	0.9	7.6	853	0.3	1.3	0.7	1.3	355
Higher	0.6	6.8	1.2	6.9	469	0.0	0.1	0.0	0.1	340
Total	0.3	7.1	1.1	7.3	4,054	0.2	0.5	0.1	0.5	1,773

na = Not applicable

Of 297 women with an STI symptom in the past 12 months, slightly more than half (54 percent) sought advice or treatment from any source during the most recent episode. The most commonly reported sources were a clinic or hospital (53 percent) and a shop or pharmacy (30 percent) (Figure 11.3). During these same episodes, 69 percent of the women reported having told their partner(s) about the symptom, but slightly more than half (52 percent) did not take any other action to protect their partner(s) from infection. The most commonly reported actions were taking medication (36 percent) and abstaining from sex (29 percent) (Figure 11.4). Since only 9 men reported a symptom, information pertaining to these episodes is not presented or discussed.

Figure 11.3 **Percentage of Women with an STI Symptom in the Past 12 Months by Source of Treatment or Advice**

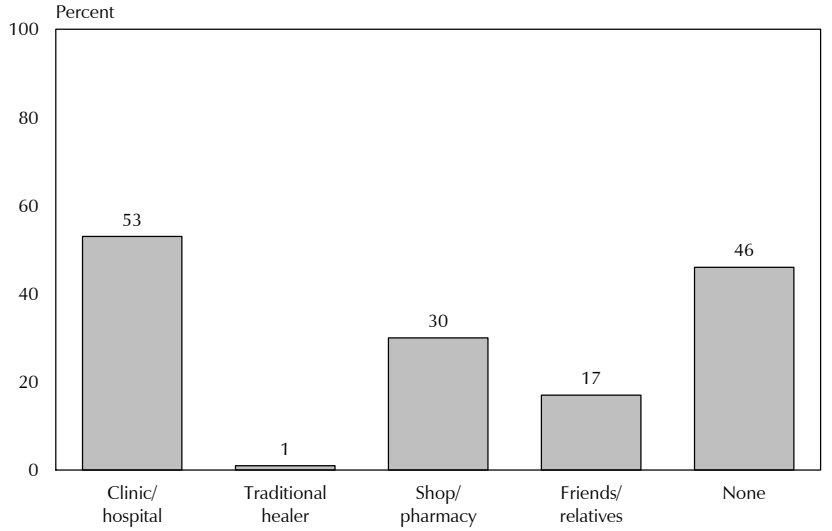


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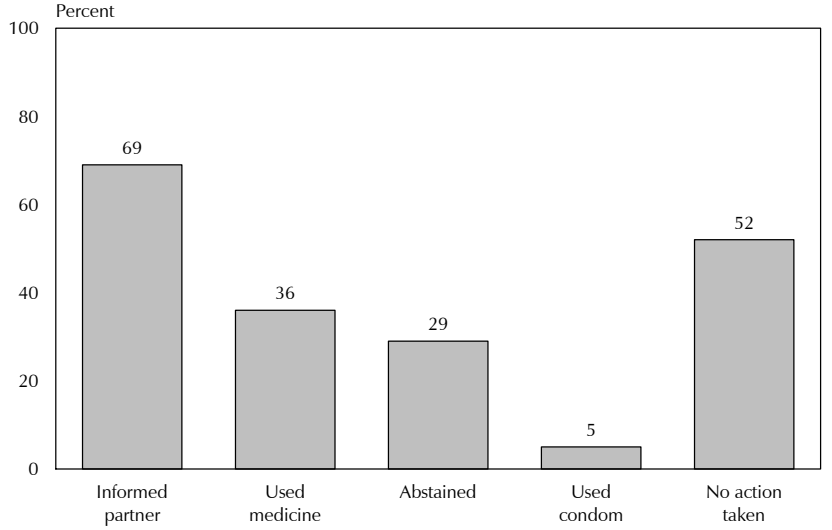
Figure 11.4 **Percentage of Women with an STI Symptom in the Past 12 Months Who Took Specific Actions**



UHES 2002

CHRONIC DISEASES AND RISK FACTORS 12

G. Semenov and R.I. Usmanov

As in most countries of the world, cardiovascular diseases are the leading cause of death in Uzbekistan, where they accounted for 65 percent of all deaths in 2001. Mortality rates for cardiovascular diseases differ between males and females. The age-standardized cardiovascular mortality rate for males exceeded that for females by 26 percent in 2001 (842 versus 669 per 100,000). For persons age 0-64 years, the rate for males was 70 percent greater than the rate for females (243 versus 143 per 100,000) (WHO, 2003a).

One of the objectives of the survey was to provide information on cardiovascular risk factors (hypertension, smoking, physical activity levels, and nutritional status), based on data representative of the general population as opposed to clinic-based data.

12.1 HYPERTENSION

12.1.1 Measurement Procedures

The Women's and Men's Questionnaires for the 2002 Uzbekistan Health Examination Survey (UHES) included questions to determine if the respondent had been diagnosed as hypertensive and if she/he was taking medication to control blood pressure. Respondents were also asked if their blood pressure could be measured as part of the survey. Among the 5,588 women and 2,447 men eligible for blood pressure measurement, response rates were 98 and 95 percent, respectively.

Female and male interviewers, who were nurses and doctors, made the blood pressure measurements. Prior to fieldwork, they were given refresher training in measurement procedures in nonclinical settings using sphygmomanometers[1] and stethoscopes according to the protocols of Westat Inc. (1993). Two measurements of systolic and diastolic blood pressure (measured in millimeters of mercury, mmHg) were made with an interval of at least 10 minutes between measurements.

The second measurements were used to classify individuals with respect to hypertension according to internationally recommended categories (WHO, 1999b).

Level of hypertension	Systolic (mmHg)	Diastolic (mmHg)
Optimal	<120	<80
Normal	120-129	80-84
High-normal	130-139	85-89
Stage 1, mildly elevated	140-159	90-99
Stage 2, moderately elevated	160-179	100-109
Stage 3, severely elevated	180+	110+

Individuals were classified as hypertensive if taking antihypertensive drugs, if their systolic blood pressure was ≥ 140 mmHg, or if their diastolic blood pressure was ≥ 90 mmHg.

[1] Mercury safe, TRIMLINEtm Mercurial Desk Sphygmomanometer.

12.1.2 Levels of Hypertension

Tables 12.1.1 and 12.1.2 show hypertension prevalence rates for women and men. Among women, 8 percent were classified as hypertensive. Of these women, 3 percent were taking antihypertensive medication, 4 percent were stage 1 hypertensive, 1 percent stage 2, and 0.4 percent stage 3.

Table 12.1.1 Hypertension among women

Prevalence of hypertension among women and percent distribution of women by blood pressure status, according to background characteristics, Uzbekistan 2002

		Classification of blood pressure									
Bcckground characteristic	Prevalence of hyper-tension[1]	Optimal	Normal	High normal	Blood pressure less than 140/90 mmHg with medication	Mildly elevated (stage 1)	Moder-ately elevated (stage 2)	Severely elevated (stage 3)	Missing	Total	Number
Age											
15-19	0.9	85.2	12.0	1.6	0.1	0.7	0.1	0.1	0.3	100.0	1,091
20-24	2.0	85.8	10.6	1.7	1.0	0.9	0.0	0.0	0.0	100.0	1,049
25-29	2.9	83.5	10.9	2.5	0.9	1.8	0.3	0.0	0.2	100.0	809
30-34	5.4	77.3	14.4	3.0	2.1	2.8	0.4	0.1	0.0	100.0	734
35-39	10.8	63.9	19.3	6.0	5.1	4.3	1.3	0.2	0.0	100.0	687
40-44	18.1	55.2	20.2	6.3	7.3	7.7	2.1	1.0	0.3	100.0	626
45-49	29.4	43.7	17.4	9.5	8.2	13.4	4.9	2.9	0.0	100.0	466
Residence											
Urban	7.1	76.7	12.4	3.7	2.9	3.1	0.6	0.4	0.2	100.0	2,175
Rural	8.0	72.8	15.4	3.7	2.7	3.8	1.1	0.4	0.0	100.0	3,288
Region											
Western	8.7	66.9	17.1	7.3	3.7	3.6	0.8	0.6	0.0	100.0	699
Central	10.0	67.2	18.4	4.4	4.3	4.2	0.9	0.6	0.0	100.0	1,311
East-Central	8.5	75.6	11.4	4.3	1.4	4.9	1.7	0.4	0.1	100.0	1,431
Eastern	5.7	80.4	12.6	1.0	3.0	2.2	0.4	0.0	0.3	100.0	1,518
Tashkent City	3.4	81.5	11.9	3.3	1.0	1.4	0.3	0.7	0.0	100.0	503
Oversampled areas											
Karakalpakstan	6.1	68.2	17.9	7.7	1.2	3.5	0.6	0.8	0.0	100.0	387
Ferghana Oblast	5.0	77.6	15.9	1.5	2.8	2.2	0.0	0.1	0.0	100.0	632
Education											
Primary/middle	6.5	76.3	12.7	4.5	2.4	3.1	0.4	0.6	0.0	100.0	578
Secondary	7.5	74.0	14.8	3.5	2.3	3.6	1.2	0.5	0.2	100.0	3,189
Secondary special	6.6	75.8	13.5	3.9	3.0	2.9	0.5	0.3	0.2	100.0	1,122
Higher	11.5	71.1	13.5	3.9	6.0	4.7	0.6	0.3	0.0	100.0	574
Ethnic group											
Uzbek	7.4	74.5	14.2	3.8	2.7	3.4	0.9	0.3	0.1	100.0	4,669
Other	9.1	73.4	13.9	3.2	3.2	4.1	0.9	0.9	0.4	100.0	794
BMI											
<18.5	2.7	83.6	11.0	1.5	1.0	1.7	0.0	0.0	1.1	100.0	298
18.5-24.9	4.4	79.2	13.1	3.2	2.1	1.9	0.3	0.2	0.1	100.0	3,597
≥25	16.4	60.9	17.2	5.5	5.0	7.8	2.6	1.0	0.0	100.0	1,512
Missing	4.0	76.1	18.0	1.9	0.9	2.2	0.0	1.0	0.0	100.0	56
Total	7.6	74.3	14.2	3.7	2.8	3.5	0.9	0.4	0.1	100.0	5,463

Note: When systolic and diastolic blood pressures fall into different categories, the higher category determines the individual's status.
[1] Blood pressure ≥140/90 mmHg or currently taking antihypertensive medication

Table 12.1.2 Hypertension among men

Prevalence of hypertension among men and percent distribution of men by blood pressure status, according to background characteristics, Uzbekistan 2002

Bcckground characteristic	Prevalence of hyper-tension[1]	Classification of blood pressure: Optimal	Normal	High normal	Blood pressure less than 140/90 mmHg with medication	Mildly elevated (stage 1)	Moder-ately elevated (stage 2)	Severely elevated (stage 3)	Missing	Total	Number
Age											
15-19	2.1	76.3	18.7	2.9	0.4	1.5	0.1	0.0	0.0	100.0	380
20-24	4.2	61.7	29.8	3.7	0.7	3.3	0.2	0.0	0.6	100.0	388
25-29	3.6	51.7	37.8	6.9	0.5	2.7	0.4	0.0	0.1	100.0	399
30-34	5.8	46.3	39.6	8.2	0.0	5.5	0.3	0.0	0.0	100.0	293
35-39	6.5	43.5	43.3	6.7	0.8	4.1	0.0	1.6	0.0	100.0	256
40-44	15.4	26.9	44.3	12.5	2.2	11.2	1.9	0.1	1.0	100.0	227
45-49	20.5	19.8	42.5	17.2	0.9	14.2	5.4	0.1	0.0	100.0	196
50-54	24.8	24.0	37.4	13.8	5.5	15.8	3.3	0.2	0.0	100.0	140
55-59	19.9	18.4	43.5	18.2	0.8	16.5	0.5	2.1	0.0	100.0	54
15-49	6.9	50.6	35.0	7.3	0.7	5.1	0.9	0.2	0.2	100.0	2,140
Residence											
Urban	8.9	44.9	35.6	10.3	1.4	6.2	1.1	0.2	0.3	100.0	916
Rural	7.8	50.5	35.1	6.4	0.8	5.9	0.9	0.3	0.2	100.0	1,417
Region											
Western	13.4	43.8	31.7	11.1	3.1	7.5	2.5	0.3	0.0	100.0	314
Central	9.4	60.2	23.6	6.8	0.0	7.3	1.6	0.5	0.0	100.0	510
East-Central	6.4	46.1	39.1	7.8	0.0	6.2	0.0	0.3	0.6	100.0	646
Eastern	5.5	46.8	42.0	5.6	1.6	3.1	0.8	0.0	0.1	100.0	665
Tashkent City	12.3	37.0	36.6	14.0	1.5	9.4	0.9	0.5	0.1	100.0	198
Oversampled areas											
Karakalpakstan	13.9	30.9	37.8	17.4	0.8	8.9	3.7	0.4	0.0	100.0	185
Ferghana Oblast	7.9	41.5	43.7	6.6	0.7	5.8	1.3	0.0	0.3	100.0	259
Education											
Primary/middle	6.2	61.0	27.8	4.2	0.0	6.1	0.2	0.0	0.8	100.0	188
Secondary	6.9	50.2	35.8	7.1	0.9	4.8	1.1	0.0	0.0	100.0	1,311
Secondary special	9.9	47.1	34.2	8.6	1.3	6.8	1.2	0.6	0.2	100.0	470
Higher	12.1	36.5	38.9	12.0	1.4	9.2	0.7	0.7	0.6	100.0	364
Ethnic group											
Uzbek	7.6	50.0	34.9	7.3	0.9	5.7	0.8	0.2	0.2	100.0	2,011
Other	12.3	37.8	38.1	11.8	1.8	8.0	2.1	0.3	0.0	100.0	322
BMI											
<18.5	2.5	76.3	17.8	3.4	0.3	2.2	0.0	0.0	0.0	100.0	82
18.5-24.9	5.8	54.1	34.0	6.2	0.7	4.3	0.7	0.1	0.0	100.0	1,482
≥25	14.4	33.0	40.4	11.9	1.8	10.2	1.7	0.7	0.3	100.0	725
Missing	1.9	53.2	30.4	9.1	0.0	1.9	0.0	0.0	5.4	100.0	44
Total	8.3	48.3	35.3	7.9	1.0	6.0	1.0	0.3	0.2	100.0	2,333

Note: When systolic and diastolic blood pressures fall into different categories, the higher category determines the individual's status.
[1] Blood pressure ≥140/90 mmHg or currently taking antihypertensive medication

Among men, 8 percent were also classified as hypertensive. One percent of these men were classified with hypertension controlled by medication, 6 percent were stage 1 hypertensive, 1 percent stage 2, and 0.3 percent stage 3.

The Uzbekistan statistics can be placed in context by reference to strictly comparable international statistics.[2] A literature review found comparable statistics for the age range 35-44 for the United States (NCHS, 2002) and China (Gu et al., 2002). Uzbekistan hypertensive rates over this age range are 14 percent for women and 11 percent for men. The rates for the United States (19 percent for both women and men) substantially exceed those for Uzbekistan. In the case of China, the rate for women (11 percent) is not greatly different from that for Uzbekistan, but the rate for men is substantially higher (17 percent).

12.1.3 Differentials

Comparison of gender-specific rates of hypertension, which are restricted to the same age interval (age 15-49), indicates little difference between women (8 percent) and men (7 percent) (Tables 12.1.1 and 12.1.2). However, differences exist in the distributions between women and men across the three categories of optimal, normal, and high-normal blood pressure categories. Seventy-four percent of women recorded optimal blood pressure levels, while 18 percent were in the normal or high-normal range. The distribution for men is less favorable, with 51 percent in the optimal range and 42 percent in the normal or high-normal range.

Epidemiological studies have shown that hypertension is positively associated with age, a finding confirmed by the 2002 UHES. For women, rates of hypertension increased from about 2 percent (women under age 25) to 29 percent (age 45-49). Similarly for men, the rates increased about tenfold from 2 percent (age 15-19) to 20 percent and higher (age 45-59). The age-specific rates of hypertension were lower for women than for men below age 35 and higher at older ages. This switch in the gender differential was also found in a recent survey in Pakistan (Pakistan Medical Research Council, 1998).

There were notable differences in the prevalence of hypertension by level of education; rates were higher among women with higher education (12 percent) than among those with less education (7 or 8 percent). The same pattern was found among men.

Differentials in hypertension rates by urban-rural residence were modest for both men and women. However, there was a notable difference in the distributions of urban and rural men between the optimal and high-normal categories. There were relatively fewer urban than rural men in the optimal category (45 versus 51 percent) and relatively more urban than rural men in the high-normal category (10 versus 6 percent). One puzzling finding is the relatively low rate of hypertension among women in Tashkent City (3 percent) compared with the rate for men (12 percent).

Significant differences in the prevalence of hypertension were found among respondents classified by their body mass index (BMI). As expected, hypertension levels were higher among overweight/obese subjects compared with those of normal weight. The hypertensive rate among overweight/obese women (BMI $\geq$ 25) was 16 percent as compared with 3 and 4 percent, respectively, among women who were thin (BMI < 18.5) or normal weight (BMI 18.5-24.9). The same pattern was found in men.

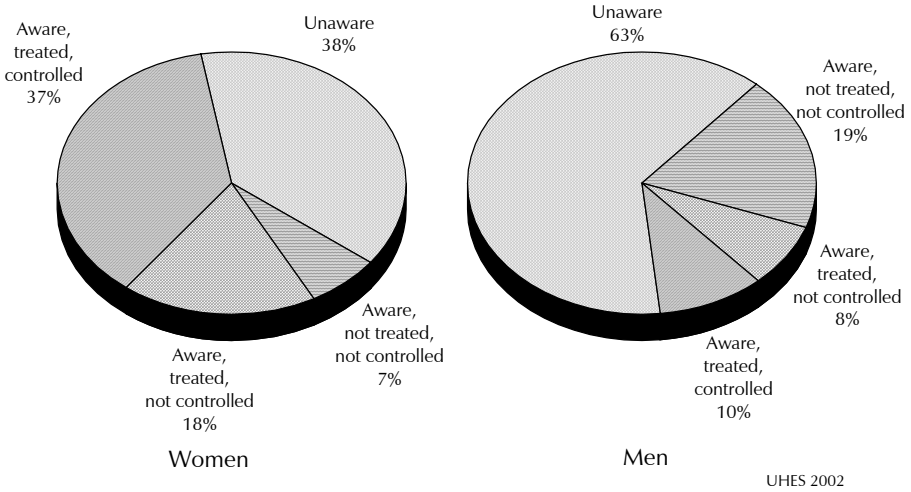
12.1.4 Awareness and Control of Hypertension

Figure 12.1 shows awareness of hypertension and treatment status among hypertensive women and men age 15-49. The majority of hypertensive women reported that they were aware of their condition (62 percent). A substantial proportion was taking medication and had controlled their blood pressure (37 percent), and another group was being treated but still had elevated blood pressure (18 percent). Seven percent were aware of their condition but were not being treated, and 38 percent were unaware of their condition.

[2] General population statistics, pertaining to a specific age range, which classify persons as hypertensive if they were taking antihypertensive medication or if their blood pressure was $\geq$ 140/90 mmHg.

Compared with women, hypertensive men were much less aware of their condition. Relatively few hypertensive men had brought their blood pressure under control through treatment (10 percent) and another 8 percent were being treated for hypertension but still had elevated blood pressure. Nineteen percent were aware that they had elevated blood pressure but were not being treated. Most significant was the finding that the majority of hypertensive men (63 percent) were unaware of their condition.

Figure 12.1 **Awareness of Hypertension and Treatment Status among Hypertensive Women and Men Age 15-49**



12.1.5 Summary

Prevalence rates of hypertension in Uzbekistan, among women age 15-49 and men age 15-59 were 7 to 8 percent. However, a significantly greater proportion of women (74 percent) than men (48 percent) had a blood pressure reading in the optimal range (< 120/80 mmHg), indicating a clear female health advantage.

In general, rates of hypertension were positively associated with age, education, urban residence, and being overweight/obese.

Relatively more hypertensive women than men were aware of their condition (62 versus 37 percent) and relatively more women than men had controlled their condition with medication (37 versus 10 percent). A first step toward bringing hypertension under control is awareness by individuals of their condition and its implications in terms of premature disability and death. Population education concerning the adverse consequences of hypertension and promotion of blood pressure measurement, particularly targeted at older individuals and men, is an area in which health programs that could be strengthened.

12.2 TOBACCO USAGE

Smoking is a known risk factor for cardiovascular disease, causes lung and other forms of cancer, and contributes to the severity of pneumonia, emphysema, and chronic bronchitis. According to the World Health Organization (WHO), as many as 20 percent of all deaths among middle-aged men in Uzbekistan in the early 1990s were attributable to tobacco use (Peto et al., 1994). Because smoking is an acquired behavior, which is chosen by an individual, all morbidity and mortality due to the smoking are preventable.

Since the mid-1990s, a number of tobacco control measures have been put into effect in Uzbekistan. Each cigarette pack must carry a health warning. The sale of cigarettes to minors under 18 years old is prohibited. The sale of cigarettes without filters and cigarettes containing more than 1 milligram of nicotine and 15 milligrams of tar are prohibited. Advertising of tobacco products is banned in cinemas and in the mass media.

12.2.1 Use of Tobacco Products

In the 2002 UHES, respondents were asked a series of questions about use of cigarettes. They were asked if they had ever used cigarettes (smoked at least 100 cigarettes), if they had ever smoked regularly, if they currently smoked and, if so, approximately how many cigarettes they smoke per day. Respondents were also asked if they ever used naswhy (a homemade chewing tobacco) and if they ever used a pipe or smoked cigars.

Table 12.2.1 indicates that, among women, the use of tobacco products is not common. A little more than 1 percent of women reported ever use of cigarettes or ever smoking regularly. Less than 1 percent of women reported that they were current smokers. Although, current smoker rates were low, there were notable differentials. Current use rates exceeded the national rates in urban areas (2 percent), in Tashkent city (3 percent), and among non-Uzbek women (5 percent). Less than 0.5 percent of women reported ever use of naswhy or pipe/cigars.

Table 12.2.1 Tobacco use: women

Percentage of women who have ever used tobacco products, by type of tobacco, pattern of use, and background characteristics, Uzbekistan HES 2002

	Cigarettes					
Bcckground characteristic	Ever used	Ever smoked regularly	Current smoker	Ever used pipes or cigars	Ever used naswhy[1]	Number
Age						
15-19	0.7	0.4	0.0	0.2	0.4	1,091
20-24	1.0	0.7	0.6	0.5	0.0	1,049
25-29	2.0	1.7	1.2	0.5	0.3	809
30-34	1.2	1.1	0.9	0.0	0.0	734
35-39	1.3	1.3	1.1	0.3	0.3	687
40-44	1.8	1.8	1.6	0.2	0.7	626
45-49	2.3	2.3	1.3	0.9	2.0	466
Residence						
Urban	2.9	2.6	2.1	0.3	0.4	2,175
Rural	0.3	0.2	0.0	0.3	0.4	3,288
Region						
Western	1.0	0.9	0.4	0.2	0.5	699
Central	1.6	1.5	1.2	0.3	0.8	1,311
East-Central	1.8	1.3	0.9	0.4	0.6	1,431
Eastern	0.2	0.2	0.1	0.3	0.0	1,518
Tashkent City	3.5	3.5	3.1	0.2	0.0	503
Oversampled areas						
Karakalpakstan	0.8	0.7	0.4	0.1	0.2	387
Ferghana Oblast	0.0	0.0	0.0	0.3	0.1	632
Education						
Primary/middle	1.0	1.0	1.0	0.3	1.5	578
Secondary	1.1	1.0	0.6	0.2	0.3	3,189
Secondary special	2.0	1.7	1.5	0.5	0.4	1,122
Higher	1.6	1.2	1.1	0.5	0.3	574
Ethnic group						
Uzbek	0.6	0.5	0.3	0.3	0.4	4,669
Other	5.7	5.0	4.5	0.5	0.4	794
Total	1.3	1.2	0.9	0.3	0.4	5,463

Notes:
Ever used cigarettes: smoked at least 100 cigarettes in lifetime
Ever smoked regularly: smoked at least 100 cigarettes in lifetime and self-reported smoked regularly at any time
Current smoker: ever smoked regularly and self-reported smoking at the time of the survey
Ever used naswhy: any reported use of naswhy
Ever used cigars/pipes: smoked at least 20 cigars or pipes of tobacco
[1] Naswhy is a homemade mix of tobacco, butter, and chalk (slaked lime).

The use of tobacco products is much higher among men (Table 12.2.2). Forty-one percent of men reported ever smoking cigarettes and 32 percent reported ever smoking regularly. Approximately one in every five men (21 percent) reported that they currently smoked. A significant proportion of men also reported having ever used naswhy (38 percent), while only 1 percent reported ever use of pipe/cigars.

Table 12.2.2 Tobacco use: men

Percentage of men who have ever used tobacco products, by type of tobacco, pattern of use, and background characteristics, Uzbekistan HES 2002

	Cigarettes					
Bcckground characteristic	Ever used	Ever smoked regularly	Current smoker	Ever used pipes or cigars	Ever used naswhy[1]	Number
Age						
15-19	7.0	4.3	3.4	0.5	13.8	380
20-24	30.4	21.5	16.2	0.3	35.3	388
25-29	43.4	30.5	21.5	1.1	46.9	399
30-34	52.1	42.8	24.5	1.9	52.0	293
35-39	59.1	49.7	28.6	0.7	51.9	256
40-44	54.5	45.8	33.6	0.5	42.4	227
45-49	55.3	44.0	29.5	3.1	32.2	196
50-54	49.0	43.4	21.0	2.7	33.9	140
55-59	59.4	56.0	32.0	6.8	28.3	54
Residence						
Urban	46.9	38.3	27.9	2.2	26.7	916
Rural	37.0	28.6	16.4	0.7	45.2	1,417
Region						
Western	33.3	28.2	14.1	0.8	48.4	314
Central	40.2	25.7	14.7	1.4	42.7	510
East-Central	45.7	36.5	19.0	1.2	35.0	646
Eastern	38.6	32.2	25.4	0.4	40.8	665
Tashkent City	46.9	43.7	38.8	4.7	8.5	198
Oversampled areas						
Karakalpakstan	41.4	34.8	13.8	0.5	54.7	185
Ferghana Oblast	32.6	32.6	29.1	0.0	33.3	259
Education						
Primary/middle	30.0	25.5	16.1	2.5	26.9	188
Secondary	40.2	30.9	19.9	1.0	42.7	1,311
Secondary special	42.8	36.7	22.7	1.2	36.7	470
Higher	46.4	36.0	24.5	1.7	27.7	364
Ethnic group						
Uzbek	39.2	30.6	19.4	1.1	38.3	2,011
Other	51.3	43.4	30.2	2.3	35.3	322
Total	40.9	32.4	20.9	1.3	37.9	2,333

Notes:
Ever used cigarettes: smoked at least 100 cigarettes in lifetime
Ever smoked regularly: smoked at least 100 cigarettes in lifetime and self-reported smoked regularly at any time
Current smoker: ever smoked regularly and self-reported smoking at the time of the survey
Ever used naswhy: any reported use of naswhy
Ever used cigars/pipes: smoked at least 20 cigars or pipes of tobacco
[1] Naswhy is a homemade mix of tobacco, butter, and chalk (slaked lime).

There are substantial differences by background characteristics in current use of cigarettes by men. Current use is lowest among men age 15-19 (3 percent), higher among men age 20-24 (16 percent), and remains relatively stable from age 25-29 to 55-59 (between 22 and 34 percent). Rates of current use are relatively high in urban areas (28 percent), in Tashkent City (39 percent), and among men of non-Uzbek ethnicity (30 percent).

Table 12.3 shows the percent distribution of men who currently smoke cigarettes by three categories of daily usage (light, less than 5 cigarettes per day; moderate, between 5 and 20 per day; and heavy, more than 20 per day).[3] About one-quarter of men who smoke reported light daily usage (22 percent), about half reported moderate usage (53 percent), and somewhat less than one-quarter reported heavy usage (17 percent). There are substantial differences in the incidence of heavy smoking by background characteristics. Among current smokers, heavy smoking is particularly prevalent among older men (30 to 40 percent), men residing in Tashkent City (32 percent), and non-Uzbek men (26 percent).

Among current smokers, the habit of smoking was initiated at about 20 years of age (median 19.8 years). The median age of initiating smoking does not differ greatly by background characteristics.

Table 12.3 Daily cigarette use among men

Among men who currently smoke cigarettes,, the percent distribution by the number of cigarettes smoked daily and the median age of first regular use of cigarettes, according to background characteristics, Uzbekistan HES 2002

Background characteristic	Daily use of cigarettes				Total	Number of current smokers	Median age at first regular use of cigarettes
	Light (<5)	Moderate (5-19)	Heavy (20+)	Not stated			
Age							
15-19	45.9	33.7	1.9	18.4	100.0	13	17.3
20-24	33.1	46.6	3.2	17.1	100.0	63	18.4
25-29	30.0	53.4	7.9	8.6	100.0	86	20.1
30-34	25.6	52.6	14.0	7.8	100.0	72	20.0
35-39	14.9	68.4	9.7	7.0	100.0	73	20.4
40-44	16.6	50.8	31.2	1.4	100.0	76	20.1
45-49	13.5	53.9	28.0	4.6	100.0	58	21.1
50-54	13.0	41.5	33.4	12.1	100.0	29	19.6
55-59	15.1	44.5	40.4	0.0	100.0	17	18.2
Residence							
Urban	18.3	52.7	23.1	5.8	100.0	256	19.0
Rural	26.6	52.9	10.3	10.2	100.0	232	20.2
Region							
Western	42.9	39.0	12.3	5.8	100.0	44	19.0
Central	26.6	58.3	12.9	2.2	100.0	75	20.1
East-Central	24.4	52.4	14.5	8.7	100.0	123	19.9
Eastern	18.2	53.5	15.0	13.4	100.0	169	19.9
Tashkent City	11.8	54.5	32.2	1.4	100.0	77.0	18.9
Oversampled areas							
Karakalpakstan	38.1	47.3	11.1	3.4	100.0	26	18.8
Ferghana Oblast	35.6	39.4	15.5	9.5	100.0	75	20.3
Education							
Primary/middle	11.5	80.6	7.0	0.8	100.0	30	19.3
Secondary	26.1	49.6	16.1	8.2	100.0	261	19.7
Secondary special	17.9	54.9	18.6	8.6	100.0	107	19.8
Higher	20.0	50.1	21.4	8.6	100.0	89	20.2
Ethnic group							
Uzbek	23.3	52.3	14.9	9.4	100.0	390	20.0
Other	18.1	54.7	25.5	1.8	100.0	97	18.7
Total	22.3	52.8	17.0	7.9	100.0	488	19.8

Notes:
Current smoker: self-reported ever smoked regularly and self-reported smoking at the time of the survey

[3] Comparable statistics are not shown for women because of the relatively small number of women in the survey that reported that they were current smokers.

12.2.2 Cessation of Smoking

As indicated in Table 12.2.2, 32 percent of men reported that they were regular smokers at some point in their lives. Table 12.4 presents information on the cessation of smoking among these 756 men. Among these men, approximately one-third (36 percent) had quit smoking at the time of the survey. Smoking cessation rates tended to be higher among men over age 30 (more than 40 percent in several age groups) and men residing in rural areas (43 percent). The lowest rates of smoking cessation were among men residing in Tashkent City (11 percent) and those residing in the Eastern region (21 percent). The relative high cessation rates among older men is no doubt related to the long period of time since starting smoking during which they could have quit, but it may also be due to health problems arising from extended use of cigarettes.

The duration of time that a former smoker has refrained from smoking is an indication of his success in permanently quitting. Among men who ever smoked regularly, at the time of the survey, 22 percent had abstained from smoking for a year or longer.

Table 12.4 Smoking cessation among men

Among men who have ever smoked regularly, the percentage who have quit smoking, and the percentage who have quit for a year or longer, by background characteristics, Uzbekistan HES 2002

Background characteristic	Percentage that have quit smoking	Percentage that have quit for a year or longer	Number of men who have ever smoked regularly
Age			
15-19	*	*	17
20-24	24.9	17.3	84
25-29	29.6	17.9	122
30-34	42.7	29.1	126
35-39	42.4	21.5	127
40-44	26.5	19.8	104
45-49	33.0	19.2	86
50-54	51.6	28.0	61
55-59	(42.8)	(34.7)	30
Residence			
Urban	27.1	20.1	351
Rural	42.8	23.9	405
Region			
Western	50.1	45.9	89
Central	42.7	15.9	131
East-Central	48.0	27.0	236
Eastern	21.1	15.5	214
Tashkent City	11.2	10.3	86
Oversampled areas			
Karakalpakstan	60.4	56.4	65
Ferghana Oblast	10.7	8.7	85
Education			
Primary/middle	(37.1)	(14.4)	48
Secondary	35.4	24.3	404
Secondary special	38.2	18.6	172
Higher	31.8	23.0	131
Ethnic group			
Uzbek	36.7	21.4	616
Other	30.3	25.5	140
Total	35.5	22.2	756

Notes:
Ever smoked regularly: smoked at least 100 cigarettes during lifetime and self-reported smoked regularly at anytime
Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

12.2.3 Summary

A positive finding from the 2002 UHES is that among women age 15-49 the proportion of current smokers is small (less than 1 percent). Although smoking among women does not appear to be a pressing public health issue at this time, efforts should be made to discourage women from smoking and to encourage smoking women to quit. It is highly desirable for health reasons that cigarette smoking does not become popular among the women of Uzbekistan. The possibility of an increasing use of cigarettes by women should be closely monitored so that appropriately targeted health education programs can be initiated in a timely manner, should that become necessary.

Smoking rates among men age 15-59 are substantially higher than among women. One-fifth of men (21 percent) reported that they are current smokers. Men in urban areas, in Tashkent City, and men of non-Uzbek ethnicity have the highest current smoker rates and are more likely than other groups to report heavy use of cigarettes (more than 20 cigarettes per day). Most current smokers began regular use of cigarettes at about age 20.

Comparison of international statistics on prevalence of smoking is difficult because of differences in definitions and age groups in the published results. Nevertheless, the current smoker rate for men in the 2002 UHES (21 percent) is not high relative to rates from other studies in Eastern and Western Europe (WHO, 2003b).

Health education programs that promote the benefits of not starting smoking as well as those of stopping should be targeted toward men. The life expectancy of individuals who quit smoking before age 35 does not differ significantly from that of lifelong nonsmokers (Doll et al., 1994).

12.3 Self-reported Chronic Conditions

The 2002 UHES asked all adult respondents about their lifetime experience with chronic illnesses. Respondents were asked separate questions to determine if they had ever suffered from five illnesses: asthma, diabetes, chronic bronchitis or emphysema, chronic depression, and goiter. Respondents were also asked if during their lifetime they had any other conditions or illnesses that had persisted for three months or longer. For each reported illness, respondents were asked whether a doctor had diagnosed the illness, if the condition had persisting during the past 12 months, and if medication or treatment was received during the past 12 months.

Self-reported data on illness are highly susceptible to respondent error. Various cultural, gender, and community factors can affect the accuracy of such data. Faulty respondent recall could result in underreporting of illnesses—a problem most apt to occur in the case of the spontaneously reported illnesses. Additionally, a respondent may have been unaware of an illness that presented only mild symptoms—again resulting in underreporting of the illnesses. There is also the possibility that in communities that have the reputation of being unhealthy, such as the Aral Sea Environmental Disaster Area, respondents may attribute minor symptoms to chronic illness and overreport illness. Thus, self-reported illness data must be interpreted cautiously and reported rates should not be considered as prevalence estimates for specific illnesses.

12.3.1 Self-reporting of Illness at the National Level

Table 12.5 shows the rates of self-reporting of illness at the national level. Among the five prompted conditions, goiter was by far the most frequently reported by women (14 percent), although not by men (2 percent). No other prompted illness was reported by more than 3 percent of respondents.

Goiter is a disease characterized by enlarged thyroid gland to compensate insufficient production of thyroid hormone. In endemic areas, this deficiency is usually brought about by insufficient iodine in the soil and in the foods consumed by the population. This is a situation characteristic of some regions of Central Asia (Gerasimov, 2002). The principal manifestation of goiter is an enlarged thyroid gland, which can frequently be detected by palpation. Women are particularly susceptible to goiter, so that the gender differential in the reported rates of goiter is consistent with findings elsewhere (Vanderpump et al., 1995).

Among women, no health problem was spontaneously reported by more than 4 percent of respondents except anemia (11 percent) and kidney disease (6 percent). The 11 percent self-reported rate of anemia might be considered consistent with the 15 percent of women measured as moderately/severely anemic in the 1996 Uzbekistan Demographic and Health Survey (UDHS).[4]

[4] Determination of anemia among female respondents in the 1996 UDHS involved measurement of the hemoglobin content of blood samples using the Hemocue system (Institute of Obstetrics and Gynecology and Macro International, 1997). In this interpretation, the fact that the self-reported rate of anemia is substantially lower than the any anemia rate found in the 1996 UDHS (60 percent, inclusive of mild, moderate, and severe anemia) might be due to failure of respondents with mild anemia to report the illness.

Table 12.5 Self-reporting of chronic illnesses

Percentage of women and men self-reporting chronic illnesses, by type of illness, whether diagnosed by a doctor, and whether treated in the past 12 months, Uzbekistan HES 2002

Condition or illness	Percentage reporting condition or illness	Number	Percentage of reported cases of illness: Diagnosed by doctor	Had condition in the past 12 months	Under treatment in the past 12 months	Number of reported cases
WOMEN						
Prompted illnesses						
Asthma	0.6	5,463	93.7	61.4	76.6	35
Diabetes	0.3	5,463	79.9	54.6	42.0	16
Chronic bronchitis/emphysema	2.4	5,463	94.5	64.7	61.1	133
Chronic depression	1.2	5,463	60.6	78.3	49.2	67
Goiter	13.6	5,463	87.6	66.5	46.8	741
Spontaneously reported						
Anemia	11.2	5,463	96.4	88.2	54.8	609
Gastritis	3.0	5,463	81.0	79.9	59.7	162
Kidney diseases	6.3	5,463	88.3	82.1	58.9	343
Arthritis	3.7	5,463	77.7	87.1	59.5	201
Liver diseases	2.3	5,463	93.0	67.1	59.6	124
Reproductive organs	1.3	5,463	92.9	72.4	60.5	70
Cardio-vascular diseases	2.6	5,463	82.5	84.3	70.1	140
Other	2.0	5,463	72.2	84.9	55.5	109
MEN						
Prompted illnesses						
Asthma	0.8	2,333	91.2	74.9	53.5	18
Diabetes	0.4	2,333	94.0	82.0	75.2	9
Chronic bronchitis/emphysema	3.3	2,333	88.4	69.3	61.8	78
Chronic depression	0.9	2,333	52.7	79.2	45.2	20
Goiter	1.5	2,333	79.2	45.4	47.3	35
Spontaneously reported						
Anemia	0.5	2,333	80.1	84.1	58.5	11
Gastritis	3.9	2,333	89.8	73.4	62.4	90
Kidney diseases	3.7	2,333	89.4	78.8	61.6	87
Arthritis	4.0	2,333	81.2	72.4	44.5	93
Liver diseases	2.4	2,333	100.0	45.1	40.8	57
Reproductive organs	0.7	2,333	100.0	84.9	56.1	16
Cardio-vascular diseases	2.2	2,333	92.1	83.5	65.3	51
Other	3.0	2,333	84.8	74.2	54.5	70

Among men, spontaneous reporting of health problems was less frequent than among women. The three conditions reported most were arthritis, gastritis, and kidney disease (all 4 percent).

Among all reported illnesses, a doctor had diagnosed the majority of cases—frequently in excess of 80 percent. Additionally, for most reported illnesses, the respondents indicated that the condition had persisted during the 12 months preceding the survey and that they had received treatment during that period.

12.3.2 Self-reporting of Illness by Region

Table 12.6 shows self-reported illnesses rates by region. The rates of self-reported illness are far greater in the Western region than in any other region—typically several times greater than the next highest region.

Table 12.6 Self-reporting of chronic illnesses by region

Percentage of women and men self-reporting chronic illnesses by type of illness and region, Uzbekistan HES 2002

Condition or illness	Region					Western region		Total
	Western	Central	East-Central	Eastern	Tashkent City	Karakal-pakstan	Khorezm Oblast	
WOMEN								
Prompted illnesses								
Asthma	1.7	0.6	0.6	0.4	0.2	0.9	2.7	0.6
Diabetes	0.3	0.4	0.3	0.1	0.7	0.6	0.0	0.3
Chronic ronchitis/emphysema	6.0	1.7	2.7	1.3	2.1	7.1	4.6	2.4
Chronic depression	4.8	0.9	0.6	0.2	1.6	3.2	6.7	1.2
Goiter	40.2	14.2	6.4	7.8	12.8	39.9	40.4	13.6
Spontaneously reported								
Anemia	52.3	5.7	3.6	5.0	8.4	53.4	51.0	11.2
Gastritis	9.5	3.0	1.9	1.0	2.7	8.9	10.2	3.0
Kidney diseases	21.8	7.9	2.7	2.0	3.6	23.8	19.2	6.3
Arthritis	9.3	5.1	2.0	2.0	1.9	4.5	15.4	3.7
Liver diseases	3.7	2.7	2.8	1.0	1.4	3.6	3.8	2.3
Reproductive organs diseases	3.1	1.8	1.0	0.4	0.8	1.8	4.7	1.3
Cardio-vascular diseases	6.1	4.8	1.2	0.6	1.7	5.5	6.9	2.6
Other	3.8	3.1	1.6	0.7	1.5	2.5	5.4	2.0
Number of women	699	1,311	1,431	1,518	503	387	313	5,463
MEN								
Prompted illnesses								
Asthma	2.8	0.0	1.1	0.4	0.1	3.7	1.5	0.8
Diabetes	1.2	0.4	0.0	0.3	0.7	0.5	2.2	0.4
Chronic bronchitis/emphysema	8.1	2.8	3.9	1.1	2.7	10.5	4.5	3.3
Chronic depression	1.2	0.3	0.3	1.2	3.0	0.6	2.0	0.9
Goiter	2.2	2.0	0.6	1.2	3.0	1.9	2.7	1.5
Spontaneously reported								
Anemia	3.3	0.0	0.0	0.0	0.2	1.2	6.2	0.5
Gastritis	6.1	2.5	5.9	2.7	1.2	7.1	4.8	3.9
Kidney diseases	7.6	4.1	4.8	1.5	0.6	5.2	11.2	3.7
Arthritis	10.9	3.3	4.7	1.5	0.8	8.3	14.8	4.0
Liver diseases	1.2	4.1	4.1	0.5	0.7	1.6	0.7	2.4
Reproductive organs diseases	0.3	1.0	1.1	0.5	0.0	0.0	0.6	0.7
Cardio-vascular diseases	4.5	0.7	3.1	1.5	1.6	5.0	3.8	2.2
Other	4.3	2.3	4.8	1.8	0.8	5.0	3.2	3.0
Number of men	314	510	646	665	198	185	129	2,333

The Western region consists of the Autonomous Republic of Karakalpakstan and Khorezm Oblast, which are adjacent to the Aral Sea Environmental Disaster Area.[5] The region is known to have a level of morbidity about twice as high as the country as a whole (WHO, 1999a), so the high self-reported rates of illness are not surprising. However, the region has also been the recipient of considerable attention from the Ministry of Health and from international agencies in the health field and those efforts may have left both medical practitioners and the population of the region highly sensitized to health issues.

[5] A stark depiction of the environmental problems of the area is the fact that since the 1990s, the surface area of the Aral Sea has shrunk by half, leaving salt deposits on newly exposed land. The arid unproductive land has contributed to dust storms and other ecological problems in the area.

This may have resulted in more complete reporting of illness levels in the Western region than elsewhere or overreporting of illnesses in that region.

Among women in the Western region, the self-reported rates were especially high for goiter (40 percent), anemia (52 percent), and kidney disease (22 percent). These rates are far higher than those of the next highest region, 14 percent for goiter and 8 percent for both anemia and kidney disease. Other illnesses frequently reported by females in the Western region were kidney disease (22 percent), gastritis (10 percent), arthritis (9 percent), and chronic bronchitis/emphysema and cardiovascular diseases (both 6 percent). These were also the five most frequently reported illnesses by men in the region: arthritis (11 percent), chronic bronchitis/emphysema (8 percent), kidney disease (8 percent), gastritis (6 percent), and cardiovascular diseases (5 percent).

Table 12.6 also shows self-reported illness rates for the Autonomous Republic of Karakalpakstan and Khorezm Oblast, the two administrative areas comprising the Western region. In these areas, the reported illness rates of women for goiter, anemia, and kidney disease were similar.

12.3.3 Summary

Self-reporting of illnesses was more common among female than male respondents. At the national level, the most commonly reported illnesses were goiter and anemia among women (14 and 11 percent of women, respectively). These illnesses primarily affect women and were each reported by less than 2 percent of men. Both goiter and anemia are illnesses that can be greatly reduced by programs of nutritional intervention (supplementation and food fortification with iodine and iron).

Self-reporting of illnesses was substantially higher in the Western region than in other regions of Uzbekistan. The extent to which this reflects actual adverse health conditions in the region or more complete reporting of illness by a sensitized population or some combination of these factors cannot be determined from the survey data. However, evidence of adverse health conditions in the Western region is available from other sources, so that the region merits special attention in terms of health programs and in terms of efforts to resolve its environmental problems.

OTHER ADULT HEALTH ISSUES 13

A.M. Hadjibaev, G. Semenov, and R.Y. Stallings

This chapter presents results from the 2002 Uzbekistan Health Examination Survey (UHES) on tuberculosis, dental health, and injury. Data are presented for women age 15-49 and men age 15-59.

13.1 TUBERCULOSIS

13.1.1 Introduction

Tuberculosis (TB) is primarily caused by *Mycobacterium tuberculosis*, while a close relative, *Mycobacterium bovis*, causes a small percentage of cases. Most cases are pulmonary, but in about 15 percent of cases, the bacteria disseminate to other areas of the body and are classified as nonpulmonary tuberculosis. Transmission is mainly airborne through the inhalation of bacteria-carrying droplets produced by individuals with active pulmonary tuberculosis. Less commonly, infection may also occur through skin wounds, such as those associated with tattoos and injecting drug use.

Among persons directly exposed to TB, only about 30 percent will actually become infected. In the general population, only about 5 percent of infected persons will develop active primary TB within two years. This activation rate is much higher for both the very young and very old, and for persons who are immunosuppressed due to HIV infection or other causes. The activation rate is about 40 percent for persons co-infected with HIV, thus making tuberculosis diagnosis and treatment an important part of health care for HIV-infected individuals. Symptoms of active primary tuberculosis include persistent cough, chest pain, coughing up blood or sputum, fatigue, weight loss, loss of appetite, chills, fever, and nighttime sweating.

In infected but asymptomatic persons, the immune system is able to destroy or "wall off" the TB bacilli. These enclosed bacteria can remain dormant for many years and be reactivated. Risk factors for reactivation include old age, immunosuppression, diabetes, kidney insufficiency, and malnutrition. The reactivation rate is about 5 percent in the general population. Worldwide, the case fatality rate for tuberculosis has been estimated to be 55 percent for untreated persons and 15 percent for persons receiving treatment, though estimates vary widely by region and level of socioeconomic development (CDC, 1993).

13.1.2 Public Health Importance

Tuberculosis is a major global health problem and is currently responsible for the deaths of approximately 2 million people each year. Of great public health concern in countries of the former Soviet Union is the increasing prevalence of tuberculosis caused by strains of bacteria that are resistant to all major anti-TB drugs, in particular isoniazid and rifampicin. Contributing factors to multidrug-resistant TB (MDR-TB) include patients failing to take their drugs regularly and for the required length of time, doctors and health workers prescribing the wrong treatment regimens, and unreliable drug supplies. While MDR-TB is treatable, it requires extensive chemotherapy, which may be prohibitively expensive and is more toxic to patients.

Tuberculosis is a significant public health problem in Uzbekistan. According to information reported to the World Health Organization (WHO) for the year 2001, the estimated annual TB incidence in Uzbekistan was 23,345 cases or 92 per 100,000 population (WHO, 2003). This estimate represents a substantial increase since 1998, when the estimated incidence rate was 58 per 100,000 (WHO/EURO, 1999).

13.1.3 Diagnosis, Treatment, and Control

Tuberculosis is diagnosed through a combination of patient history, clinical exam (including abnormal chest x-ray when available), and diagnostic tests. The primary and most cost-effective diagnostic screening test in use worldwide is sputum smear microscopy, wherein a sputum sample is examined for the presence of acid-fast bacilli. Typically, in a population, 10 to 15 percent of all active cases of tuberculosis will be extra-pulmonary, 35 to 40 percent will be pulmonary smear-negative, and 50 to 60 percent will be pulmonary smear-positive (WHO, 1999). Hence, diagnostic screening by this test does not detect TB in a substantial number of persons with active disease.

The World Health Organization recommends a TB control strategy, known as DOTS (Directly Observed Treatment, Short-course) which combines: 1) case detection by sputum smear microscopy among symptomatic patients who self-report to health services; 2) standardized short-course chemotherapy with directly observed treatment; and 3) a standardized recording and reporting system that tracks the treatment of each patient and in turn provides data to the TB control program. In Uzbekistan, coverage for the DOTS program had reached 37 percent of the population by the end of 2001. The country is considered to be in an "expansion phase" with respect to implementing the DOTS strategy.

The World Health Assembly has recently set country-level, TB control targets to be reached by 2005. These are: 1) 70 percent detection of new smear-positive TB cases and 2) 85 percent successful treatment of new smear-positive cases detected. The first goal is measured by the case detection rate (CDR), defined as the annual new smear-positive notifications over an estimate of the annual incidence of new smear-positive cases. The second goal can be measured by the proportion of registered new smear-positive cases who were cured or completed treatment during a given time period.

In Uzbekistan, the number of new sputum smear-positive cases detected in 2001 was 4,608, while the estimated incidence of such cases was 10,438, yielding a CDR of 44 percent. Of 1,030 new smear-positive cases registered in DOTS program areas in the year 2000, 80 percent were either cured or completed treatment (WHO, 2003).

The WHO DOTS strategy is based on the premise that tuberculosis is a highly curable disease, achieving rates of up to 95 percent, most often using inexpensive drugs. The estimated cost of a six-month supply of drugs under a DOTS standard protocol is about US$11. Hence, it is important for program planners to have information about the extent to which there is public awareness that tuberculosis is usually curable without hospitalization in an ambulatory setting if an individual is diagnosed in a timely manner and completes a full course of treatment.

A second important premise of the DOTS strategy is that, following two months of compliance to a standard drug regimen, most diseased individuals will become noninfectious (i.e., 75 to 85 percent of new smear-positive cases; WHO, 1999). Such individuals can continue their treatment for the remaining four to six months in a home setting without risk to friends or family members. Ideally, a friend or family member in the home is willing to be trained as an observer to reinforce compliance to the drug regimen. Thus, it is also important for program planners to gauge the willingness of adults to care for a TB-infected family member at home.

The 2002 UHES includes, for both women and men, a section of questions pertaining to tuberculosis knowledge, including mode of transmission, symptoms, curability, willingness to care for an infected family member, and self-reported diagnosis of TB.

13.1.4 Knowledge of Tuberculosis and Mode of Transmission

Women and men were asked questions about whether they had heard of an illness called tuberculosis and could name signs or symptoms associated with a person who has tuberculosis. As shown in Table 13.1, the majority of adults have heard of tuberculosis (84 percent of women and 81 percent of men), but there is some variability by background characteristics. Among both women and men, awareness of TB increases with both education and age. Urban adults have higher rates of awareness than rural adults. This is consistent with regional breakdowns, which show the highest awareness rates among persons living in Tashkent City (99 percent of women and 94 percent of men). The lowest awareness rates are in the East-Central region for women and the Eastern region for men, around 70 percent.

Table 13.1 Knowledge of tuberculosis: women and men

Percentage of women and men who had heard of tuberculosis (TB) and the percent distribution by knowledge of the way tuberculosis is spread, according to background characteristics, Uzbekistan HES 2002

	Women							Men						
		Knowledge of ways TB spreads							Knowledge of ways TB spreads					
Background characteristic	Ever heard of TB	Through the air when coughing	Reported other ways that TB spreads	Does not know how TB spreads	Never heard of TB	Total	Number	Ever heard of TB	Through the air when coughing	Reported other ways that TB spreads	Does not know how TB spreads	Never heard of TB	Total	Number
Age														
15-19	69.5	46.3	8.7	14.5	30.5	100.0	1,091	62.4	38.2	9.2	15.0	37.6	100.0	380
20-29	82.8	58.3	10.3	14.2	17.2	100.0	1,858	76.5	50.1	11.7	14.7	23.5	100.0	787
30-39	91.3	66.6	11.7	13.1	8.7	100.0	1,421	89.0	61.9	12.9	14.2	11.0	100.0	550
40-49	90.5	67.4	11.5	11.6	9.5	100.0	1,092	92.0	66.5	11.2	14.3	8.0	100.0	423
50-59	na	na	na	na	na	na	na	92.9	66.7	12.9	13.3	7.1	100.0	193
Residence														
Urban	90.5	68.9	11.7	9.9	9.5	100.0	2,175	86.3	65.1	8.7	12.5	13.7	100.0	916
Rural	79.5	53.9	9.9	15.8	20.5	100.0	3,288	78.1	49.0	13.4	15.7	21.9	100.0	1,417
Region														
Western	95.4	77.0	10.7	7.7	4.6	100.0	699	85.2	59.6	11.2	14.3	14.8	100.0	314
Central	90.9	59.9	13.9	17.1	9.1	100.0	1,311	85.8	44.8	24.0	17.0	14.2	100.0	510
East-Central	71.2	45.1	7.0	19.1	28.8	100.0	1,431	84.5	55.0	9.6	19.9	15.5	100.0	646
Eastern	79.5	57.6	10.3	11.6	20.5	100.0	1,518	69.0	55.6	6.5	7.0	31.0	100.0	665
Tashkent City	99.0	84.5	12.9	1.6	1.0	100.0	503	94.3	75.5	3.7	15.1	5.7	100.0	198
Oversampled areas														
Karakalpakstan	95.8	75.6	11.3	9.0	4.2	100.0	387	94.1	73.3	8.9	11.8	5.9	100.0	185
Ferghana	88.0	68.7	10.5	8.8	12.0	100.0	632	70.6	49.6	13.0	8.0	29.4	100.0	259
Education														
Primary/middle	65.5	38.0	9.3	18.2	34.5	100.0	578	69.1	45.5	8.4	15.2	30.9	100.0	188
Secondary	81.3	54.9	10.8	15.5	18.7	100.0	3,189	79.0	50.0	12.8	16.2	21.0	100.0	1,311
Secondary special	94.0	74.7	10.5	8.8	6.0	100.0	1,122	80.4	55.0	12.7	12.7	19.6	100.0	470
Higher	97.2	80.0	11.1	6.1	2.8	100.0	574	97.0	79.8	7.5	9.7	3.0	100.0	364
Total	83.9	59.9	10.6	13.4	16.1	100.0	5,463	81.3	55.3	11.6	14.4	18.7	100.0	2,333

na = Not applicable

Respondents who had heard of TB were asked to identify the mode by which tuberculosis is spread from one person to another. Sixty percent of all women and 55 percent of all men correctly stated that TB is spread through the air when coughing, while 11 percent of all women and 12 percent of all men incorrectly stated that TB is spread in other ways, such as through contaminated food or tableware.

Further examination of knowledge about modes of transmission by subgroups reveals patterns similar to those for TB awareness. For both women and men, the correct knowledge that TB transmission is through the air when coughing increases with both level of education (80 percent among those with higher education) and age (67 percent among those age 40-49 years). Residents of urban areas are more likely to give this response than residents of rural areas. Regionally, the percentage with correct knowledge about transmission of TB varies considerably, ranging from 45 to 84 percent among women and 45 to 76 percent among men, with the highest percentages found in Tashkent City for both sexes.

13.1.5 Knowledge of Symptoms of Tuberculosis

Respondents who had heard of TB were asked to name (unprompted) any signs or symptoms that would lead them to think that a person had tuberculosis. Those persons who correctly named one or more TB symptoms were next asked to name (unprompted) any symptoms of TB that would convince them to seek medical assistance.

Tables 13.2.1 and 13.2.2 shows the distributions of signs and symptoms of TB as reported by women and men, respectively. Nonspecific coughing, coughing with sputum production, and persistent coughing are the most frequently named symptoms among women, ranging from 18 to 44 percent, together with weight loss (23 percent), while nighttime sweating and lethargy are the least frequently named symptoms.

Table 13.2.1 Knowledge of symptoms of tuberculosis: women

Percentage of women who reported knowledge of specific symptoms of tuberculosis, by background characteristics, Uzbekistan HES 2002

	Symptoms of tuberculosis														
Background characteristic	Non-specific cough-ing	Cough-ing with sputum	Cough-ing for a few weeks	Any cough-ing	Fever	Blood in sputum	Loss of appe-tite	Night sweat-ing	Pain in chest	Tender-ness/ fatigue	Weight loss	Lethargy	Other	Don't know	Number
Age															
15-19	33.1	14.4	12.9	47.2	8.2	4.6	3.0	1.5	4.2	7.1	14.7	0.6	3.2	18.7	1,091
20-29	41.0	20.0	18.4	62.4	10.7	6.8	4.3	2.5	6.5	12.1	22.2	1.1	2.2	16.3	1,858
30-39	50.9	23.6	20.7	72.8	14.5	8.8	6.0	3.4	7.8	15.1	26.1	0.9	4.6	13.7	1,421
40-49	50.9	27.2	20.0	73.2	14.2	8.0	8.1	4.0	8.1	15.2	30.1	1.0	3.2	13.4	1,092
Residence															
Urban	49.2	32.1	24.1	77.5	13.3	10.2	6.6	4.5	8.2	13.6	30.5	1.5	2.9	9.6	2,175
Rural	40.5	14.0	14.3	55.4	11.0	5.1	4.4	1.7	5.7	11.7	18.6	0.5	3.4	19.4	3,288
Region															
Western	57.1	29.9	17.9	84.0	13.0	17.3	8.9	5.1	15.8	17.1	47.3	2.1	1.8	7.1	699
Central	53.4	12.2	5.7	60.1	10.1	4.7	4.4	1.9	5.2	16.6	15.3	1.0	9.5	22.5	1,311
East-Central	35.2	14.2	17.0	49.0	11.5	3.7	4.7	2.8	5.2	14.4	21.8	0.6	1.3	19.5	1,431
Eastern	37.3	18.8	24.2	62.1	12.6	4.1	4.2	1.5	4.7	6.5	20.3	0.1	1.2	14.4	1,518
Tashkent City	46.3	59.8	36.7	97.1	13.9	18.2	7.2	6.3	8.1	8.1	24.1	2.5	0.3	1.0	503
Oversampled areas															
Karakalpakstan	60.6	28.8	22.1	82.5	17.0	20.6	7.7	6.1	18.6	19.7	49.1	2.7	1.5	9.5	387
Ferghana	34.7	21.8	31.4	71.1	14.7	7.6	4.0	1.2	5.1	4.5	26.7	0.2	1.9	11.7	632
Education															
Primary/middle	26.3	14.3	10.5	39.8	7.7	2.7	3.0	1.5	4.9	8.5	14.4	0.7	1.1	21.3	578
Secondary	41.2	16.5	16.0	58.5	9.8	6.0	4.2	2.0	5.7	10.1	18.5	0.8	3.1	18.5	3,189
Secondary special	55.1	30.3	22.9	80.5	17.4	10.5	6.3	5.0	8.1	18.8	33.1	0.8	4.9	9.0	1,122
Higher	55.5	36.7	29.0	88.8	16.9	11.5	11.3	4.5	11.2	17.0	39.8	1.8	2.7	5.8	574
Total	44.0	21.2	18.2	64.2	11.9	7.1	5.2	2.8	6.7	12.5	23.3	0.9	3.2	15.5	5,463

Note: Total excludes 2 women with missing information on knowledge of symptoms of tuberculosis.

Table 13.2.2 Knowledge of symptoms of tuberculosis: men

Percentage of men who reported knowledge of specific symptoms of tuberculosis, by background characteristics, Uzbekistan HES 2002

Background characteristic	Symptoms of tuberculosis														Number
	Non-specific cough-ing	Cough-ing with sputum	Cough-ing for a few weeks	Any cough-ing	Fever	Blood in sputum	Loss of appe-tite	Night sweat-ing	Pain in chest	Tender-ness/ fatigue	Weight loss	Lethargy	Other	Don't know	
Age															
15-19	26.6	6.6	5.2	32.6	5.9	4.2	1.1	1.2	2.3	8.1	10.0	0.6	1.6	25.1	380
20-29	36.9	13.5	8.8	48.0	8.2	6.5	5.1	0.8	5.3	13.7	24.7	1.4	3.7	23.8	787
30-39	48.9	19.6	12.8	64.7	12.3	7.0	3.1	3.3	9.7	18.3	26.7	1.0	5.0	20.5	550
40-49	48.7	23.5	11.8	65.2	11.0	9.3	6.6	1.9	7.9	18.8	31.7	1.7	1.7	22.3	423
50-59	55.9	25.2	17.6	73.0	7.8	10.6	5.4	1.4	13.1	19.9	36.1	6.3	4.5	15.2	193
Residence															
Urban	50.0	21.7	12.9	65.8	10.0	9.6	4.2	2.2	7.8	12.8	27.7	0.6	3.5	16.5	916
Rural	36.4	13.3	8.9	47.3	8.8	5.5	4.3	1.4	6.5	16.9	23.2	2.3	3.3	26.0	1,417
Region															
Western	58.2	14.0	4.6	64.9	2.5	5.7	2.3	2.7	10.4	14.4	30.8	0.7	1.9	14.1	314
Central	36.9	10.1	5.0	42.8	13.7	4.0	4.5	1.4	3.6	18.0	12.2	5.6	9.3	34.6	510
East-Central	33.4	17.6	14.5	52.0	6.6	8.3	5.3	1.9	6.0	25.3	32.3	1.1	1.4	29.2	646
Eastern	41.7	18.3	12.7	55.5	10.8	6.6	4.0	0.7	9.5	7.6	28.9	0.0	2.3	12.2	665
Tashkent City	55.7	28.1	13.0	74.0	12.1	14.7	4.3	3.2	5.3	3.3	11.4	0.3	0.3	14.5	198
Oversampled areas															
Karakalpakstan	71.0	15.1	7.9	76.9	2.7	8.0	3.9	4.1	14.4	16.9	39.4	0.7	1.4	12.3	185
Ferghana	31.4	35.7	5.0	55.1	11.8	11.8	6.4	1.2	7.5	16.5	29.6	0.0	2.8	13.3	259
Education															
Primary/middle	34.6	10.5	10.6	42.2	6.5	9.2	4.6	2.3	4.8	15.3	14.4	1.1	1.5	22.1	188
Secondary	37.4	13.2	9.4	48.3	5.9	4.7	2.4	1.5	5.4	12.0	21.5	1.4	3.2	26.8	1,311
Secondary special	44.3	19.0	9.4	58.0	10.0	8.2	4.1	0.9	6.8	13.9	22.9	1.6	5.5	17.0	470
Higher	57.9	28.7	15.3	79.4	21.9	13.0	11.1	3.1	13.9	28.9	45.6	2.7	2.3	12.7	364
Total	41.7	16.6	10.4	54.6	9.3	7.1	4.3	1.7	7.0	15.3	25.0	1.6	3.4	22.3	2,333

Note: Total excludes 1 man with missing information on knowledge of symptoms of tuberculosis.

The percentage of women naming coughing of any kind as a symptom increases with age, from 47 percent in the lowest age group to 74 percent in the oldest age group, and with level of education, from 40 percent in the lowest level to 89 percent in the highest level of education. Coughing of any kind is more frequently cited by women in urban areas (78 percent) than in rural areas (55 percent). These same patterns are observed when examining the percentage of women naming weight loss as a TB symptom by age, education, and urban-rural residence. There are large differences among regions in the reporting of both coughing of any kind and weight loss. It is notable that both coughing with sputum and persistent coughing, which are more specific symptoms than coughing, are cited most frequently by Tashkent City women.

Among men, nonspecific coughing and weight loss are the most frequently named symptoms (42 and 25 percent, respectively), followed by coughing with sputum production and tiredness or fatigue (17 percent and 15 percent, respectively). Nighttime sweating and lethargy are also the least frequently named symptoms among men. Consistent with the patterns described for women, the percentages of men naming coughing of any kind or weight loss as symptoms increases significantly with age and education, and is higher in urban versus rural areas. Again, the reporting of these symptoms by men varies considerably by region.

The percentages of women and men citing specific symptoms of tuberculosis that would convince them to seek medical assistance, among those correctly naming one or more TB symptom, are presented in Tables 13.3.1 and 13.3.2. Nonspecific coughing is by far the most frequently named symptom by women at 56 percent, followed by persistent coughing, coughing with sputum production, fever, and weight loss (ranging from 20 to 31 percent). The least frequently named symptom by women is lethargy.

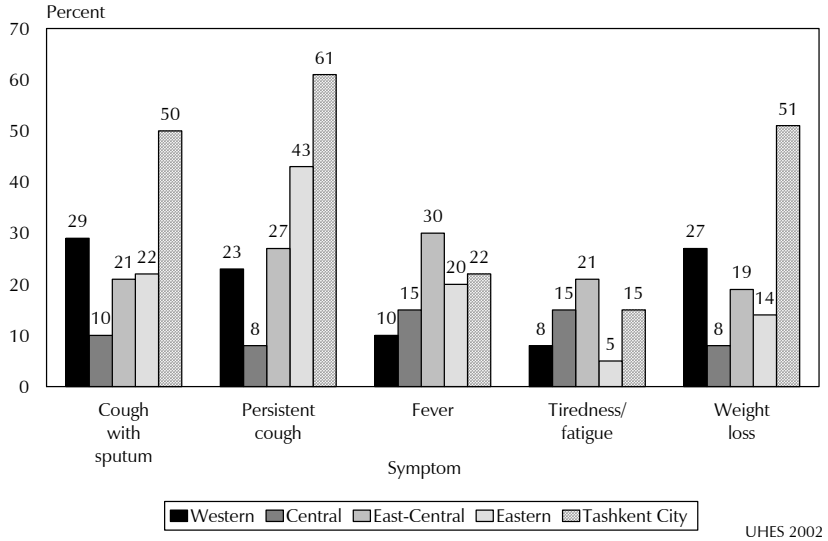
Eighty-nine percent of women name coughing of any kind as a symptom that would prompt them to seek medical attention. Consequently, there is little variation in this response by the subgroups shown in Table 13.3.1. However, the more specific symptoms of coughing with sputum and persistent coughing are reported more frequently by urban versus rural women and by women from Tashkent City versus women from other regions. Naming weight loss as a symptom prompting medical care is more frequent among urban versus rural women (27 versus 15 percent), increases with level of education, and varies widely by region from 8 percent in the Central region to 51 percent in Tashkent City. Naming fever as a symptom prompting medical care also varies widely by region. These regional variations are highlighted in Figure 13.1.1.

Table 13.3.1 Symptoms of tuberculosis that would convince respondents to seek medical assistance: women

Among women who know one or more symptoms of tuberculosis, the percentage who cited specific symptoms that would convince them to seek medical care, by background characteristics, Uzbekistan HES 2002

	Symptoms of tuberculosis														
Background characteristic	Non-specific cough-ing	Cough-ing with sputum	Cough-ing for a few weeks	Any cough-ing	Fever	Blood in sputum	Loss of appe-tite	Night sweat-ing	Pain in chest	Tender-ness/ fatigue	Weight loss	Lethargy	Other	Don't know	Number
Age															
15-19	53.7	23.7	29.7	87.1	14.0	7.0	7.2	2.7	7.9	8.9	20.1	1.2	2.8	6.2	554
20-29	54.3	23.2	31.4	89.1	17.5	8.0	5.0	1.8	8.0	11.6	21.6	1.0	1.8	4.4	1,236
30-39	56.7	23.0	30.7	89.8	21.9	7.3	5.6	2.5	10.4	14.6	20.5	0.6	3.0	3.8	1,104
40-49	57.2	26.1	29.4	89.6	23.1	8.7	8.2	5.0	9.6	12.9	20.3	1.0	1.6	3.9	842
Residence															
Urban	53.6	29.8	35.8	91.6	20.4	11.3	7.7	4.2	11.5	11.9	27.0	1.1	1.6	3.5	1,760
Rural	57.3	18.6	25.8	86.9	18.8	4.7	4.9	1.7	6.9	12.8	15.2	0.7	2.8	5.2	1,975
Region															
Western	47.5	29.1	23.2	89.8	9.9	11.0	6.9	2.4	11.4	8.4	27.2	0.9	0.7	2.2	617
Central	73.0	10.3	7.9	83.4	14.7	3.8	3.0	2.2	7.3	14.9	8.4	1.2	7.4	5.6	897
East-Central	50.9	21.1	26.9	82.8	30.4	4.5	6.0	2.0	7.0	20.7	18.9	0.0	0.3	11.3	740
Eastern	54.9	22.1	43.1	93.9	20.5	4.3	4.2	1.9	4.7	5.0	14.4	0.2	0.8	1.6	988
Tashkent City	42.3	49.9	60.6	98.5	22.1	23.5	15.6	7.9	21.1	14.9	50.6	2.9	0.7	0.1	493
Oversampled areas															
Karakalpakstan	49.3	26.8	26.8	88.7	13.6	14.9	4.8	2.5	15.0	8.1	30.8	0.7	0.4	2.5	334
Ferghana	45.4	20.5	44.9	91.5	18.4	7.5	4.0	1.4	4.8	5.1	17.5	0.5	1.3	1.6	482
Education															
Primary/middle	52.8	22.9	26.0	86.1	18.4	7.4	5.0	3.4	12.3	13.7	19.9	0.7	1.8	6.2	255
Secondary	56.5	21.0	29.2	87.6	17.0	6.4	5.6	2.1	7.3	11.0	17.0	1.0	2.3	5.8	2,001
Secondary special	55.4	28.8	30.5	90.8	21.2	9.3	5.6	3.8	9.7	13.9	22.7	0.7	3.3	2.7	954
Higher	53.8	26.6	37.3	93.1	26.9	10.8	10.0	3.8	12.8	14.2	31.9	0.9	0.6	1.2	525
Total	55.6	23.9	30.5	89.1	19.5	7.8	6.2	2.9	9.0	12.4	20.8	0.9	2.3	4.4	3,736

Figure 13.1.1 **Among Women Who Know One or More Symptoms of Tuberculosis, Percentage Who Named Specific Symptoms that Would Convince Them to Seek Medical Assistance, by Region**



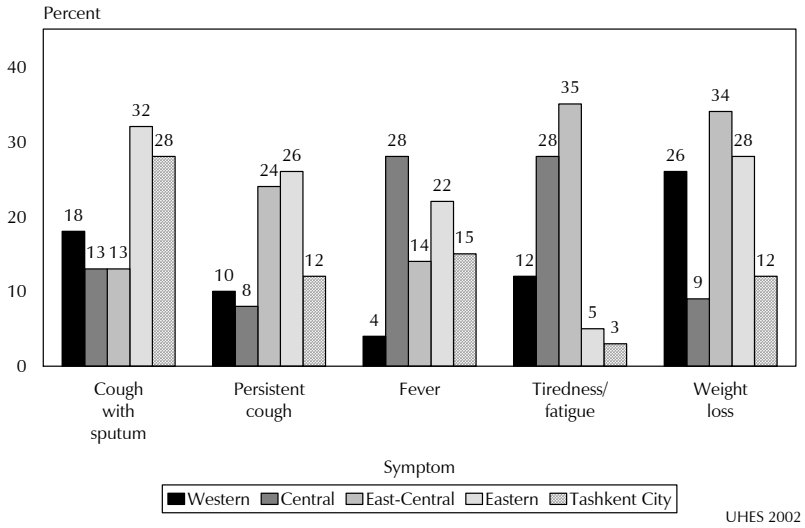
Among men, the TB symptom most likely to be cited as a reason to seek medical assistance is nonspecific coughing at 63 percent. Other symptoms with high frequency among men are weight loss, coughing with sputum production, tiredness or fatigue, persistent coughing, and fever, ranging from 17 to 24 percent. Coughing of any kind is named by 85 percent of men as a symptom prompting medical care. No remarkable patterns are evident for these most frequently named symptoms by the subgroups shown in Table 13.3.2, except for wide regional variation, as seen in Figure 13.1.2

Table 13.3.2 Symptoms of tuberculosis that would convince respondents to seek medical assistance: men

Among men who know one or more symptoms of tuberculosis, the percentage who cited specific symptoms that would convince them to seek medical care, by background characteristics, Uzbekistan HES 2002

	Symptoms of tuberculosis														
Background characteristic	Non-specific cough-ing	Cough-ing with sputum	Cough-ing for a few weeks	Any cough-ing	Fever	Blood in sputum	Loss of appe-tite	Night sweat-ing	Pain in chest	Tender-ness/ fatigue	Weight loss	Lethargy	Other	Don't know	Number
Age															
15-19	63.1	16.0	9.0	79.8	16.6	8.0	1.7	0.2	2.8	14.7	17.4	0.0	3.2	10.6	142
20-29	66.1	20.2	12.9	85.4	18.6	7.3	5.3	2.1	11.0	16.4	25.2	1.9	2.8	4.1	415
30-39	62.3	19.5	19.8	86.0	16.4	7.2	4.6	1.2	10.6	21.8	21.1	0.5	6.0	4.0	376
40-49	60.0	23.7	23.2	87.1	15.8	10.3	4.7	1.9	9.8	19.6	22.6	2.1	2.9	4.4	295
50-59	58.5	24.3	22.7	85.6	19.8	6.8	1.9	0.8	11.5	14.4	35.3	4.3	1.7	7.6	150
Residence															
Urban	62.4	24.4	18.8	86.2	18.3	8.9	3.4	2.6	9.2	13.2	22.7	0.9	3.4	4.5	639
Rural	62.8	17.6	16.7	84.6	16.5	7.0	5.0	0.5	10.4	22.5	24.8	2.3	3.8	5.8	738
Region															
Western	75.9	18.5	9.5	88.4	3.5	5.0	3.0	1.2	10.7	12.4	26.4	0.0	1.8	2.3	224
Central	63.4	13.0	7.5	69.5	27.8	4.9	8.1	0.0	10.4	28.3	8.7	6.5	13.3	13.8	261
East-Central	61.8	13.1	23.6	88.1	14.5	6.1	4.2	2.1	7.9	35.2	33.7	1.2	0.5	6.4	357
Eastern	54.2	31.9	26.1	92.5	21.9	8.7	1.8	0.5	11.8	4.7	28.1	0.0	2.4	1.3	378
Tashkent City	64.4	27.5	12.3	83.9	15.1	19.5	5.5	5.2	7.3	3.1	12.4	0.7	0.2	1.7	158
Oversampled areas															
Karakalpakstan	80.3	18.5	12.1	93.5	3.3	6.0	3.2	1.7	9.4	11.1	29.0	0.0	1.6	0.3	152
Ferghana	31.7	53.6	7.3	86.6	12.9	16.2	4.7	1.4	7.1	10.7	44.2	0.0	3.4	2.0	149
Education															
Primary/middle	61.4	14.4	16.9	86.3	20.5	10.4	8.0	0.0	14.8	24.9	20.5	2.3	2.5	2.3	88
Secondary	62.9	18.6	17.7	84.9	13.6	5.0	3.1	1.2	7.2	14.9	22.7	1.1	3.9	7.4	684
Secondary special	61.8	20.3	15.8	82.9	18.2	6.7	3.0	0.3	9.3	13.9	23.6	2.5	5.4	4.3	298
Higher	63.0	27.8	19.6	88.4	23.8	14.8	6.9	3.5	14.8	27.7	27.3	1.8	1.6	1.9	307
Total	62.6	20.7	17.7	85.4	17.3	7.9	4.2	1.5	9.8	18.2	23.8	1.6	3.6	5.2	1,377

Figure 13.1.2 **Among Men Who Know One or More Symptoms of Tuberculosis, Percentage Who Named Specific Symptoms that Would Convince Them to Seek Medical Assistance, by Region**



13.1.6 Knowledge of Tuberculosis Prognosis and Willingness to Care for a Person with Tuberculosis

Respondents who were aware of TB were asked if they knew that TB can be completely cured with proper medication. Nearly 56 percent of women and men who have heard of TB are aware that TB can be cured (Table 13.4). The percent aware of a positive prognosis increases with age and education and varies widely by region. Among women, knowledge that TB can be cured ranges from a low of 39 percent in both Tashkent City and the Central region to a high of 85 percent in the Western region; the range is more narrow for men. Notably, in the Western region, women are significantly more likely than men to be aware of a positive prognosis, while the opposite is true of persons in Tashkent City (Figure 13.2).

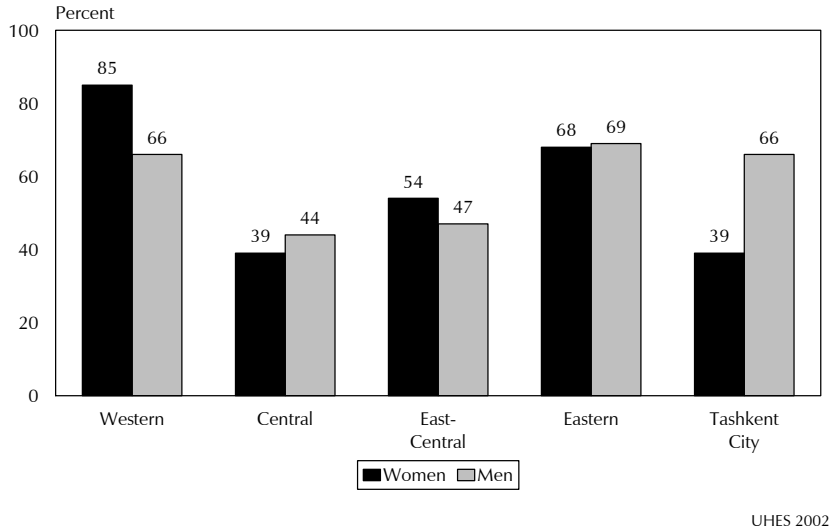
Table 13.4 Knowledge that tuberculosis can be cured and willingness to care for a family member with tuberculosis

Among women and men who have heard of tuberculosis, the percentage reporting that tuberculosis can be completely cured and the percentage reporting a willingness to provide home care for a family member with tuberculosis, by background characteristics, Uzbekistan HES 2002

	Women			Men		
Background characteristic	Knows that TB can be completely cured	Willing to care for a family member with TB	Number	Knows that TB can be completely cured	Willing to care for a family member with TB	Number
Age						
15-19	48.1	78.5	758	44.3	82.3	237
20-29	54.0	82.3	1,538	50.1	84.2	602
30-39	60.6	83.4	1,298	57.8	89.7	489
40-49	62.0	83.5	989	63.4	89.5	389
50-59	na	na	na	71.9	91.9	180
Residence						
Urban	55.9	82.1	1,969	60.7	86.4	790
Rural	57.2	82.4	2,614	52.9	87.8	1,106
Region						
Western	85.3	78.9	667	65.7	99.1	268
Central	38.8	89.2	1,192	43.6	88.7	437
East-Central	53.6	75.5	1,019	47.1	80.2	546
Eastern	68.2	81.7	1,207	69.4	90.0	459
Tashkent City	39.0	85.3	498	65.5	80.3	187
Oversampled areas						
Karakalpakstan	85.1	81.6	370	75.8	98.6	174
Ferghana	77.0	74.0	556	58.1	75.7	183
Education						
Primary/middle	43.2	80.7	378	57.3	88.4	130
Secondary	55.3	82.7	2,591	49.1	86.0	1,036
Secondary special	61.5	80.3	1,055	61.6	87.6	378
Higher	62.7	85.1	558	70.6	90.0	354
Making ends meet						
Great difficulty	55.5	82.4	1,305	55.5	89.4	492
Some difficulty	60.6	81.7	1,579	54.8	85.3	697
A little difficulty	52.7	82.7	1,356	57.6	88.1	558
Easily	58.1	82.9	335	58.7	85.4	150
Total	56.6	82.2	4,583	56.1	87.2	1,897

na = Not applicable

Figure 13.2 **Among Adults Who Have Heard of Tuberculosis (TB), Percentage Who Know that TB Can Be Completely Cured, by Region**

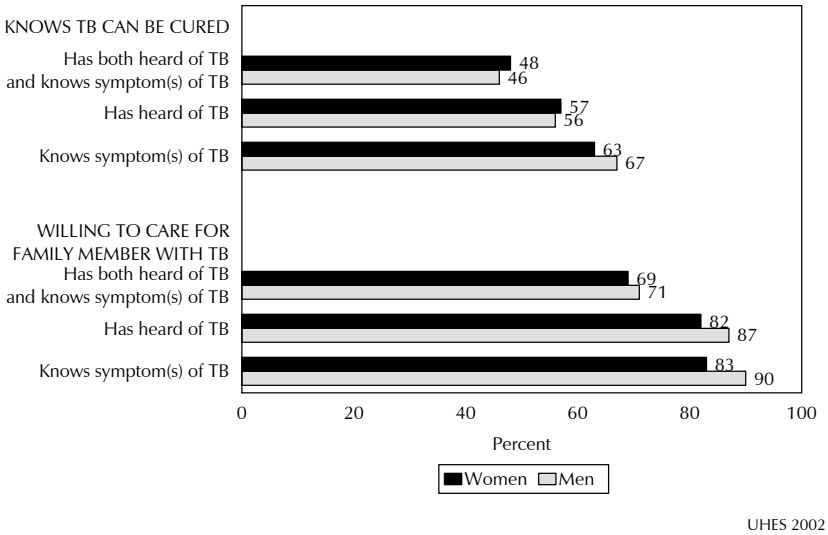


These same respondents were also asked if they would be willing to care for a family member at home during further treatment, if he or she had completed the hospital treatment for tuberculosis. A majority, 82 percent of women and 87 percent of men, responded affirmatively to this question. Responses do not vary importantly across subgroups except for region among men (80 percent in East-Central to 99 percent in Western).

In addition to age, education, residence, and region, responses to these same two questions were cross-classified by an indicator of household economic stability derived from the household questionnaire, namely, the ability to "make ends meet." Neither awareness of a cure for TB nor willingness to care for a family member with TB vary significantly by this indicator.

Figure 13.3 shows the percentages of positive responses to these two important TB questions by three decremental denominators: 1) total adults; 2) adults who have heard of TB (same as Table 13.4); and 3) adults who can name one or more symptoms of TB. As a percentage of all respondents, less than half (48 percent of women and 46 percent of men) knew that tuberculosis could be cured, suggesting a need to significantly expand TB education efforts. In contrast, among persons who are more educated about TB, as defined by being able to name the symptoms of TB, knowledge that TB can be cured was significantly higher (63 percent of women and 67 percent of men).

Figure 13.3 **Percentage of Women and Men Who Know that Tuberculosis Can Be Completely Cured and Percentage Who Are Willing to Care for a Family Member with TB at Home, by Level of Knowledge of TB**



13.1.7 Self-report of Tuberculosis Diagnosis and Treatment

Less than 1 percent of both women and men reported that they had ever been diagnosed with tuberculosis by a health professional (Table 13.5). Among all respondents diagnosed with TB, 55 percent had been diagnosed more than five years ago; a doctor had made the diagnosis in 98 percent of cases; and 71 percent of cases had been hospitalized.

Table 13.5 Tuberculosis diagnosis: women and men

Percentage of women age 15-49 and men age 15-59 ever diagnosed with tuberculosis, and among those diagnosed with tuberculosis, percent distribution by length of time since diagnosis, percent distribution by person making the diagnosis, and percentage ever hospitalized with tuberculosis, Uzbekistan 2002

			Among persons diagnosed with tuberculosis:									
			Length of time since diagnosis					Person making diagnosis				
Respondents	Percentage ever diagnosed with TB	Number	Less than 6 months	6-11 months	1-5 years	More than 5 years	Total	Doctor	Other	Total	Percentage ever hospitalized with TB	Number
Women	0.6	5,463	(9.4)	(12.5)	(21.9)	(56.2)	(100.0)	(93.8)	(7.2)	(100.0)	(65.6)	32
Men	0.8	2,333	(0.0)	(15.7)	(6.0)	(68.3)	(100.0)	(100.0)	(0.0)	(100.0)	(78.9)	19
Total	0.7	7,796	5.9	13.7	25.5	54.9	100.0	98.0	2.0	100.0	70.6	51

Note: Figures in parentheses are based on 25-49 unweighted cases.

13.1.8 Summary

Tuberculosis is an entirely curable disease that primarily strikes adults under age 45 (i.e., a population group that is less likely than children or older adults to have frequent contact with health care providers [apart from women in antenatal care]). Hence, education of the public with regard to tuberculosis transmission, symptoms, treatment, and prognosis is an important part of a tuberculosis control program.

In Uzbekistan, at the national level, most adults have heard of tuberculosis (more than 80 percent), but there is less knowledge that TB is primarily transmitted through the air when coughing (64 percent of women and 55 percent of men). While more than half of adults name coughing of any kind as a symptom of tuberculosis, no other symptom is mentioned by more than 25 percent of women or men. Additionally, a majority of respondents either had not heard of tuberculosis or were unaware that TB can be successfully cured (53 percent of women and 54 percent of men).

Among persons who had heard of TB, more than 85 percent named coughing of any kind as a symptom of tuberculosis that would prompt them to seek medical attention. Weight loss, fever, and tiredness or fatigue are the next most frequently named symptoms, but all by less than 25 percent of women or men.

Awareness of tuberculosis, correct knowledge of transmission mode, and the ability to correctly name symptoms are all higher in urban than rural areas, and increase by age and level of education. Knowledge that TB can be completely cured also increases by age and level of education, is higher among urban than rural men but is about the same for urban and rural women.

Regional differences are substantial in terms of tuberculosis awareness, knowledge of transmission, ability to name symptoms, and knowledge that tuberculosis can be completely cured. Residents of Tashkent City are better informed than residents of other regions about coughing as a symptom and mode of transmission. However, knowledge of other symptoms of tuberculosis is generally low in Tashkent City. Further investigation is warranted to better understand these regional differences.

The differentials between various population groups concerning awareness and knowledge of tuberculosis have implications for health education programs. Health education messages and materials on tuberculosis need to be designed and made accessible to young adults, persons with less formal education, and rural residents. It is also important to make such information available outside the health care system, as younger adults (other than pregnant women) may seldom use such facilities.

A majority of women and men reported that they were willing to care for a family member with TB at home following hospital treatment. This positive response may indicate a general belief that, following hospital treatment, a diseased individual is no longer able to spread the bacteria, or may indicate a widespread societal norm to care for family members who are in need. Either way, it provides encouragement for the ultimate success of the DOTS strategy as it is implemented throughout the remainder of Uzbekistan over the coming years.

13.2 Dental Health of Adults

This section presents self-reported information on the condition of the teeth of survey respondents and on the frequency of routine dental checkups. Data are also shown on dental problems experienced by respondents during the 12 months preceding the survey and on their perceived dental needs at the time of the survey.

13.2.1 Self-reported Dental Condition

Table 13.6 shows the distribution of respondents according to the self-report condition of their teeth in the following four categories: excellent, good, fair, or poor.

Table 13.6 Condition of natural teeth: women and men

Percent distribution of women and men by perception of the condition of their natural teeth, according to background characteristics, Uzbekistan HES 2002

	Women							Men						
Background characteristic	Excellent/ very good	Good	Fair	Poor	Has no natural teeth	Total	Number	Excellent/ very good	Good	Fair	Poor	Has no natural teeth	Total	Number
Age														
15-19	21.4	54.4	18.7	5.1	0.0	100.0	1,091	9.9	72.6	15.5	2.0	0.0	100.0	380
20-24	12.6	56.4	23.7	7.2	0.0	100.0	1,049	9.0	62.7	23.3	5.0	0.0	100.0	388
25-29	7.1	45.5	34.2	13.2	0.0	100.0	809	9.6	55.4	29.1	5.9	0.0	100.0	399
30-34	4.6	40.6	37.6	16.9	0.0	100.0	734	6.4	51.7	29.4	12.5	0.0	100.0	293
35-39	3.8	40.5	33.7	22.0	0.0	100.0	687	6.7	44.5	35.0	13.8	0.0	100.0	256
40-44	2.7	32.9	37.6	26.1	0.8	100.0	626	7.4	41.5	38.7	12.5	0.0	100.0	227
45-49	1.7	27.4	45.8	22.1	2.9	100.0	466	1.8	45.3	39.9	11.4	1.5	100.0	196
50-54	na	na	na	na	na	na	na	2.3	29.8	46.1	18.6	3.2	100.0	140
55-59	na	na	na	na	na	na	na	3.4	20.9	50.5	20.5	4.6	100.0	54
Residence														
Urban	7.9	38.5	37.8	15.4	0.4	100.0	2,175	6.6	51.8	31.4	9.5	0.7	100.0	916
Rural	10.3	49.5	26.3	13.5	0.3	100.0	3,288	7.9	54.1	29.0	8.7	0.3	100.0	1,417
Region														
Western	3.9	46.2	28.7	20.8	0.4	100.0	699	4.4	54.2	26.2	15.1	0.1	100.0	314
Central	10.7	42.5	25.5	20.4	0.6	100.0	1,311	6.7	56.6	30.7	5.7	0.4	100.0	510
East-Central	5.8	40.2	38.7	14.9	0.4	100.0	1,431	5.5	50.5	32.0	11.3	0.7	100.0	646
Eastern	15.0	56.1	20.2	8.3	0.1	100.0	1,518	10.2	51.9	30.3	7.3	0.3	100.0	665
Tashkent City	5.8	31.1	57.6	5.4	0.1	100.0	503	10.5	56.1	26.4	6.3	0.7	100.0	198
Oversampled areas														
Karakalpakstan	2.0	48.2	26.8	22.4	0.5	100.0	387	4.4	48.5	27.0	19.8	0.2	100.0	185
Ferghana Oblast	16.6	62.4	17.1	3.6	0.3	100.0	632	19.3	53.8	22.1	4.8	0.0	100.0	259
Education														
Primary, middle	13.5	44.3	27.2	13.7	0.8	100.0	578	6.4	57.2	27.8	7.3	1.4	100.0	188
Secondary	8.9	49.2	27.9	13.6	0.2	100.0	3,189	6.8	55.4	28.9	8.3	0.6	100.0	1,311
Secondary special	8.8	39.3	35.4	16.1	0.4	100.0	1,122	7.7	51.2	29.5	11.6	0.0	100.0	470
Higher	8.0	34.5	41.9	15.1	0.5	100.0	574	9.6	45.9	35.5	9.1	0.1	100.0	364
Ethnic group														
Uzbek	10.0	46.6	29.6	13.5	0.4	100.0	4,669	7.6	55.1	29.1	7.7	0.4	100.0	2,011
Other	5.4	36.5	38.6	19.0	0.1	100.0	794	6.3	41.2	35.3	16.9	0.3	100.0	322
Making ends meet														
Great difficulty	6.5	42.3	32.4	18.5	0.2	100.0	1,541	6.1	52.3	29.9	10.9	0.8	100.0	607
Some difficulty	9.6	45.1	31.3	13.6	0.3	100.0	1,889	6.9	53.2	31.4	7.9	0.6	100.0	845
A little difficulty	11.4	46.5	28.9	12.6	0.6	100.0	1,636	6.1	54.8	29.6	9.4	0.0	100.0	698
Easily	9.8	51.1	30.5	8.6	0.0	100.0	383	18.5	50.4	25.1	6.0	0.0	100.0	183
Total	9.3	45.1	30.9	14.3	0.3	100.0	5,463	7.4	53.2	30.0	9.0	0.4	100.0	2,333

na = Not applicable

Among women, the proportion that reported their teeth as excellent or good (54 percent) was marginally greater than those that reported their teeth as fair or poor (45 percent). Among men, a greater proportion reported excellent or good teeth (61 percent) than fair or poor teeth (39 percent). While these statistics suggest a reasonable level of oral health, a different picture emerges when considering the age-

specific data. The proportion of respondents reporting excellent or good dental status declines sharply with increasing age. For example, while 83 percent of men age 15-19 reported excellent or good teeth, the figure dropped to 24 percent among men age 55-59. Apparently, dental care is not sufficient to maintain good oral health as individuals' age and dental needs increase.

The self-reported dental status of respondents by residence and education differs from expectation. The percent of respondents reporting excellent or good dental status was higher among rural residents (60 percent for women 62 percent for men) than among urban residents (47 percent for women and 58 percent for men). Similarly, the percentage reporting excellent or good dental status was higher among the least educated respondents (58 percent for women 64 percent for men) than among the most educated respondents (43 percent for women and 55 percent for men). These results are surprising because urban and more educated respondents have greater access to dental care, which should result in better quality teeth. It could be that urban and more educated respondents are more conscious of oral hygiene and have higher dental standards than rural and less educated respondents.

As would be expected, there is consistent positive relationship between the economic well being of the household and self-reported dental status. The percentage reporting excellent to good dental status increases steadily between respondents in households with great difficulty making ends meet (49 percent) and those in households that easily make ends meet (61 percent). The same pattern is found for men.

13.2.2 Routine Checkups

Respondents were asked if had visited a dentist for a routine dental checkup in the last three years and, if so, the frequency of routine dental checkups per year during that period (Table 13.7). The principal finding was that relatively few women or men in Uzbekistan receive routine dental checkups. Eighty-seven percent of both women and men had not had a routine dental checkup during the three years preceding the survey. Absence of attention to preventive dental care was the norm throughout the population; in excess of 65 percent of respondents in every population subgroup had not had a routine dental checkups in the past three years.

Although relatively few respondents had received a routine dental checkup in the past three years (13 percent for both women and men), the proportion receiving at least one dental checkup per year was twice as large in urban areas (18 percent for both women and men) as in rural areas (7 percent for women and 8 percent for men).

Regional differences in dental checkups were as expected: both women and men in Tashkent City were more likely to receive at least one routine dental checkups (30 and 33 percent, respectively) than respondents in the other regions (between 4 and 21 percent). Differentials by education indicate that routine dental checkups are about twice as likely for women and men with a higher education (25 and 22 percent, respectively) as the national average (12 percent for both women and men).

In terms of a household's ability to make ends meet, the proportion of residents having at least one dental checkup was lower in less advantaged households (9 percent for both women and men) and higher in more advantaged households (15 for women and 16 percent for men). However, the salient finding is that even in the most advantaged households, more than 80 percent of women and men had not had a routine dental visit in the three years preceding the survey.

Table 13.7 Dental visits: women and men

Percent distribution of women and men by number of dental visits for a routine check-up per year during the past three years, according to background characteristics, Uzbekistan HES 2002

	Number of visits per year: women						Number of visits per year: men					
Background characteristic	No visits	Less than one	One	Two or more	Total	Number	No visits	Less than one	One	Two or more	Total	Number
Age												
15-19	93.1	0.5	3.8	2.2	100.0	1,091	92.3	0.1	4.2	3.5	100.0	380
20-24	88.1	1.0	6.1	4.6	100.0	1,049	88.6	0.0	5.5	5.9	100.0	388
25-29	86.0	0.9	7.2	5.9	100.0	809	86.4	0.6	4.2	8.3	100.0	399
30-34	85.9	0.9	7.9	5.1	100.0	734	85.3	0.6	5.1	8.5	100.0	293
35-39	83.9	1.0	8.2	6.9	100.0	687	90.9	0.3	3.9	4.8	100.0	256
40-44	85.3	1.5	5.1	8.0	100.0	626	83.9	0.6	4.6	10.9	100.0	227
45-49	83.6	1.3	8.2	6.8	100.0	466	81.0	0.2	10.0	8.7	100.0	196
50-54	na	na	na	na	na	na	86.2	0.6	6.3	6.6	100.0	140
55-59	na	na	na	na	na	na	77.6	0.4	15.5	6.0	100.0	54
Residence												
Urban	80.6	1.2	10.7	7.3	100.0	2,175	80.8	0.7	7.7	10.7	100.0	916
Rural	91.6	0.8	3.5	3.9	100.0	3,288	91.2	0.1	3.9	4.5	100.0	1,417
Region												
Western	78.5	0.9	10.9	9.6	100.0	699	88.6	0.6	8.3	2.5	100.0	314
Central	93.3	1.3	3.4	1.6	100.0	1,311	93.2	0.0	2.9	3.8	100.0	510
East-Central	95.0	0.9	2.9	1.3	100.0	1,431	88.7	0.0	3.7	7.2	100.0	646
Eastern	84.8	0.9	4.6	9.4	100.0	1,518	87.1	0.1	4.6	8.1	100.0	665
Tashkent City	68.9	0.6	22.8	7.5	100.0	503	64.5	2.7	15.6	16.9	100.0	198
Oversampled areas												
Karakalpakstan	85.6	0.6	7.9	5.8	100.0	387.0	95.8	0.0	2.3	1.9	100.0	185
Ferghana Oblast	87.9	2.0	5.5	4.5	100.0	632.0	72.6	0.3	8.5	18.3	100.0	259
Education												
Primary, middle	93.0	0.6	3.6	2.2	100.0	578	93.8	0.7	3.5	1.7	100.0	188
Secondary	89.9	0.7	4.8	4.4	100.0	3,189	88.2	0.2	4.9	6.6	100.0	1,311
Secondary special	83.8	1.6	7.7	6.9	100.0	1,122	89.0	0.5	4.5	6.0	100.0	470
Higher	73.3	1.8	15.0	9.9	100.0	574	77.7	0.4	9.6	12.0	100.0	364
Ethnic group												
Uzbek	88.7	1.0	5.4	4.9	100.0	4,669	87.9	0.3	4.9	6.8	100.0	2,011
Other	78.6	1.1	12.2	7.5	100.0	794	82.8	0.7	8.9	7.5	100.0	322
Making ends meet												
Great difficulty	90.2	0.5	5.8	3.4	100.0	1,541	90.9	0.4	4.7	4.0	100.0	607
Some difficulty	86.8	1.0	6.2	5.7	100.0	1,889	86.5	0.4	5.9	6.8	100.0	845
A little difficulty	85.7	1.3	7.0	5.8	100.0	1,636	85.6	0.4	5.4	8.6	100.0	698
Easily	84.1	1.2	6.7	8.0	100.0	383	84.2	0.0	5.8	10.0	100.0	183
Total	87.2	1.0	6.4	5.3	100.0	5,463	87.2	0.3	5.4	6.9	100.0	2,333

na = Not applicable

13.2.3 Dental Problems in the Past 12 Months

Respondents were asked if they had had a dental problem in the past 12 months, and if so, whether they consulted anyone about the problem (Tables 13.8.1 and 13.8.2).

The proportion of respondents reporting a dental problem in the past 12 months was higher among women (37 percent) than men (27 percent). Among those who reported a dental problem, a large proportion consulted someone about it (74 percent of women and 75 percent of men), and almost all respondents (98 percent of both women and men) consulted a dental professional (stomatologist or dentist).

Table 13.8.1 Dental problems in the past 12 months: women

Percentage of women who reported having a dental problem in the 12 months preceding survey, and among women who reported a dental problem, the percentage who consulted someone and, among women who consulted someone, the percent distribution by type of provider seen, according to background characteristics, Uzbekistan HES 2002

Background characteristic	All women		Among women who reported a dental problem:		Among women who consulted someone, the type of person consulted				
	Percentage that reported a dental problem	Number	Percentage that consulted someone	Number	Stoma-tologist	Dentist	Other	Total	Number
Age									
15-19	22.1	1,091	66.5	241	94.6	4.4	1.0	100.0	160
20-24	30.5	1,049	72.2	320	93.3	5.1	1.6	100.0	231
25-29	41.6	809	72.2	337	96.6	3.3	0.1	100.0	243
30-34	43.6	734	76.6	320	95.7	2.4	1.9	100.0	245
35-39	44.9	687	80.1	308	94.1	2.1	3.8	100.0	247
40-44	45.2	626	71.7	283	93.4	3.1	3.5	100.0	203
45-49	41.6	466	76.2	194	95.5	4.5	0.0	100.0	148
Residence									
Urban	40.4	2,175	76.4	879	96.2	2.5	1.3	100.0	672
Rural	34.2	3,288	71.7	1,123	93.5	4.2	2.3	100.0	806
Region									
Western	41.9	699	67.1	293	94.0	4.1	1.9	100.0	196
Central	44.6	1,311	82.2	584	94.8	1.2	4.0	100.0	480
East-Central	39.8	1,431	64.5	569	99.0	0.5	0.5	100.0	367
Eastern	27.7	1,518	79.1	421	88.9	10.5	0.6	100.0	333
Tashkent City	27.0	503	74.0	136	100.0	0.0	0.0	100.0	101
Oversampled areas									
Karakalpakstan	43.4	387	54.9	168	93.0	5.4	1.6	100.0	92
Ferghana Oblast	26.0	632	83.4	164	73.8	25.6	0.6	100.0	137
Education									
Primary, middle	29.4	578	68.6	170	98.8	1.2	0.0	100.0	116
Secondary	36.0	3,189	71.3	1,148	93.6	4.1	2.3	100.0	819
Secondary special	40.1	1,122	76.3	449	94.6	3.5	1.8	100.0	343
Higher	41.1	574	84.4	236	97.5	1.6	0.9	100.0	199
Ethnic group									
Uzbek	35.1	4,669	75.3	1,641	94.4	3.5	2.1	100.0	1,236
Other	45.6	794	66.5	362	96.7	3.1	0.3	100.0	241
Making ends meet									
Great difficulty	41.3	1,541	68.4	637	95.0	2.5	2.5	100.0	436
Some difficulty	34.7	1,889	74.2	655	94.7	3.5	1.8	100.0	486
A little difficulty	35.2	1,636	76.4	577	94.0	4.3	1.7	100.0	440
Easily	33.8	383	86.6	130	96.7	3.3	0.0	100.0	112
Total	36.7	5,463	73.7	2,003	94.8	3.4	1.8	100.0	1,477

There is a sharp age gradient in the reporting of dental problems, with the oldest respondents reporting dental problems about twice as frequently as the younger respondents. This tends to substantiate the sharp decline with age in the self-reported condition of respondent's teeth (Table 13.6).

The percentage of respondents reporting a dental problem was lower among rural residents (34 percent for women and 23 percent for men) than among urban residents (40 percent for women and 31 percent for men). Similarly, the percentage reporting a dental problem was lower among the least educated respondents (29 percent for women and 19 percent for men) than among the most educated respondents (41 percent for women and 35 percent for men). Whether these differences reflect actual differentials in dental problems or differential sensitivity to dental problems cannot be determined from the data.

Table 13.8.2 Dental problems in the past 12 months: men

Percentage of men who reported having a dental problem in the 12 months preceding survey, and among men who reported a dental problem, the percentage who consulted someone and, among men who consulted someone, the percent distribution by type of provider seen, according to background characteristics, Uzbekistan HES 2002

Background characteristic	All men		Among men who reported a dental problem:		Among men who consulted someone, the type of person consulted				
	Percentage that reported a dental problem	Number	Percentage that consulted someone	Number	Stoma-tologist	Dentist	Other	Total	Number
Age									
15-19	14.8	380	73.5	56	98.2	1.8	0.0	100.0	41
20-24	19.0	388	72.9	74	98.6	1.4	0.0	100.0	54
25-29	25.7	399	71.1	103	99.0	0.4	0.6	100.0	73
30-34	29.3	293	81.6	86	94.4	5.6	0.0	100.0	70
35-39	34.1	256	79.7	87	91.8	4.5	3.8	100.0	70
40-44	34.5	227	72.3	78	92.8	3.7	3.5	100.0	57
45-49	30.4	196	75.3	60	(98.4)	(1.6)	(0.0)	(100.0)	45
50-54	36.2	140	77.2	50	(99.2)	(0.8)	(0.0)	(100.0)	39
55-59	50.8	54	(66.5)	27	*	*	*	*	18
Residence									
Urban	31.3	916	76.7	287	95.5	4.2	0.3	100.0	220
Rural	23.6	1,417	73.6	335	97.1	1.1	1.8	100.0	247
Region									
Western	31.0	314	58.1	98	96.6	2.7	0.8	100.0	57
Central	16.8	510	84.0	85	97.3	0.0	2.7	100.0	72
East-Central	28.8	646	76.5	186	100.0	0.0	0.0	100.0	142
Eastern	26.1	665	83.7	174	94.4	4.2	1.4	100.0	145
Tashkent City	40.0	198	63.8	79	90.3	8.5	1.1	100.0	50
Oversampled areas									
Karakalpakstan	31.9	185	42.7	59	(92.3)	(6.0)	(1.7)	(100.0)	25
Ferghana Oblast	24.2	259	91.1	63	100.0	0.0	0.0	100.0	57
Education									
Primary, middle	19.0	188	65.4	36	(97.8)	(2.2)	(0.0)	(100.0)	23
Secondary	25.4	1,311	74.7	333	96.4	1.7	1.9	100.0	248
Secondary special	27.0	470	74.5	127	96.1	3.9	0.0	100.0	95
Higher	34.8	364	79.1	127	96.3	3.4	0.3	100.0	100
Ethnic group									
Uzbek	25.3	2,011	78.6	509	96.8	2.0	1.1	100.0	400
Other	34.9	322	58.8	113	93.5	5.8	0.6	100.0	66
Making ends meet									
Great difficulty	27.1	607	72.2	164	96.5	1.6	1.9	100.0	119
Some difficulty	26.9	845	71.3	227	95.6	4.4	0.0	100.0	162
A little difficulty	26.2	698	81.3	183	97.6	0.5	1.8	100.0	149
Easily	25.2	183	(78.5)	46	(94.2)	(5.8)	(0.0)	(100.0)	36
Total	26.6	2,333	75.0	622	96.4	2.6	1.1	100.0	467

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parenthesis are based on 25-49 unweighted cases.

The reporting of dental problems showed no systematic pattern by the indicator of household economic status (difficulty in making ends meet). However, fewer respondents living in households experiencing difficulty making ends meet consulted someone about their dental problem than those living in more economically advantaged households. It appears that even though dental care is free at government facilities, the economic status of the household influences whether or not dental care is sought.

13.2.4 Current Dental Needs

Respondents were also asked if they currently needed dental care and, if so, the type of care needed (Tables 13.9.1 and 13.9.2).

The proportion of respondents that reported a need for dental care was higher among women than men (40 and 33 percent, respectively). The most frequently cited dental needs among both women and men were fillings/tooth replacement (67 and 54 percent, respectively), extractions (42 and 32 percent, respectively) and gum treatments (21 and 27 percent, respectively).

Table 13.9.1 Reported type of dental care needed: women

Percentage of women who reported needing dental care and, among those women, the percentage needing specific dental care, according to background characteristics, Uzbekistan HES 2002

Background characteristic	Percent of women needing dental care	Number	Among women needing dental care, the percentage needing: Dental checkup	Dental cleaning	Teeth filling/ replace-ment	Extrac-tion	Gum treat-ment	Denture work	Relief of pain	Improve appearance (braces or bonding)	Number
Age											
15-19	24.4	1,091	2.5	10.2	63.0	31.7	14.1	0.1	8.3	2.8	266
20-24	29.4	1,049	2.0	9.0	67.8	46.0	15.3	2.4	6.9	2.7	309
25-29	41.2	809	0.9	9.8	65.7	45.4	20.8	7.1	5.0	2.1	333
30-34	48.7	734	3.0	6.5	68.6	39.8	18.9	10.0	7.0	2.3	358
35-39	49.4	687	1.4	5.7	68.9	45.8	21.4	13.6	4.9	3.3	339
40-44	51.1	626	0.8	5.2	67.5	43.7	28.7	13.3	6.6	5.0	320
45-49	53.9	466	0.9	7.6	66.2	41.2	24.6	22.7	8.3	1.2	251
Residence											
Urban	42.4	2,175	2.5	6.8	67.7	40.7	22.6	12.2	6.5	1.9	923
Rural	38.1	3,288	1.0	8.2	66.5	43.3	19.1	8.0	6.7	3.5	1,254
Region											
Western	55.1	699	2.1	5.1	67.9	50.3	25.4	7.5	2.9	1.5	386
Central	39.9	1,311	1.1	9.4	62.2	37.6	24.2	9.7	18.1	6.2	523
East-Central	48.3	1,431	0.0	6.1	86.7	39.5	13.0	3.8	1.5	0.8	691
Eastern	31.0	1,518	3.9	10.0	40.1	50.4	23.5	15.5	5.4	3.3	470
Tashkent City	21.1	503	3.3	7.1	77.4	16.7	21.3	32.5	1.3	2.2	106
Oversampled areas											
Karakalpakstan	54.2	387	3.5	7.8	64.3	55.3	17.4	11.4	1.7	0.4	209
Ferghana Oblast	29.2	632	6.9	20.4	53.7	51.3	14.2	7.8	8.7	3.9	185
Education											
Primary, middle	35.8	578	0.7	6.1	64.2	41.2	22.2	9.5	8.3	3.3	207
Secondary	39.0	3,189	1.4	7.5	66.1	43.2	19.2	9.6	7.1	3.1	1,243
Secondary special	42.9	1,122	2.9	7.0	67.6	44.9	21.8	9.7	6.4	2.2	481
Higher	42.7	574	1.2	10.9	72.4	32.5	23.6	11.4	3.0	2.2	246
Ethnic group											
Uzbek	38.3	4,669	1.7	8.0	66.3	42.3	20.4	9.6	7.2	2.9	1,790
Other	48.8	794	1.5	5.7	70.2	41.8	21.2	10.9	3.6	2.4	387
Making ends meet											
Great difficulty	48.5	1,541	1.4	9.0	65.5	47.6	25.3	10.4	9.3	2.7	747
Some difficulty	38.5	1,889	1.7	6.5	69.2	40.1	18.0	10.1	5.1	2.9	728
A little difficulty	35.0	1,636	2.0	8.1	68.7	38.3	17.7	8.5	4.7	2.3	572
Easily	32.7	383	1.0	3.5	53.8	41.5	21.5	9.0	8.0	5.4	125
Total	39.8	5,463	1.6	7.6	67.0	42.2	20.6	9.8	6.6	2.8	2,177

Table 13.9.2 Reported type of dental care needed: men

Percentage of men who reported needing dental care and, among those men, the percentage needing specific dental care, according to background characteristics, Uzbekistan HES 2002

Background characteristic	Percent of men needing dental care	Number	Among men needing dental care, the percentage needing: Dental checkup	Dental cleaning	Teeth filling/ replace-ment	Extrac-tion	Gum treat-ment	Denture work	Relief of pain	Improve appearance (braces or bonding)	Number
Age											
15-19	16.8	380	9.2	38.1	46.3	29.3	30.3	12.8	0.7	2.9	64
20-24	26.3	388	4.4	31.2	51.3	30.2	19.0	22.6	3.1	1.2	102
25-29	27.9	399	2.1	28.2	60.2	35.9	25.7	16.2	1.9	1.4	111
30-34	39.8	293	6.6	18.0	63.4	30.6	23.6	13.7	0.8	0.3	117
35-39	37.5	256	7.3	36.8	54.7	27.9	27.7	20.7	2.2	0.0	96
40-44	44.9	227	5.0	27.2	54.0	23.4	30.5	37.6	0.6	0.3	102
45-49	45.8	196	2.5	16.7	54.3	33.7	27.8	31.1	0.0	0.0	90
50-54	52.0	140	5.7	15.9	42.8	42.0	32.0	45.0	0.0	0.4	73
55-59	45.8	54	(8.1)	(7.8)	(43.4)	(47.4)	(36.7)	(39.3)	(0.0)	(1.2)	25
Residence											
Urban	38.2	916	7.0	23.4	53.6	33.2	24.9	23.9	1.5	0.6	350
Rural	30.3	1,417	3.9	27.6	54.5	30.8	28.5	25.7	1.0	0.9	429
Region											
Western	43.7	314	5.3	28.1	53.9	29.7	15.6	19.7	2.8	0.8	137
Central	20.9	510	1.6	14.3	77.8	24.8	52.2	0.0	0.0	0.0	106
East-Central	36.8	646	0.0	33.1	63.0	28.9	16.9	45.7	0.0	1.4	238
Eastern	31.3	665	4.0	15.0	35.5	45.7	37.5	17.7	2.2	0.0	208
Tashkent City	45.3	198	26.4	40.9	45.4	19.5	16.3	23.7	0.9	1.7	90
Oversampled areas											
Karakalpakstan	45.5	185	1.3	40.1	54.9	41.5	12.5	18.4	3.4	1.3	84
Ferghana Oblast	27.5	259	0.9	2.0	70.8	18.7	56.2	3.9	0.0	0.0	71
Education											
Primary, middle	24.7	188	4.2	17.6	48.8	42.8	20.5	31.3	0.0	3.6	46
Secondary	32.1	1,311	4.6	26.4	56.0	29.8	27.2	26.4	1.1	0.6	421
Secondary special	38.8	470	5.3	26.4	51.1	38.8	24.5	19.0	2.5	0.4	182
Higher	35.4	364	7.6	25.3	53.8	25.2	31.8	25.8	0.0	0.6	129
Ethnic group											
Uzbek	31.0	2,011	4.8	26.4	54.0	29.7	28.9	25.6	1.1	0.8	622
Other	48.6	322	6.9	22.8	54.5	40.6	18.9	22.1	1.5	0.5	157
Making ends meet											
Great difficulty	36.7	607	3.9	25.9	59.1	33.5	23.0	25.8	0.6	1.8	223
Some difficulty	35.0	845	4.9	25.5	55.2	30.0	31.4	23.9	1.6	0.1	295
A little difficulty	30.9	698	8.0	27.4	49.9	34.9	25.8	24.3	0.2	0.5	216
Easily	24.1	183	(2.0)	(18.3)	(40.6)	(21.9)	(23.0)	(29.4)	(6.1)	(1.4)	44
Total	33.4	2,333	5.3	25.7	54.1	31.9	26.9	24.9	1.2	0.8	779

Note: Figures in parentheses are based on 25-49 unweighted cases.

As with other dental care indicators, there is a sharp age gradient in the perceived need for dental services. Less than 25 percent of respondents age 15-19 reported a need for services, while about 50 percent of respondents age 45 and above did so.

The reported need for dental services was greater in urban than in rural areas for women (42 versus 38 percent) and for men (38 versus 30 percent). These differentials are consistent with the higher percentages of respondents that reported dental problems in the last 12 months in urban areas than in rural areas.

There are marked regional differences in dental needs. The proportion of respondents reporting a need for dental services is particularly high in the Western region (55 percent for women and 44 percent for men).

A greater proportion of respondents living in economically advantaged households reported a current need for dental services than those in less advantaged households.

13.2.5 Summary

A majority of women age 15-49 (54 percent) and men age 15-59 (61 percent) self-reported that the condition of their teeth was excellent or good. However, significant proportions of women (46 percent) and men (39 percent) reported that the condition of their teeth was fair or poor.

Relatively few women and men routinely received preventive dental care in Uzbekistan. Only 13 percent of respondents had been to a dentist for a routine dental checkup in the three years preceding the survey.

A significant proportion of respondents reported having dental problems in the 12 months preceding the survey (37 percent of women and 27 percent of men), and three-fourths of these sought professional dental care. Moreover, at the time of the survey, significant proportions of respondents reported being in need of dental services (40 percent of women and 33 percent of men), with the most frequently cited needs being fillings/tooth replacement, extractions, and gum treatment.

Differentials by age in the various indicators of dental health were substantial. Typically, older respondents were twice as likely as younger respondents to report poor teeth, to have needed and received dental care in the 12 months preceding the survey, and to report needing dental services at the time of the survey. Approximately half of all women age 40-49 and half of all men age 50-59 reported a current need for dental services.

Consistent differentials in dental care were found by urban-rural residence and level of education. Urban residents and more educated respondents were more likely to report a dental problem in the past 12 months and to receive services from a dental professional for that problem. They were also more likely to report a current need for dental services. Whether this means that the urban and more educated respondents have poorer teeth and a greater need for dental services or just higher dental standards could not be determined from the survey data.

13.3 Injury

Respondents to both the Women's and Men's Questionnaires were asked if, during the three months preceding the survey, they had suffered an injury serious enough that they could not perform routine work activities for a half day or longer. Table 13.10 indicates that 1.6 percent of women and 2.0 percent of men reported experiencing an injury during the previous three months. Because of the small number of injuries (90 for women and 47 for men), injury rates, especially those for subgroups of the population, are subject to relatively high sampling errors and should be interpreted with caution.

Table 13.10 Injury rates: women and men

Percentage of women and men reporting injuries during the three months preceding the survey, by background characteristics, Uzbekistan HES 2002

Background characteristic	Women		Men	
	Percentage reporting injury	Number	Percentage reporting injury	Number
Residence				
Urban	1.4	2,175	2.3	916
Rural	1.7	3,288	1.8	1,417
Region				
Western	3.5	699	3.5	314
Central	2.0	1,311	1.4	510
East-Central	1.7	1,431	2.8	646
Eastern	0.4	1,518	1.2	665
Tashkent City	0.7	503	1.4	198
Education				
Primary/middle	1.3	578	0.3	188
Secondary	1.7	3,189	2.3	1,311
Secondary special	1.3	1,122	2.3	470
Higher	1.7	574	1.7	364
Ethnicity				
Uzbek	1.5	4,669	1.4	2,011
Other	2.1	794	6.0	322
Total	1.6	5,463	2.0	2,333

Note: Injury rates refer to injuries that prevented the performance of routine work activities for half a day or longer.

14 BIOMARKER STUDIES IN TASHKENT

G. Semenov and Z.D. Mutalova

In the 2002 Uzbekistan Health Examination Survey (UHES), several biomarkers were collected in Tashkent City. The restriction to Tashkent City was because of financial and logistical constraints. The biomarkers collected in Tashkent City were as follows:

Specimen	Eligible population	Specimen analyzed as indicator of
Venous blood	Women age 15-49 Men age 15-59	Cholesterol levels Hepatitis B Diabetes
Cervical swab specimens	Ever-married women age 15-49	Chlamydia
Capillary blood	Children age 6-59 months	Exposure to lead

14.1 Procedures for Collecting Venous Blood

Women age 15-49 and men age 15-59 were eligible for the collection of venous blood. Eligible individuals were informed that it was necessary to fast 10 to 12 hours before a blood specimen would be drawn, and they were asked to consent to participate in the study. A followup visit was then scheduled, usually for the next morning, at which visit a trained health technician obtained the blood sample. Fasting blood samples were obtained from 700 of 849 eligible women and from 614 of 760 eligible men for response rates of 82 and 81 percent, respectively.

From each study participant, two samples of venous blood were obtained in color-coded Vacutainer tubes (one tube contained an anticoagulant). The samples were labeled (to allow linking back to the Women's and Men's Questionnaires), placed in an ice-cooled bag, and taken to a vehicle, where the tube without anticoagulant was centrifuged. Both samples remained in the vehicle in an ice-cooled chest till the end of the workday. At the end of each workday, they were transported to the Institute of Dermatology and Venereal Diseases in Tashkent City for biochemical analysis to measure cholesterol levels, hepatitis B, and diabetes.

14.2 Cholesterol Levels

Cholesterol and triglycerides are known risk factors for cardiovascular disease, the leading cause of death among adults in Uzbekistan. This study reports levels of total cholesterol, high-density lipoproteins (HDLs), low-density lipoproteins (LDLs), and triglycerides. Findings are shown in terms of the risk categories recommended by the National Institutes of Health (2002). Total cholesterol and triglycerides levels were measured in serum, and HDL cholesterol was measured in plasma.[1] LDL cholesterol was calculated from the formula:

LDL Cholesterol = Total Cholesterol – HDL Cholesterol – (Triglycerides/5).

[1] Measurements were made using the Roche Diagnostics Reflotron and Roche reagents in milligrams per deciliter (mg/dl).

14.2.1 Findings

Total cholesterol. Risk categories for total cholesterol are as follows: desirable (less than 200 mg/dl), borderline high (200 to 239 mg/dl), and high (240 or greater mg/dl). The survey found similar risk profiles for women and men. Total cholesterol was in the desirable range for approximately 90 percent of both women and men, in the borderline high range for about 8 percent, and in the high range for about 2 percent.

The mean level of total cholesterol was the same for women and men (156 mg/dl). Mean total cholesterol levels were positively associated with age and with the body mass index.

LDL cholesterol. Individuals with an LDL cholesterol level of 160 mg/dl and above are in the high-risk range for cardiovascular disease. LDL cholesterol levels were in the high-risk range for 2 percent of both women and men. Differentials by background characteristics were minimal.

Triglycerides. Individuals with triglyceride levels of 200 mg/dl and above are in the high-risk range for cardiovascular disease. Triglyceride levels were in the high-risk range for 11 percent of women and for 22 percent of men. For both men and women, differentials were positively associated with age and with the body mass index. For example, triglyceride levels were in the high-risk range for 9 percent of women of normal weight but for 20 percent of obese women.

HDL cholesterol. HDL cholesterol is a beneficial form of cholesterol, and individuals with low levels (below 40 mg/dl) are in the high-risk range for cardiovascular disease. Very substantial proportions of both women and men had low levels of HDL cholesterol. About half of all women (46 percent) and somewhat more than half of all men (62 percent) had values of HDL cholesterol in the high-risk range.

Risk ratios. The usefulness of total cholesterol as an indicator of risk of disease is diminished because it reflects both beneficial and detrimental lipoproteins. Similarly, lipid-specific values are single dimensional and do not consider other blood lipids that could have accentuating or mitigating effects. For these reasons, the ratio of total cholesterol to HDL cholesterol is a preferred indicator. A value of this risk ratio in excess of 6.0 is in the high-risk range for cardiovascular disease.

Tables 14.1.1 and 14.1.2 indicate that 6 percent of women and 13 percent of men had a risk ratio in excess of 6.0. Among both women and men, the percentage in the high-risk range was positively associated with age and the value of the body mass index. For example, 9 percent of men of normal weight were in the high-risk range as compared to 53 percent of obese men.

Table 14.1.1 Lipids status of women in Tashkent City

Percent distribution of women in Tashkent City by level of total cholesterol (TC), mean total cholesterol, percentage of women with specific lipid levels (high-density lipoproteins (HDL), low-density lipoproteins (LDL), triglycerides (TG)), and the TC/HDL risk ratio, by background characteristics, Uzbekistan 2002

	Total cholesterol level					Percent with specific lipids levels			Risk ratio	
Background characteristic	≤200 mg/dl	200-239 mg/dl	≥240 mg/dl	Total	Mean TC mg/dl	HDL <40 mg/dl	LDL ≥160 mg/dl	TG ≥200 mg/dl	TC/HDL >6	Number[1]
Age										
15-19	97.0	3.0	0.0	100.0	143	44.5	0.0	6.3	0.0	111
20-29	92.7	5.0	2.3	100.0	151	45.2	2.2	8.6	4.8	210
30-39	92.7	5.6	1.7	100.0	156	45.7	1.7	8.5	6.1	195
40-49	83.2	14.2	2.6	100.0	172	46.9	3.2	19.5	11.0	183
Marital status										
Never married	95.5	3.3	1.1	100.0	146	48.3	1.8	7.0	3.9	153
Married or living together	90.0	8.4	1.6	100.0	159	43.9	1.6	11.8	6.6	426
Divorced/separated/ widowed	88.2	8.4	3.4	100.0	162	48.5	3.4	13.8	6.7	120
Education										
Primary/middle	94.1	5.9	0.0	100.0	155	47.4	2.0	6.9	3.7	55
Secondary	88.7	8.1	3.2	100.0	156	47.7	3.2	10.4	6.3	246
Secondary special	93.8	4.1	2.1	100.0	154	46.6	2.1	8.4	5.7	201
Higher	89.8	9.9	0.4	100.0	160	41.8	0.4	15.7	6.6	198
Ethnic group										
Uzbek	91.2	7.8	0.9	100.0	154	44.9	1.1	9.3	4.6	473
Other	90.2	6.1	3.7	100.0	161	47.2	3.7	14.8	9.0	227
BMI										
<18.5 (thin)	(96.4)	(3.6)	(0.0)	(100.0)	(141)	(39.8)	(0.0)	(8.5)	(0.0)	33
18.5-24.9 (normal)	92.9	4.9	2.2	100.0	152	42.1	2.4	9.2	4.5	418
25.0-29.9 (overweight)	88.7	10.2	1.1	100.0	163	52.6	1.1	12.9	8.4	176
≥30.0 (obese)	82.6	15.8	1.6	100.0	171	54.6	1.6	19.7	11.7	64
Making ends meet										
Great difficulty	90.2	7.2	2.6	100.0	154	49.8	3.2	5.7	7.8	198
Some difficulty	89.3	9.3	1.3	100.0	157	41.5	1.3	13.6	5.8	227
A little difficulty	91.9	6.2	1.9	100.0	156	46.8	1.9	12.6	4.4	233
Easily	(97.3)	(2.7)	(0.0)	(100.0)	(162)	(42.4)	(0.0)	(14.0)	(7.7)	42
Total	90.9	7.3	1.8	100.0	156	45.7	2.0	11.1	6.0	700

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of women (700) equals the actual number from whom information was obtained.

Table 14.1.2 Lipids status of men in Tashkent City

Percent distribution of men in Tashkent City by level of total cholesterol (TC), mean total cholesterol, percentage of men with specific lipid levels (high-density lipoproteins (HDL), low-density lipoproteins (LDL), triglycerides (TG)), and the TC/HDL risk ratio, by background characteristics, Uzbekistan 2002

	Total cholesterol level					Percent with specific lipids levels			Risk ratio	
Background characteristic	≤200 mg/dl	200-239 mg/dl	≥240 mg/dl	Total	Mean TC mg/dl	HDL <40 mg/dl	LDL ≥160 mg/dl	TG ≥200 mg/dl	TC/HDL >6	Number[1]
Age										
15-19	93.8	5.5	0.8	100.0	143	67.6	0.8	12.1	4.5	134
20-29	88.4	9.9	1.7	100.0	156	62.2	2.4	17.9	16.0	172
30-39	90.7	6.8	2.5	100.0	155	58.3	0.6	25.2	10.0	117
40-49	85.9	10.5	3.5	100.0	165	56.2	2.8	25.8	14.2	129
50-59	83.3	11.0	5.7	100.0	168	64.0	1.8	36.2	23.8	63
Marital status										
Never married	91.5	7.3	1.3	100.0	147	62.6	1.3	14.9	7.5	224
Married or living together	87.4	9.8	2.7	100.0	161	62.7	1.5	25.5	15.9	360
Divorced/separated/ widowed	(88.9)	(3.4)	(7.7)	(100.0)	(169)	(40.6)	(7.7)	(23.4)	(14.0)	30
Education										
Primary/middle	90.5	5.5	4.0	100.0	147	68.2	1.1	15.0	2.9	58
Secondary	88.4	8.4	3.3	100.0	158	56.2	2.5	14.9	14.2	244
Secondary special	94.3	4.1	1.6	100.0	153	70.2	0.0	26.9	11.1	113
Higher	86.2	12.3	1.4	100.0	159	61.3	1.9	28.6	14.9	198
Ethnic group										
Uzbek	88.9	8.8	2.3	100.0	156	61.8	1.5	22.0	13.5	433
Other	89.2	8.0	2.7	100.0	157	60.9	2.2	20.5	11.0	181
BMI										
<18.5 (thin)	(96.9)	(3.1)	(0.0)	(100.0)	(141)	(75.3)	(0.0)	(5.6)	(3.1)	32
18.5-24.9 (normal)	90.2	8.6	1.1	100.0	153	58.8	1.5	17.3	9.3	362
25.0-29.9 (overweight)	87.4	8.1	4.5	100.0	162	59.6	1.8	26.3	13.5	169
≥30.0 (obese)	(72.4)	(21.3)	(6.3)	(100.0)	(181)	(86.9)	(3.0)	(59.3)	(52.7)	32
Making ends meet										
Great difficulty	89.0	8.3	2.7	100.0	153	56.3	2.1	19.4	6.7	173
Some difficulty	93.6	5.1	1.3	100.0	156	60.2	1.1	21.1	12.8	191
A little difficulty	85.5	11.2	3.3	100.0	157	66.9	2.3	21.9	16.1	210
Easily	(85.0)	(12.7)	(2.3)	(100.0)	(167)	(62.6)	(0.0)	(31.3)	(21.5)	40
Total	89.0	8.6	2.4	100.0	156	61.6	1.7	21.5	12.8	614

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of men (614) equals the actual number from whom information was obtained.

14.2.2 Summary

Mean total cholesterol values in Tashkent City were low (156 mg/dl for both women and men). Relatively few women and men (2 percent for each) had total cholesterol values in the high-risk range. These levels of total cholesterol are among the lowest reported anywhere in the world. This may be due to beneficial dietary habits, particularly the consumption of nuts, fruits, and vegetables. The 2002 UHES was conducted in the fall of the year, a period when these foods are abundant. However, these findings

are contrary to a study conducted in Tashkent City in the late 1980s, which reported much higher cholesterol levels.[2] Additional research will be required to resolve this inconsistency.

The risk ratio of total cholesterol to HDL cholesterol indicated that more men (13 percent) than women (6 percent) were in the high-risk range for cardiovascular disease. The much higher proportions in the high-risk range of overweight/obese individuals compared with those of normal weight indicate a need for an educational program focusing on healthy lifestyles and the importance of weight control.

14.3 Hepatitis B

Hepatitis B is a liver disease caused by the hepatitis B virus (HBV). The virus is found in semen, blood, and saliva and is usually spread by blood transfusions, contaminated needles, sexual contact, and, in the case of neonates, during delivery from an infected mother. The virus does not directly affect the health of an infected individual, but it activates cells in the immune system, which cause inflammation and damage to the liver. Approximately 10 percent of infected persons develop chronic hepatitis, and a small proportion will develop slow but progressive liver damage, leading to cirrhosis (scarring) of the liver or liver cancer.

One-third of persons infected with the hepatitis B virus show no symptoms but are "carriers" and can infect another person. According to the Ministry of Health, there were 4,683 reported new cases of hepatitis B in Uzbekistan in 2002 (WHO, 2003b). This is probably an underestimate because many newly infected persons are asymptomatic.

In the 2002 UHES, prevalence rates of hepatitis B were obtained by testing blood serum for the hepatitis B surface antigen (HBsAg).[3] HBsAg is detectable when a person is infected with HBV and indicates that a person is infectious.

14.3.1 Findings

Table 14.2 indicates that 3 percent of women and 6 percent of men tested positive for HBsAg. Positivity rates by background characteristics showed no clear pattern.

[2] A study conducted in Tashkent City among men age 40-59 reported that 19 percent had total cholesterol levels above 260 mg/dl (Makmudov et al., 1990).
[3] Testing of blood serum was done with the Abbott Determine HBsAg immunochromatographic test.

Table 14.2 Prevalence of hepatitis B among women and men in Tashkent City

Percentage of women and men in Tashkent City who tested positive for hepatitis B, by background characteristics, Uzbekistan 2002

Background characteristic	Women		Men	
	Percentage positive for hepatitis B	Number[1]	Percentage positive for hepatitis B	Number[1]
Age				
15-19	1.0	111	9.9	134
20-29	5.3	210	4.2	172
30-39	3.2	195	1.0	117
40-49	0.0	183	5.5	129
50-59	na	na	8.6	63
Marital status				
Never married	2.5	153	8.3	224
Married or living together	2.9	426	4.0	360
Divorced/separated/widowed	1.9	120	(3.6)	30
Education				
Primary/middle	1.8	55	6.8	58
Secondary	3.3	246	6.5	244
Secondary special	3.0	201	5.5	113
Higher	1.7	198	4.1	198
Ethnic group				
Uzbek	2.8	473	5.2	433
Other	2.3	227	6.4	181
Making ends meet				
Great difficulty	2.8	198	5.3	173
Some difficulty	1.7	227	6.2	191
A little difficulty	3.5	233	5.7	210
Easily	(2.4)	42	(2.8)	40
Total	2.6	700	5.6	614

Note: Figures in parentheses are based on 25-49 unweighted cases.
na=not applicable
[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of women (700) and men (614) equals the actual number from whom information was obtained.

14.3.2 Summary

The findings that 3 percent of women and 6 percent of men tested positive for hepatitis B are consistent with a previous study of HBsAg positivity in Tashkent City (Ruzibakiev et al., 2001).[4]

Hepatitis B is an entirely preventable disease. For its prevention, there is a need for screening the blood supply for blood-borne diseases, for education of medical providers on the need to use only sterile medical equipment, and for education of the population on the risk of infection associated with unprotected sexual intercourse and with sharing of needles by injecting drug users. Uzbekistan currently has a hepatitis B vaccination program for neonates. Extending this program to adolescents and the adult population could reduce the number of infectious individuals and morbidity and mortality from hepatitis B.

[4] The Ruzibakiev et al. study covered 211 adults age 18-53 in Tashkent City (83 percent of whom were men). Standardizing the 2002 UHES results on the gender distribution in the Ruzibakiev et al. study yields a positivity rate of 5.1 percent (which is within the sampling error of the 5.7 percent rate reported by Ruzibakiev et al.).

14.4 Diabetes Mellitus

Diabetes mellitus is a group of diseases that are characterized by elevated blood glucose levels due to defects in insulin secretion or insulin action. The great majority of cases are classified as type 1 or type 2 diabetes, depending on the etiology of the disease.

Type 1 (referred to as juvenile diabetes) occurs because of destruction of beta cells in the pancreas and usually leads to absolute insulin dependency. Type 1 diabetes typically accounts for between 5 and 10 percent of all diagnosed diabetes cases. Risk factors include autoimmune disease and unknown genetic and environmental factors.

Type 2 (referred to as adult-onset diabetes) is the most prevalent form of the disease. Risk factors include age over 40, obesity, genetic predisposition, a history of gestational diabetes, impaired glucose tolerance, and physical inactivity. Type 2 diabetes is often asymptomatic in the early stages and may remain undiagnosed for many years. If uncontrolled, type 2 diabetes can lead to many serious conditions, such as peripheral vascular disease, stroke, heart disease, kidney failure, blindness, and nerve damage.

In 2001, the standardized death rate from diabetes in the population age 0-64 years was 13 per 100,000 (15 for males and 11 for females) compared with 6 per 100,000 for all countries in the Commonwealth of Independent States (CIS) (WHO, 2003b).

Prevalence rates of diabetes were determined by testing for glycosylated hemoglobin (HbA1c) levels in whole blood.[5] The test measures HbA1c as a percentage of total hemoglobin and indicates average blood glucose level over a retrospective period of approximately two months. With this methodology, HbA1c levels less than 5.9 percent are in the nondiabetic range, between 6.0 and 7.9 percent indicate borderline or controlled diabetes, and 8.0 percent and higher indicate uncontrolled diabetes and a need for treatment or more aggressive treatment.

14.4.1 Findings

Table 14.3 indicates that over 90 percent of both women and men are in the nondiabetic range. An additional 5 percent of women and 7 percent of men are in the borderline or controlled range, and less than 1 percent of women and 3 percent of men are in the uncontrolled range.

As expected, the percentage of study participants classified as borderline and uncontrolled diabetics increased with age and with the value of the body mass index. Levels of HbA1c indicating uncontrolled diabetes were particularly high among obese men (13 percent).

[5] The tests were performed with Bayer Diagnostics equipment (DCA 2000+ Analyzer).

Table 14.3 Diabetes risk factor status among women and men in Tashkent City

Percent distribution of women and men in Tashkent City by level of glycosylated hemoglobin (HbA1c), according to background characteristics, Uzbekistan 2002

Background characteristic	Level of HbA1c as a percentage of total hemoglobin							
	4.0-4.9	5.0-5.4	5.5-5.9	6.0-6.9	7.0-7.9	8.0 or higher	Total	Number[1]
WOMEN								
Age								
15-19	5.7	61.7	31.7	0.8	0.0	0.0	100.0	110
20-29	11.5	60.2	25.2	2.7	0.0	0.5	100.0	211
30-39	11.6	52.5	30.5	4.8	0.6	0.0	100.0	194
40-49	8.3	51.2	29.9	7.2	1.3	2.2	100.0	183
Ethnic group								
Uzbek	8.3	57.1	30.2	3.8	0.2	0.4	100.0	474
Other	12.9	53.5	26.2	4.9	1.0	1.4	100.0	225
BMI								
<18.5 (thin)	(8.5)	(49.8)	(41.7)	(0.0)	(0.0)	(0.0)	(100.0)	33
18.5-24.9 (normal)	11.2	57.5	27.0	3.3	0.3	0.7	100.0	417
25.0-29.9 (overweight)	9.9	59.3	25.9	3.5	1.3	0.0	100.0	175
≥30.0 (obese)	2.6	37.2	45.9	12.6	0.0	1.8	100.0	64
Total	9.8	55.9	28.9	4.2	0.5	0.7	100.0	699
MEN								
Age								
15-19	4.9	56.6	30.2	4.9	1.3	2.0	100.0	134
20-29	8.1	61.7	22.1	5.0	0.6	2.4	100.0	172
30-39	5.1	57.5	28.2	5.5	0.8	2.8	100.0	117
40-49	10.3	45.0	35.2	5.7	1.0	2.9	100.0	129
50-59	8.6	37.5	36.4	10.8	1.4	5.3	100.0	63
Ethnic group								
Uzbek	6.8	54.9	29.5	5.9	0.9	1.9	100.0	433
Other	8.6	51.2	28.7	5.6	1.1	4.9	100.0	182
BMI								
<18.5 (thin)	(5.2)	(58.8)	(30.0)	(3.0)	(0.0)	(3.0)	(100.0)	33
18.5-24.9 (normal)	9.3	56.6	27.5	4.3	0.9	1.4	100.0	362
25.0-29.9 (overweight)	5.1	52.7	32.8	4.4	1.2	3.7	100.0	169
≥30.0 (obese)	(3.1)	(18.2)	(36.9)	(27.1)	(2.1)	(12.7)	(100.0)	32
Total	7.3	53.8	29.2	5.8	1.0	2.8	100.0	615

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of women (699) and men (615) equals the actual number from whom information was obtained.

14.4.2 Summary

The 2002 UHES found concentration of glycosylated hemoglobin in the diabetic range (borderline and uncontrolled diabetes) in 5 percent of women and 10 percent of men. The prevalence of high concentrations increased with age and was noteworthy among obese women and especially obese men. Early detection and treatment, with an emphasis on weight control, could reduce the burden of this disease and its complications.

14.5 *CHLAMYDIA TRACHOMATIS*

Chlamydia is a common sexually transmitted infection (STI). Among infected women, it is often asymptomatic and, when symptoms occur, they can be mild (i.e., in the form of a yellow vaginal discharge or a burning sensation when urinating). Untreated infection can lead to pelvic inflammatory disease, chronic pelvic pain, ectopic pregnancy, and infertility. At the time of delivery, it can be passed to neonates and can result in conjunctivitis and pneumonia.

14.5.1 Procedures for Collecting Chlamydia Specimens

Ever-married female respondents age 15-49 were asked to consent to providing a self-administered, cervical specimen to be tested for chlamydia. Study participants were given swabs containing Amplicor Swab Transport Medium (supplied by Roche Diagnostics) and were instructed by a female health technician on how to obtain a cervical specimen. The tubes were labeled (to allow linking back to the Women's Questionnaire) and returned to the interviewing team's vehicle. At the end of the day, the specimens were transported to the Institute of Dermatology and Venereal Diseases for analysis for classification as positive or negative for chlamydia. If a woman was menstruating during the first visit to the household, an additional visit was scheduled. Cervical specimens were obtained from 608 of 674 eligible women for a response rate of 90 percent.

Analysis of the specimens for active chlamydia infection was performed by polymerase chain reaction (PCR) technology employing Amplicor test kits (supplied by Roche Diagnostics).[6]

14.5.2 Findings

Table 14.4 indicates that 10 percent of ever-married female respondents in Tashkent tested positive for chlamydia. This prevalence rate is midway in the range of rates recently estimated internationally, between 1 and 26 percent (WHO, 2001a). In Tashkent City, prevalence rates for chlamydia tended to be higher among women who were older, not currently married, less educated, and residing in less economically secure households.

Table 14.4 Chlamydia among ever-married women in Tashkent City

Percentage of ever-married women in Tashkent City who tested positive for chlamydia, by background characteristics, Uzbekistan 2002

Background characteristic	Percentage of women positive for chlamydia	Number[1]
Age		
15-29	9.9	204
30-39	7.1	199
40-49	11.4	205
Marital status		
Married or living together	8.4	461
Not married	12.8	147
Education		
Primary/middle	(16.3)	36
Secondary	10.5	210
Secondary special	9.1	176
Higher	7.5	187
Making ends meet		
Great difficulty	10.7	183
Some difficulty	10.4	178
A little difficulty	8.2	204
Easily	(6.7)	43
Total	9.5	608

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of women (608) equals the actual number from whom information was obtained.

[6] The PCR laboratory is equipped with the PCR Express Thermal Cycler (Hybaid Limited). The laboratory is physically located in a separate room and performs only PCR tests in order to avoid contamination and malfunctioning of the sensitive equipment. Technicians at the PCR laboratory received refresher training by ORC Macro staff and a consultant from the Centers for Disease Control and Prevention.

14.5.3 Summary

The 10 percent of ever-married women testing positive for chlamydia represents 58 of all tested women. These women, along with other surveyed women, were explicitly asked if they had experienced an abnormal genital discharge (a symptom of chlamydia, as well as other STIs) and if they had sought treatment or medication for this problem. Of the 58 women with chlamydia, slightly less than half (26 women) reported experiencing an abnormal discharge and, of those, 14 women reported seeking treatment or medication.

These findings demonstrated the significant challenge faced by doctors and nurses due to asymptomatic chlamydia. Medical practitioners must be especially vigilant to detect chlamydia (and other asymptomatic STIs) when treating their patients. Additionally, the fact that less than half of the women who reported an abnormal discharge sought care indicates a need for targeted education programs concerning symptoms requiring medical attention.

14.6 Lead Exposure of Children Age 6-59 Months

Exposure to lead can result in health problems among children ranging from behavioral and mood changes to impaired cognitive development and, at high levels of lead poisoning, death. However, except at high levels, there are typically only subtle signs or symptoms of lead poisoning, and the vast majority of cases go undiagnosed and untreated.

Children are exposed to lead from different sources, such as paint and ceramic glazes, food can solder, industrial pollutants, and gasoline emissions. Previous research in Uzbekistan has indicated that average blood lead levels are higher in areas of industrial activity (13.5 micrograms per deciliter [µg/dl]) and in city traffic (11.1 µg/dl) than in the control areas. There are two oil refineries in Uzbekistan that produce commercial gasoline (in Bukhara and in Ferghana Oblast). The Ferghana refinery produces only leaded gasoline (World Bank, 1998).

14.6.1 Procedures for Collecting Capillary Blood

The recommended method of detecting lead poisoning involves the measurement of lead levels in blood in terms of micrograms per deciliter. Testing of blood lead levels of children in Tashkent City was done with capillary blood. Before blood was taken, the child's mother (or other caretaker) was asked to consent to the child's participation. If she agreed, the child's hand was washed thoroughly with soap and water. When soap and water were unavailable, the child's hand was washed with antibacterial liquid soap and cleaned with alcohol swabs. Then, two or three drops of capillary blood were obtained. This blood was mixed with the treatment reagent, and was transferred to a sensor using a pipette, and the sensor was introduced into a LeadCare analyzer. The test result was displayed digitally within three minutes, and the mothers were given the result of the test and an explanation of its meaning.[7]

A total of 390 children age 6-59 months were eligible for the blood lead test. Among these, 378 were tested, yielding a response rate of 97 percent. Nonparticipation primarily resulted from failure to obtain consent due to the absence from the household of the child's mother or other caretaker.

14.6.2 Findings

Many studies have shown deleterious effects on children at blood levels of 10.0 to 19.9 µg/dl. At levels between 20.0 and 44.9 µg/dl, clinical signs begin to appear, ranging from lethargy and irritability to

[7] Prior to the survey, arrangements were made to refer any child with a blood lead level of 45.0 µg/dl or higher to the local health facility. However, no child was detected with such a high level.

sporadic vomiting and abdominal pain. Levels above 45.0 µg/dl manifest more pronounced signs of illness, and cases should receive immediate treatment. Levels above 100.0 µg/dl are life threatening. However, even relatively low levels of exposure can have subtle effects and leave a child with reduced intellectual capacity (George, 1999).

Overall, 6 percent of children age 6-59 months were found to have blood lead levels of 10.0 µg/dl or higher (Table 14.5). Only 1 of the 378 children tested had a lead level of 20.0 µg/dl or higher. This is consistent with the relatively low mean blood lead levels recently found among children in three cities of Kazakhstan, where the mean levels ranged from 4 to 7 µg/dl (Kaul et al., 2000).

There were some differences in the prevalence of elevated blood lead levels by age of children and by mother's education. Blood lead levels of 10.0 µg/dl or higher were found most frequently among children age 12-23 months (11 percent) and children age 24-35 months (8 percent). Additionally, the percentage with lead levels above 10.0 µg/dl was lowest among children of mothers with a higher education (3 percent).

Table 14.5 Exposure of children to lead in Tashkent City

Percent distribution of children age 6-59 months in Tashkent City by blood lead level, according to background characteristics, Uzbekistan 2002

Background characteristic	Percentage of children with specific blood lead levels			Total	Number[1]
	<10.0 mg/dl	10.0-19.9 mg/dl	20.0-44.9 mg/dl		
Child's age in months					
6-11	*	*	*	*	19
12-23	(88.8)	(11.2)	(0.0)	(100.0)	36
24-35	91.4	8.6	0.0	100.0	63
36-47	95.6	3.4	0.9	100.0	119
48-59	94.7	5.3	0.0	100.0	140
Sex					
Male	93.3	6.2	0.6	100.0	193
Female	94.6	5.4	0.0	100.0	185
Education					
Primary/middle	*	*	*	*	15
Secondary	88.0	12.0	0.0	100.0	102
Secondary special	93.6	4.8	1.7	100.0	67
Higher	97.5	2.5	0.0	100.0	74
Making ends meet					
Great difficulty	95.0	5.0	0.0	100.0	106
Some difficulty	93.0	7.0	0.0	100.0	116
A little difficulty	93.6	5.6	0.8	100.0	131
Easily	(95.3)	(4.7)	(0.0)	(100.0)	24
Total	93.9	5.8	0.3	100.0	378

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of children (378) equals the actual number from whom information was obtained.

14.6.3 Summary

In Tashkent City, blood lead levels of 10.0 µg/dl or higher were found among 6 percent of children, with virtually all cases being in the range of 10.0 to 19.9 µg/dl. Although these levels are considered only moderately elevated, they can have substantial and long-lasting effects on the children experiencing them. Accordingly, attention should be directed to determining the source of lead poisoning in Tashkent City and formulating plans for its elimination.

VITAMIN A DEFICIENCY IN FERGHANA OBLAST

15

J. Sangha and Z.D. Mutalova

The United Nations Children's Fund (UNICEF) office in Uzbekistan provided funding for a study of the vitamin A status of children 6-59 months of age, which required the drawing of venous blood from participating children. It was necessary to restrict the study to a limited area because of funding constraints and to keep logistical requirements for storage and transport of blood samples at a manageable level. UNICEF requested that the study be done in Ferghana Oblast, an area of Uzbekistan where fruits and vegetables are particularly abundant. Thus, if a problem with vitamin A were found in Ferghana Oblast, it would suggest that the problem existed elsewhere in the country.

15.1 Background

Vitamin A designates a group of compounds essential for vision, growth, cellular differentiation, reproduction, and the integrity of the immune system. Vitamin A is also important in protecting the body against serious infectious illnesses (e.g., measles and diarrheal diseases). Vitamin A deficiency (VAD) is the leading cause of preventable blindness in children and elevates the risk of morbidity and mortality among preschool children.

Severe VAD results in clinical signs such as night blindness, Bitot's spots, xerophthalmia, and blindness. The severe forms of VAD are virtually unknown in Central Asia. However, long before showing these clinical signs, children can suffer subclinical consequences of VAD, such as prolonged illness from infection, anemia and growth retardation. Accordingly, it is recommended that VAD levels be determined even in areas where there is no evidence of severe VAD (Arneil, 1997).

15.2 Procedures for Collecting Venous Blood

There are various clinical and biological indicators of VAD. The direct assessment of liver stores by liver biopsy is impractical for population assessment studies. However, serum retinol (vitamin A) concentrations in venous blood have been validated for the assessment of VAD and are the most widely used biological indicators of VAD in general population studies (WHO, 1994). Serum retinol levels of less than 20 micrograms per deciliter are considered as an indicator of VAD.

Before blood samples were taken from children, the child's mother (or other caretaker) was asked to consent to the child's participation in the study. If she agreed, one Vacutainer tube of venous blood was collected using a single-use, disposable syringe. Care was taken to protect the tubes from light, heat, and air exposure, and they were immediately placed in an ice-cooled bag. The specimens were then taken to the survey team's vehicle and centrifuged using a battery-operated centrifuge. The specimens were stored in an ice-cold bag in the team's vehicle for the remainder of the day.

At the end of the day, the specimens were transferred to the central laboratory at the Ferghana Oblast Hospital where they were again centrifuged and the serum was placed in Nalgene tubes. The tubes were placed in a dry-shipper containing liquid nitrogen. As necessary, the liquid nitrogen was augmented to maintain the samples at a temperature below -70°C.

A total of 688 children age 6-59 months were eligible for the collection of venous blood. Serum retinol samples were measured for 633 children, yielding a response rate of 92 percent. Failure to test

some children was primarily due to the absence from the household of the appropriate person to grant consent for a child's participation in the study.

15.3 Measurement of Vitamin A Status

Upon completion of specimen collection in Ferghana Oblast, the specimens were transported in the dry-shippers with liquid nitrogen to the Kazakhstan Institute of Nutrition (KIN) in Almaty, Kazakhstan, where biochemical analysis was conducted using the high performance liquid chromatography (HPLC) technique. All samples were analyzed within four months after being received at the KIN.

A serum retinol concentration in blood serum of less than 20.0 micrograms per deciliter (µg/dl) is an indicator of VAD. A level of 10.0 to 19.9 µg/dl indicates moderate deficiency, while a level of less than 10.0 µg/dl indicates severe deficiency.

15.4 Findings

Table 15.1 indicates that 53 percent of participating children suffered some level of vitamin A deficiency (44 percent moderately deficient and 9 percent severely deficient). These results are consistent with earlier findings from the Muynak District of Karakalpakstan, Uzbekistan, where 41 percent of children less than five years of age had some level of VAD (i.e., serum retinol levels of less than 20 µg/dl) (Morse, 1994).

Table 15.1 and Figure 15.1 also indicate that VAD prevalence rates are lowest among children age 6-11 months (38 percent), increase to a peak among children age 12-23 months (61 percent), and are lower and stable among older children (about 50 percent). The peak during the weaning ages may reflect a reduction in the regular supply of vitamin A from breast milk. It is worth noting that the recent 2000 Uganda Demographic and Health Survey found the same age pattern of VAD (i.e., peaking at 12 to 23 months of age).

VAD prevalence rates by mother's education are highest among children of women with the least education (61 percent) and lowest among children of women with the most education (34 percent).

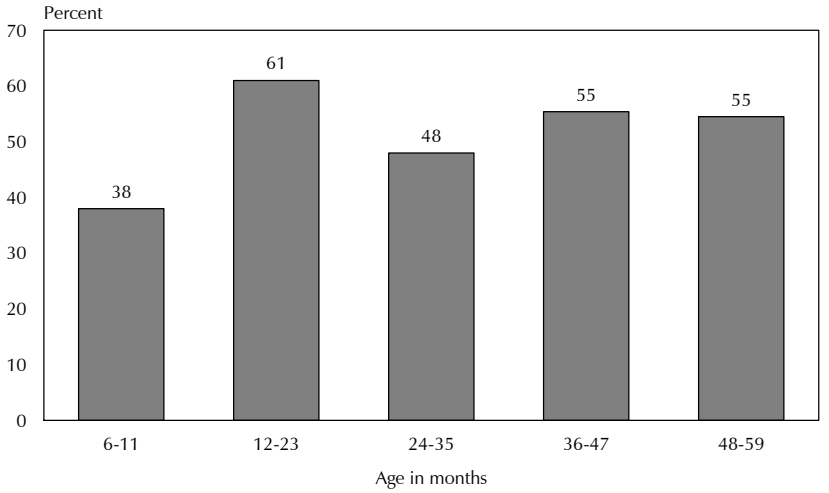
Table 15.1 Vitamin A status of children in Ferghana Oblast

Percentage of children age 6-59 months in Ferghana Oblast who are vitamin A deficient, by level of deficiency and background characteristics, Uzbekistan 2002

Background characteristic	Vitamin A status		Vitamin A deficient		Number[1]
	Normal ≥20 μg/dl	Vitamin A deficient below 20.0 μg/dl	Moderately deficient 10.0-19.9 μg/dl	Severly deficient below 10.0 μg/dl	
Child's age in months					
6-11	61.9	38.1	30.3	7.8	34
12-23	38.6	61.4	52.1	9.3	65
24-35	52.3	47.7	39.3	8.4	131
36-47	44.6	55.4	49.3	6.0	143
48-59	45.5	54.5	42.4	12.1	259
Sex					
Male	47.7	52.3	43.3	9.1	340
Female	46.0	54.0	44.2	9.8	293
Birth order					
1	48.3	51.7	47.0	4.7	109
2-3	45.4	54.6	48.2	6.3	183
4+	48.9	51.1	33.0	18.1	45
Residence					
Urban	42.2	57.8	43.9	13.9	177
Rural	48.7	51.3	43.6	7.7	456
Mother's education					
Primary/middle	39.5	60.5	48.9	11.6	34
Secondary	45.2	54.8	45.7	9.1	232
Secondary special	50.0	50.0	48.6	1.4	56
Higher	66.0	34.0	34.0	0.0	19
Mother's age					
15-19	42.0	58.0	58.0	0.0	2
20-24	49.6	50.4	47.4	3.1	121
25-29	45.1	54.9	46.0	8.9	137
30-49	44.9	55.1	42.9	12.1	81
Mother's status					
Mother interviewed	46.8	53.2	45.8	7.4	337
Mother not interviewed and not a household member	47.3	52.7	41.2	11.6	292
Making ends meet					
Great difficulty	40.1	59.9	49.9	9.9	144
Some difficulty	49.6	50.4	44.1	6.2	216
A little difficulty	52.1	47.9	37.9	10.0	197
Easily	36.8	63.2	46.8	16.4	74
Total	46.9	53.1	43.7	9.4	633

[1] As in other chapters of the report, weighted numbers of cases are reported. However, in this chapter, the national-level weights were rescaled so that the total number of children (633) equals the actual number from whom information was obtained.

Figure 15.1 **Vitamin A Deficiency in Children Age 6-59 Months, Ferghana Oblast**



Note: Vitamin A deficiency is defined as serum retinol less than 20.0 μg/dl. UHES 2002

15.5 VAD AND IRON DEFICIENCY ANEMIA

There is considerable international evidence that VAD is a contributing factor to iron deficiency anemia and that vitamin A supplementation can have a beneficial effect on the metabolism of iron (IVACG, 1998). Anemia has long been known to be highly prevalent in Uzbekistan among women of childbearing age and among children.[1]

In the 2002 Uzbekistan Health Examination Survey, high levels of VAD were found among children in Ferghana Oblast (53 percent) as well as high levels of anemia (37 percent, see Table 10.8).

15.6 SUMMARY

The 2002 UHES is the only known study to assess serum retinol levels of children in Ferghana Oblast and the only recent study of serum retinol levels anywhere in Uzbekistan. More than half of the children studied (53 percent) suffered from either moderate or severe VAD. The 1993 study of Muynak District of Karakalpakstan, an area widely separated from Ferghana, also found high rates of VAD among children (41 percent), suggesting that VAD may be a widespread health problem.

VAD can be corrected by the consumption of foods rich in vitamin A, such as eggs, liver, fish, milk, orange/yellow fruits and vegetables, and green leafy vegetables. However, in populations where VAD is a problem, it is best corrected through an approach combining the following four elements: appropriate diet, infection control, vitamin A supplementation, and food fortification. Exclusive breastfeeding following childbirth also contributes to preventing VAD, as breast milk is an adequate source of vitamin A for infants up to six months of age (WHO, 2001b).

[1] The 1996 Uzbekistan Demographic and Health Survey reported, among children less than three years of age, an overall anemia rate (mild, moderate, and severe) of 61 percent at the national level and 79 percent in the Eastern region, the region that includes Ferghana Oblast.

The international health community considers VAD a public health problem when 15 percent or more of a tested population have retinol levels less than 20.0 µg/dl (Sommer and Davidson, 2002). It is clear that the percentage of children with VAD (serum retinol below 20 µg/dl) in Ferghana Oblast is well above the 15 percent criteria indicative of a public health problem. Thus, consideration should be given to strengthening education programs designed to improve diets and to providing vitamin A supplementation for the preschool children in Ferghana Oblast. Of course, the Ministry of Health must ultimately decide if vitamin A deficiency should be considered a public health problem in various parts of Uzbekistan and what should be done about it.

GENDER ISSUES 16

H. Newby and A.I. Kamilov

The study of women's status and empowerment is important on its own, but it takes on a special significance in conjunction with the study of health outcomes. For example, women's status in society and in the household can affect the amount of resources expended on their health and welfare. Also, women are the targets directly or indirectly (as the caretakers of children) of a number of health and population programs. Monitoring and evaluating indicators of women's status and empowerment that incorporate measures of women's traditional rights and entitlements, as well as their individual levels of financial and decisionmaking autonomy, are critical to designing and improving population, health, and nutrition programs to better anticipate and meet the needs of women and their families.

Recognizing the multifaceted nature of women's status and empowerment, the 2002 Uzbekistan Health Examination Survey (UHES) included questions that permit an exploration of several different dimensions of women's status and empowerment, including various aspects of women's marriages and residential status, degree of participation in household decisionmaking, control over household and personal expenditures, and ownership of assets. The questionnaires also contained questions about women's and men's beliefs about gender roles.

16.1 Marriage Patterns

Marriage patterns are strongly influenced by culture and tradition, and their study often yields important insights into women's status and empowerment in society, as well as into marriage. At the individual level, various aspects of a woman's marriage are likely to affect the amount of autonomy and control she has in her married life. The 2002 UHES collected information on the following aspects of marriage patterns in Uzbekistan: the degree of women's participation in spouse selection, consanguinity, the age and education differences between women and their husbands, and coresidence with in-laws. While involvement in spouse selection and smaller spousal age and educational differences are hypothesized to be positively associated with empowerment, consanguinity and residence with in-laws tend to be associated with reduced empowerment.

16.1.1 Spouse Selection

Table 16.1 shows the length of time women knew their husbands before marriage, as well as their involvement in the choice of the husband. For women who were married more than once, these refer to their current or most recent husband only.

Ten percent of ever-married women in Uzbekistan met their husband for the first time on their wedding day. An additional 20 percent knew their husband for less than one month before marriage. Thus, 3 in 10 women in Uzbekistan marry a man who is a relative stranger. The likelihood of a woman marrying a man within a month of their first meeting (including the wedding day) does not change according to age, although the older the woman the more likely she first met her husband on the wedding day. The length of time a woman knows a man before marriage is positively correlated with education. However, it is notable that 16 percent of women with higher education married a man they met on or less than one month before the wedding day. The practice of meeting on the wedding day is most common among ethnic Uzbeks and Tajiks (10 and 14 percent, respectively).

Table 16.1 Choice of spouse

Percent distribution of ever-married women by length of time they knew their husband before marriage and degree of involvement in spouse selection, according to background characteristics of the respondent and of the marital union, Uzbekistan 2002

	Length of time knew husband before marriage						Chose husband					
Background characteristic	Met on the wedding day	Less than 1 month	1 month to 1 year	1 year or more	Missing	Total	Yes	No (was con-sulted)	No (was not con-sulted)	Missing	Total	Number of women
Age												
15-19	2.5	24.3	28.1	43.2	1.9	100.0	29.6	5.1	63.5	1.9	100.0	77
20-24	7.6	21.3	35.0	36.0	0.0	100.0	33.5	1.9	64.5	0.0	100.0	726
25-29	9.4	23.9	33.1	33.6	0.0	100.0	35.3	1.6	62.7	0.4	100.0	771
30-34	8.3	20.9	38.1	32.6	0.1	100.0	37.6	3.2	58.8	0.4	100.0	721
35-39	8.7	21.2	36.2	33.9	0.0	100.0	34.8	1.6	63.3	0.3	100.0	671
40-44	11.3	16.2	32.9	39.6	0.0	100.0	37.7	2.1	59.8	0.4	100.0	615
45-49	14.5	15.8	31.8	37.9	0.0	100.0	40.5	3.1	56.4	0.1	100.0	461
Age at first marriage												
<16	(16.0)	(17.3)	(41.9)	(24.8)	(0.0)	(100.0)	(51.8)	(3.1)	(45.1)	(0.0)	(100.0)	43
16-18	11.9	20.8	32.6	34.7	0.0	100.0	31.7	2.2	66.0	0.1	100.0	1,283
19-21	8.7	20.4	35.3	35.6	0.1	100.0	34.7	1.8	63.2	0.3	100.0	1,915
22-25	5.8	19.6	35.0	39.6	0.1	100.0	45.9	3.1	50.2	0.8	100.0	643
>25	13.9	20.6	38.7	26.8	0.0	100.0	45.7	4.0	50.0	0.3	100.0	157
Education												
Primary/middle	18.4	18.9	30.6	32.1	0.0	100.0	25.9	1.6	72.0	0.5	100.0	340
Secondary	10.9	22.4	32.2	34.6	0.0	100.0	31.4	2.0	66.4	0.2	100.0	2,386
Secondary special	5.1	20.3	40.0	34.5	0.2	100.0	44.6	2.0	52.7	0.6	100.0	850
Higher	4.1	11.4	39.8	44.7	0.1	100.0	52.4	4.4	42.9	0.2	100.0	466
Residence												
Urban	6.8	17.7	40.1	35.3	0.0	100.0	45.2	3.1	51.4	0.3	100.0	1,654
Rural	11.4	22.2	30.7	35.6	0.1	100.0	29.9	1.7	68.1	0.4	100.0	2,388
Region												
Western	5.9	24.6	34.8	34.7	0.1	100.0	59.7	3.2	36.3	0.9	100.0	483
Central	12.3	12.4	28.6	46.7	0.0	100.0	37.5	1.2	61.3	0.0	100.0	963
East-Central	4.9	16.2	45.9	33.1	0.0	100.0	32.4	3.2	64.3	0.1	100.0	1,065
Eastern	16.3	33.3	23.1	27.2	0.1	100.0	22.0	1.5	75.8	0.7	100.0	1,145
Tashkent City	0.0	8.1	52.0	39.7	0.1	100.0	55.5	3.3	41.2	0.0	100.0	386
Oversampled areas												
Karakalpakstan	6.1	20.6	44.5	28.6	0.1	100.0	72.2	5.3	20.9	1.6	100.0	263
Ferghana	13.7	29.5	16.5	40.3	0.0	100.0	20.9	3.0	76.1	0.0	100.0	501
Ethnicity												
Uzbek	10.4	21.3	33.3	35.0	0.1	100.0	30.7	2.0	67.1	0.2	100.0	3,446
Russian	0.0	4.9	41.9	53.1	0.0	100.0	91.7	1.0	7.3	0.0	100.0	125
Karakalpak	5.6	24.2	47.4	22.8	0.0	100.0	76.2	4.9	15.7	3.1	100.0	93
Tajik	13.5	28.2	33.5	24.8	0.0	100.0	29.3	3.1	66.2	1.4	100.0	118
Kazakh	5.2	17.2	48.0	29.6	0.0	100.0	68.4	7.1	24.2	0.3	100.0	101
Tatar	(0.0)	(4.9)	(43.4)	(51.7)	(0.0)	(100.0)	(79.7)	(3.3)	(17.0)	(0.0)	(100.0)	52
Other	1.7	7.3	39.8	51.2	0.0	100.0	69.3	2.3	27.1	1.3	100.0	107
Husband is a relative												
Yes	7.6	11.5	20.6	60.2	0.0	100.0	21.3	2.1	76.4	0.2	100.0	691
No	9.9	22.2	37.4	30.4	0.1	100.0	39.2	2.3	58.2	0.4	100.0	3,351
Total	9.5	20.4	34.6	35.5	0.1	100.0	36.2	2.2	61.3	0.3	100.0	4,042

Note: Husband refers to current or last husband or partner. Figures in parentheses are based on 25-49 unweighted cases.

In keeping with the finding that many women marry within a short period of the first meeting, a majority of women state that they did not participate in the decision of whom to marry. Sixty-one percent of women report that they were not consulted in the selection of their spouse. Younger women are more likely to claim that they did not participate in the selection of their husband than older women; just 30 percent of women age 15-19 report that they selected their own husband versus 41 percent of women age 45-49. The likelihood of participation in spouse selection increases sharply with education. Nonetheless, it is striking that 43 percent of women with higher education state that they were not consulted. Uzbek and Tajik women are the least likely to be consulted in the selection of their spouse, with two-thirds of them reporting that they had no say in the decision. Notably, women who are married to a relative are less likely than those not married to a relative to not have chosen their own husbands, even though they are more likely to have known their husbands for a longer period of time before marriage.

16.1.2 Consanguinity

Marriage between relatives (consanguineous marriage) has traditionally occurred among Uzbeks and some other Central Asian ethnic groups. Currently married women were asked if their husband was a relative, while divorced and widowed women were asked if their (most recent) husband was a relative. Table 16.2 shows that 17 percent of ever-married women in Uzbekistan have married a relative, but only 10 percent have married a blood relative. Six percent of ever-married women married a first cousin on the father's or mother's side, and an additional 4 percent married a blood relative who is not a first cousin.

Marriage between blood relatives is most common in the Central and Western regions, and it is twice as common in rural areas (13 percent) as in urban areas (6 percent). As expected, ethnic Tajiks and Uzbeks are significantly more likely than other ethnic groups to marry a blood relative (14 and 11 percent, respectively, compared with 3 percent of Karakalpaks and no Russians). These data reveal that, although marriage between blood relatives continues to take place, it is not common in any subgroup of the population.

Table 16.2 Consanguinity

Percent distribution of ever-married women by relationship to their (last) husband, according to background characteristics, Uzbekistan 2002

Background characteristic	First cousin (father's side)	First cousin (mother's side)	Other blood relative	Relative by marriage	Not related	Total	Number of women
Age							
15-19	1.7	7.2	3.6	9.3	78.3	100.0	77
20-24	3.1	4.2	5.4	8.4	78.9	100.0	726
25-29	2.0	4.4	3.8	8.0	81.8	100.0	771
30-34	2.0	3.3	4.0	5.2	85.5	100.0	721
35-39	3.2	4.3	2.0	7.9	82.7	100.0	671
40-44	2.5	3.8	4.3	5.7	83.6	100.0	615
45-49	1.8	2.4	3.3	5.4	87.1	100.0	461
Residence							
Urban	1.1	2.7	2.2	4.4	89.6	100.0	1,654
Rural	3.4	4.7	4.9	8.7	78.3	100.0	2,388
Region							
Western	5.7	6.7	1.9	5.4	80.4	100.0	483
Central	3.6	5.3	7.2	12.0	72.0	100.0	963
East-Central	1.9	3.5	5.5	9.1	80.0	100.0	1,065
Eastern	1.4	3.0	1.4	3.4	90.8	100.0	1,145
Tashkent City	0.3	0.5	0.4	0.8	98.0	100.0	386
Oversampled areas							
Karakalpakstan	1.7	4.4	2.0	4.6	87.3	100.0	263
Ferghana	1.5	4.5	1.6	5.2	87.3	100.0	501
Education							
Primary/middle	4.3	3.8	4.3	6.7	80.9	100.0	340
Secondary	2.8	4.8	4.5	7.8	80.1	100.0	2,386
Secondary special	1.4	2.5	2.1	5.6	88.4	100.0	850
Higher	1.3	2.0	3.0	5.2	88.6	100.0	466
Ethnicity							
Uzbek	2.7	3.9	4.2	7.6	81.6	100.0	3,446
Russian	0.0	0.0	0.0	0.0	100.0	100.0	125
Karakalpak	0.4	1.5	1.5	3.0	93.7	100.0	93
Tajik	2.5	8.1	3.6	3.6	82.2	100.0	118
Kazakh	0.9	2.3	2.2	6.3	88.3	100.0	101
Tatar	(0.0)	(0.0)	(0.0)	(2.2)	(97.8)	(100.0)	52
Other	2.7	7.1	2.3	4.0	83.9	100.0	107
Total	2.5	3.9	3.8	6.9	82.9	100.0	4,042

Note: Figures in parentheses are based on 25-49 unweighted cases.

16.1.3 Age and Educational Differences Between Wives and Husbands

Table 16.3 presents information on age and education differentials between spouses in Uzbekistan. The autonomy and control women have are likely to be negatively associated with large differences in age and education that favor the husband. To calculate these differentials, the age and education of currently married women obtained from the Women's Questionnaire were compared with the age and education of their husbands obtained from the Men's Questionnaire. Currently married women whose husbands were not interviewed are not included.

Table 16.3 Differences in age and education between spouses

Percent distribution of currently married women by interspousal age difference and education difference, and mean age and education differences, according to background characteristics of the respondent and of the marital union, Uzbekistan 2002

Background characteristic	Husband's age minus wife's age					Total	Mean age difference	Wife's education compared with husband's education				Total	Mean difference in years of education (husband's minus wife's)	Number of women
	<2 years	2-4 years	5-9 years	10-14 years	15+ years			Less	Equal	Greater	Don't know			
Age														
15-19	8.1	47.7	38.8	4.5	0.8	100.0	4.6	54.4	22.9	22.7	0.0	100.0	1.2	72
20-24	24.5	48.4	25.5	1.5	0.2	100.0	3.3	36.3	33.5	30.3	0.0	100.0	0.2	672
25-29	32.5	47.9	17.2	1.6	0.9	100.0	3.0	30.6	39.5	29.9	0.0	100.0	0.0	692
30-34	31.5	45.1	19.5	2.1	1.8	100.0	3.2	30.2	37.8	31.7	0.3	100.0	-0.2	644
35-39	31.5	50.0	16.8	1.0	0.7	100.0	2.8	35.4	38.2	26.4	0.0	100.0	0.3	585
40-44	36.1	45.4	13.2	3.2	2.1	100.0	3.0	28.1	45.4	26.6	0.0	100.0	-0.1	532
45-49	33.2	38.2	21.1	1.9	5.6	100.0	3.8	35.9	38.7	25.4	0.0	100.0	0.0	377
Age at first marriage														
<16	(9.7)	(38.0)	(32.3)	(12.2)	(7.8)	(100.0)	(6.3)	(72.2)	(19.9)	(8.0)	(0.0)	(100.0)	(2.1)	32
16-18	14.6	50.8	30.0	2.7	1.8	100.0	4.2	37.8	38.4	23.8	0.0	100.0	0.5	1,152
19-21	33.8	49.2	14.7	1.0	1.3	100.0	2.8	31.0	39.0	29.8	0.1	100.0	-0.1	1,736
22-25	52.6	34.0	10.1	1.6	1.7	100.0	2.0	28.5	36.1	35.4	0.0	100.0	-0.4	541
>25	50.3	20.5	22.8	5.4	1.1	100.0	2.2	26.4	42.0	31.7	0.0	100.0	-0.9	113
Education														
Primary/ middle	22.0	47.4	21.5	3.1	5.9	100.0	4.6	72.2	16.3	11.5	0.0	100.0	1.9	303
Secondary	28.1	48.8	20.2	1.8	1.1	100.0	3.2	32.0	43.2	24.7	0.1	100.0	0.3	2,170
Secondary special	36.3	44.8	16.5	1.8	0.6	100.0	2.7	30.7	34.5	34.8	0.0	100.0	-0.4	734
Higher	42.7	34.9	18.4	1.6	2.4	100.0	2.9	11.6	35.1	53.4	0.0	100.0	-2.4	367
Residence														
Urban	28.0	44.5	22.6	3.1	1.8	100.0	3.5	33.2	37.1	29.7	0.0	100.0	0.2	1,327
Rural	32.4	47.6	17.4	1.2	1.4	100.0	3.0	33.0	39.0	27.9	0.1	100.0	-0.0	2,248
Region														
Western	40.3	39.7	17.1	1.4	1.6	100.0	2.6	31.1	37.5	31.4	0.0	100.0	-0.1	429
Central	38.2	41.6	18.5	0.5	1.2	100.0	2.7	36.2	39.5	24.1	0.2	100.0	0.5	867
East-Central	26.7	47.2	21.9	2.2	1.9	100.0	3.5	35.7	37.6	26.6	0.0	100.0	0.3	970
Eastern	24.7	53.6	18.1	2.1	1.5	100.0	3.3	28.5	39.0	32.5	0.0	100.0	-0.6	1,046
Tashkent City	29.7	42.2	21.5	4.9	1.8	100.0	3.4	34.0	35.4	30.6	0.0	100.0	0.4	263
Oversampled areas														
Karakalpakstan	36.1	37.8	23.1	1.7	1.2	100.0	3.0	32.5	34.8	32.7	0.0	100.0	-0.2	233
Ferghana	27.5	51.3	18.4	1.9	1.0	100.0	3.1	31.6	41.1	27.3	0.0	100.0	-0.0	462
Ethnicity														
Uzbek	30.0	47.8	19.0	1.7	1.5	100.0	3.1	33.4	38.7	27.8	0.1	100.0	0.1	3,117
Russian	42.6	34.8	14.1	3.4	5.1	100.0	3.2	21.8	29.7	48.5	0.0	100.0	-1.1	77
Karakalpak	29.2	38.7	29.1	2.7	0.4	100.0	3.5	30.0	35.3	34.7	0.0	100.0	-0.5	82
Tajik	27.4	47.3	21.7	2.2	1.3	100.0	3.3	34.2	43.4	22.3	0.0	100.0	0.5	102
Kazakh	42.9	34.6	20.0	1.0	1.5	100.0	2.7	39.8	31.0	29.2	0.0	100.0	0.9	89
Tatar	*	*	*	*	*	*	*	*	*	*	*	*	*	29
Other	43.7	26.9	22.9	4.7	1.7	100.0	3.2	26.8	36.9	36.3	0.0	100.0	-0.8	78
Husband is a relative														
Yes	35.4	47.2	16.4	0.7	0.4	100.0	2.6	33.2	39.6	27.2	0.0	100.0	0.2	647
No	29.7	46.3	20.0	2.2	1.8	100.0	3.3	33.0	38.0	28.9	0.1	100.0	0.0	2,928
Total	30.8	46.4	19.4	1.9	1.6	100.0	3.2	33.0	38.3	28.6	0.1	100.0	0.0	3,575

Note: Information regarding husband's age and education is obtained from the Household Questionnaire. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 cases and has been suppressed.

In Uzbekistan, the mean age difference between spouses is 3.2 years, with the husband being at least three years older than the wife. The spousal age difference varies little by background characteristics with the exception of age at first marriage and education. The proportion of women with husbands who are at least five years older than they is highest for women married before age 18 or after age 25. The age difference between wives and husbands decreases as educational attainment increases, from 4.6 years among women with less than a secondary education to 2.9 years among women with higher education.

Table 16.3 also shows that, in Uzbekistan, husbands and wives have a similar number of years of education. In fact, the mean education difference between spouses is zero years, and couples are about equally distributed between those where the wife has less education than the husband, about equal education as the husband, or more education than the husband. Nonetheless, married women age 15-19, women whose age at first marriage was 18 or less, women who have little or no education, and Kazakh women are more likely than other women to have less education than their husbands. Only about 1 in 10 women with higher education have less education than their husbands, a proportion much lower than for any other population subgroup.

16.1.4 Coresidence After Marriage

Another aspect of marriage that influences women's autonomy and control is the practice of coresidence with the husband's family following marriage (Table 16.4). In keeping with traditional norms, almost half of all married women in Uzbekistan (45 percent) live with at least one in-law. Eighty-five percent of women who do reside with in-laws, reside with a mother-in-law and 65 percent with a father in-law. Young wives are more likely to live with their mother-in-law; the percentage of married women living with their mother-in-law ranges from a high of 86 percent among wives age 15-19 to a low of 7 percent among wives age 45-49. It is important to note that more than half of wives below the age of 30 live with their mother-in-law. Close to half of ethnic Uzbeks, Karakalpaks, Tajiks, and Kazakhs live with at least one in-law compared with less than a fifth of Russians and Tatars.

Table 16.4 Coresidence after marriage

Percent distribution of currently married women by coresidence with husband's relatives, according to background characteristics, Uzbekistan 2002

Background characteristic	Coresides with in-laws: At least one in-law	Mother-in-law	Father-in-law	Other in-law	Does not reside with any in-laws	Number of women
Age						
15-19	91.5	86.3	74.8	75.0	8.5	76
20-24	82.5	77.0	65.3	67.2	17.5	696
25-29	63.1	54.0	42.3	44.1	36.9	726
30-34	41.0	32.8	22.7	21.3	59.0	666
35-39	25.2	18.8	12.9	8.6	74.8	605
40-44	15.0	10.9	4.6	5.9	85.0	552
45-49	12.2	6.9	2.2	5.7	87.8	398
Woman's age at first marriage						
<18	41.8	34.7	27.7	25.9	58.2	543
18-24	45.5	39.3	29.9	30.1	54.5	2,997
25+	38.7	27.1	19.7	28.6	61.3	180
Husband is a relative						
Yes	49.0	43.4	33.3	35.2	51.0	662
No	43.7	36.8	28.2	28.2	56.3	3,058
Respondent selected spouse						
Yes	38.6	32.5	24.0	26.4	61.4	1,403
No	48.2	41.3	32.2	31.3	51.8	2,317
Residence						
Urban	40.4	33.4	23.6	25.3	59.6	1,434
Rural	47.3	40.9	32.5	32.0	52.7	2,286
Region						
Western	50.2	40.5	31.4	37.7	49.8	446
Central	36.8	30.0	23.1	24.7	63.2	889
East-Central	47.2	40.7	31.6	32.8	52.8	999
Eastern	49.6	43.8	33.6	29.8	50.4	1,082
Tashkent City	33.4	28.3	19.1	18.9	66.6	304
Oversampled areas						
Karakalpakstan	50.2	39.4	31.3	38.2	49.8	238
Ferghana	52.6	48.0	35.4	29.0	47.4	471
Education						
Primary/middle	38.4	30.6	23.0	26.6	61.6	316
Secondary	48.1	40.9	32.5	31.8	51.9	2,234
Secondary special	43.2	37.5	28.1	30.0	56.8	771
Higher	32.7	28.7	17.0	17.1	67.3	399
Ethnicity						
Uzbek	46.1	39.7	30.4	30.4	53.9	3,220
Russian	10.9	10.2	4.5	1.2	89.1	93
Karakalpak	48.2	38.0	26.8	34.8	51.8	84
Tajik	47.6	38.5	28.0	32.8	52.4	111
Kazakh	45.7	32.9	26.8	33.0	54.3	93
Tatar	(17.6)	(7.3)	(11.1)	(10.3)	(82.4)	33
Other	26.6	22.4	21.0	18.0	73.4	88
Total	44.6	38.0	29.1	29.4	55.4	3,720

Note: Figures in parentheses are based on 25-49 unweighted cases.

16.2 DECISIONMAKING WITHIN HOUSEHOLDS

To assess women's household decisionmaking autonomy, female 2002 UHES respondents were asked questions about who in the household has the final say in decisions related to the following eight specific areas: the respondent's own health care, large household purchases, daily household purchases, visits to family, visits to friends, what food to cook each day, whether or not she should work for money, and using contraception. Table 16.5 shows the percent distribution of women, according to person in the household who usually has the final say in each of these decisions.

The only specified decisions in which a majority of married women say they participate (either decide alone or make the decision with another person) is using contraception (72 percent) and what food to cook each day (62 percent). Only 43 percent of married women participate in decisionmaking about their own health care, and only one in four has the final say. Almost half of married women (45 percent) report that their husbands alone have the final say in their own health care. About 4 in 10 married women participate in decisionmaking about visits to friends and whether or not to work for money. Approximately one-third make decisions about daily household purchases and visits to family or relatives, but only about one-fifth report that they are involved in decisions regarding large household purchases. When married women are not involved in household decisionmaking, the data show that husbands are the ones most likely to be making the relevant decision alone.

The data also reveal the authority of the mother-in-law in household decisionmaking. For example, almost one in five married women say that their mother-in-law alone makes decisions about visits to family or relatives and visits to friends, and more than 1 in 10 report that their mother-in-law has the final say regarding large and daily household purchases (13 percent each). Even in the case of decisions about the respondent's own health care, 10 percent of the women report that the mother-in-law has the final say.

Regarding unmarried women, more than half have no say in each of the specified decisions except two: the majority state that they are involved in the decision to work, and almost all unmarried women who use contraception say that they make the decision themselves.

Table 16.5 Women's participation in decisionmaking

Percent distribution of women by person who has the final say in making specific decisions, according to current marital status and type of decision, Uzbekistan 2002

	Currently married or living together									Not married[1]					
Decision	Self only	Jointly with husband	Jointly with someone else	Husband only	Mother-in-law only	Someone else only	Decision not made/ not applicable	Total	Number of women	Self only	Jointly with someone else	Someone else only	Decision not made/ not applicable	Total	Number of women
Own health care	24.6	17.2	0.7	45.0	9.6	2.7	0.1	100.0	3,720	24.5	17.5	55.7	2.2	100.0	1,743
Large household purchases	5.9	12.8	0.6	57.9	13.3	9.4	0.1	100.0	3,720	14.1	15.8	63.9	6.0	100.0	1,743
Daily household purchases	20.9	9.6	0.6	48.7	13.3	6.7	0.1	100.0	3,720	16.8	14.4	62.6	6.0	100.0	1,743
Visits to family or relatives	9.7	26.3	0.5	40.8	18.0	4.6	0.1	100.0	3,720	18.0	15.0	53.7	13.1	100.0	1,743
Visits to friends	14.8	25.9	0.4	39.7	15.4	3.5	0.4	100.0	3,720	27.5	0.2	52.8	2.9	100.0	1,743
What food to cook each day	55.2	5.7	1.1	14.8	19.4	3.8	0.0	100.0	3,720	25.6	19.1	50.2	4.9	100.0	1,743
Woman's work for money	31.4	15.3	0.4	41.3	7.8	2.3	1.5	100.0	3,720	31.0	0.0	38.5	17.5	100.0	1,743
Using contraception	42.8	28.8	0.1	22.0	1.0	0.3	5.0	100.0	3,720	16.9	0.1	1.2	81.2	100.0	1,743

Note: Percentages may not add to 100 due to missing cases (no more than 0.2 percent of cases in any category).
[1] Never married, divorced, separated, or widowed women

Table 16.6.1 shows how participation in decisionmaking varies by background characteristics. A majority of women participate in decisions regarding visits to friends (64 percent), what food to cook each day (57 percent), employment (70 percent), and contraception (69 percent). Women are less likely to make other decisions. Less than half participate in decisions regarding their own health care (42 percent), daily purchases (31 percent), and visits to family (35 percent), and less than one-quarter (23 percent) are involved in decisions about making large purchases. Only 11 percent of all women, alone or jointly with a husband or someone else, have the final say in all the specified decisions, and 13 percent do not participate in any of the decisions. Involvement in household decisionmaking varies greatly by age; almost half of women age 15-19 report no involvement in any of the decisions, compared with 15 percent of women age 20-24 and 2 percent or less of women in the remaining age groups. Almost all women in their thirties report involvement in one or more of the different decisions; nonetheless, even among the oldest women (age 45-49), only 29 percent report that they participate in all of the specified decisions. Urban women are more likely than rural women to participate in all the decisions (19 versus 6 percent), and involvement in decisionmaking is significantly more likely for each decision when the woman has at least one child. Decisionmaking involvement is also associated with education; 6 percent of women with less than a secondary education have the final say in all specified decisions, compared with 25 percent of women with higher education. Once again, ethnic Uzbek and Tajik women have the least say in household decisionmaking (9 and 4 percent, respectively, have a say in all decisions), while ethnic Russians have the most say (57 percent). Women who are employed for cash are more likely to participate in all specified decisions (18 percent) than women who are not employed (6 percent) or women who are employed but not for cash (11 percent).

Table 16.6.1 Women's participation in decisionmaking by background characteristics

Percentage of women who say that they alone or jointly have the final say in specific decisions, by background characteristics, Uzbekistan 2002

Background characteristic	Alone or jointly has final say in: Own health care	Making large purchases	Making daily purchases	Visits to family or relatives	Visits to friends	What food to cook each day	Woman's work for money	Use of contraception	All specified decisions	None of the specified decisions	Number of women
Age											
15-19	27.3	16.1	16.1	18.3	13.2	33.1	15.1	8.1	0.4	47.5	1,091
20-24	34.4	12.0	15.4	20.3	42.5	36.5	59.5	63.8	2.7	15.0	1,049
25-29	40.7	17.1	25.8	29.9	67.4	56.0	79.5	90.2	8.8	2.1	809
30-34	50.4	25.7	39.8	41.8	85.8	68.7	90.2	93.5	15.7	1.0	734
35-39	50.2	29.2	44.0	47.0	93.2	74.7	96.0	92.8	17.2	0.7	687
40-44	52.5	33.9	47.9	55.0	96.9	78.0	97.0	91.3	20.0	0.0	626
45-49	59.7	42.7	56.1	64.7	98.5	82.0	96.9	84.8	28.7	0.0	466
Marital status											
Never married	31.7	19.7	20.5	22.5	15.4	35.9	19.5	4.1	1.1	45.6	1,421
Married or living together	42.4	19.4	31.2	36.4	80.3	62.0	88.0	93.6	11.1	1.2	3,720
Divorced/separated/ widowed	87.1	75.1	78.3	79.3	82.0	83.9	82.3	74.2	52.5	3.5	322
Number of living children											
0	33.3	18.9	20.7	23.2	23.0	36.6	29.1	16.9	2.5	38.5	1,751
1-2	47.8	24.2	33.0	36.6	70.8	56.9	82.3	93.4	15.6	1.5	1,644
3-4	46.8	24.7	38.3	43.1	90.6	70.9	93.2	95.1	14.7	0.3	1,560
5+	41.7	24.7	39.1	49.1	96.8	79.5	97.7	91.3	13.1	0.0	508
Residence											
Urban	58.9	33.1	42.8	44.3	69.5	60.2	75.9	73.5	18.9	8.4	2,175
Rural	31.3	15.8	23.5	29.4	59.6	54.1	65.7	66.3	5.6	15.8	3,288
Region											
Western	47.8	32.6	48.8	47.6	60.9	61.4	66.9	64.0	10.4	7.1	699
Central	34.9	18.5	27.5	40.3	67.0	77.5	78.3	69.4	10.7	9.3	1,311
East-Central	33.5	23.7	33.5	33.0	59.2	49.2	61.8	65.0	12.7	18.3	1,431
Eastern	38.3	15.1	18.1	23.4	62.1	42.0	67.9	72.1	4.6	16.1	1,518
Tashkent City	90.8	40.1	49.1	48.3	74.9	59.5	80.2	78.6	26.1	5.3	503
Oversampled areas											
Karakalpakstan	52.5	30.3	50.8	46.8	63.1	55.4	67.6	64.0	11.2	4.8	387
Ferghana	44.2	26.0	28.7	34.6	63.7	59.0	72.3	73.7	6.4	9.4	632
Education											
Primary/middle	30.8	18.1	24.3	27.9	51.8	49.5	54.7	52.6	6.2	24.9	578
Secondary	37.4	18.3	26.9	31.5	61.9	54.4	69.0	69.1	7.9	13.1	3,189
Secondary special	49.4	28.6	37.9	40.6	65.9	58.9	73.5	72.1	14.6	10.2	1,122
Higher	66.8	40.3	48.6	53.6	79.9	70.6	82.2	80.3	25.0	4.6	574
Employment											
Not employed	34.9	16.4	22.7	27.3	55.1	50.1	58.4	61.0	5.7	18.8	3,052
Employed for cash	53.2	31.2	42.5	45.7	74.3	65.0	84.7	79.8	18.0	5.3	2,227
Employed, not for cash	34.5	25.6	34.8	43.3	75.1	60.0	79.7	78.2	10.7	5.3	181
Ethnicity											
Uzbek	38.6	19.5	27.4	32.3	61.6	54.8	68.5	68.7	8.7	14.1	4,669
Russian	93.3	73.8	81.1	85.1	89.8	87.1	89.6	85.7	57.3	2.5	149
Karakalpak	57.2	27.3	48.1	44.6	67.4	51.6	69.7	65.2	12.2	6.6	134
Tajik	39.0	15.6	25.0	28.2	71.0	51.8	72.0	67.7	4.4	13.2	157
Kazakh	58.3	36.4	51.9	45.5	68.2	59.3	71.9	65.9	15.7	4.9	140
Tatar	71.3	62.0	63.3	64.1	75.4	83.5	76.6	67.4	38.5	4.2	75
Other	67.7	43.3	57.8	58.2	78.3	73.2	83.9	76.7	23.2	2.8	138
Total	42.3	22.7	31.2	35.3	63.5	56.5	69.8	69.2	10.9	12.9	5,463

Note: Total includes 3 cases for which information on employment is missing

To assess men's attitudes towards women's participation in household decisionmaking, the 2002 UHES asked men a different question than the one asked of female respondents. Men were asked who they thought should have the greater say in specified household decisions: the husband, the wife, or both equally. Table 16.6.2 shows the percentage of men who say that a wife should have at least an equal say in different decisions, by decision and background characteristics of the men.

Table 16.6.2 Men's attitudes toward women's participation in decisionmaking by background characteristics

Percentage of men who say that a wife should have at least an equal say with the husband in specific decisions, by background characteristics, Uzbekistan 2002

	Wife should have at least an equal say in:							
Background characteristic	Making large purchases	Making daily purchases	When to visit family, friends, or relatives	What to do with her earnings	How many and when to have children	All specified decisions	None of the specified decisions	Number of men
Age								
15-19	30.5	47.2	46.4	59.6	64.6	13.3	16.0	380
20-24	31.0	42.1	42.2	60.3	67.3	9.3	11.1	388
25-29	30.6	35.6	40.3	62.1	69.0	7.8	8.8	399
30-34	35.9	49.5	49.4	74.8	76.3	14.1	5.6	293
35-39	39.3	45.6	47.2	70.8	80.0	17.2	6.4	256
40-44	41.4	51.4	57.1	67.6	78.8	17.4	6.0	227
45-49	41.1	49.8	51.4	69.9	83.4	24.7	6.8	196
50-54	37.6	46.8	55.5	68.8	91.1	16.8	3.3	140
54-59	30.9	50.8	41.0	70.6	88.3	22.7	1.5	54
Marital status								
Never married	29.8	45.9	46.7	61.3	66.1	11.9	13.2	692
Married or living together	36.9	45.0	47.0	67.3	77.4	14.8	6.7	1,600
Divorced/separated/ widowed	26.4	40.2	54.3	79.9	78.9	18.2	12.7	40
Residence								
Urban	34.1	49.1	54.7	74.6	75.8	17.1	7.2	916
Rural	35.0	42.7	42.0	60.0	72.9	12.0	9.7	1,417
Region								
Western	55.2	77.7	62.4	63.0	69.5	27.4	4.5	314
Central	32.4	43.4	37.7	47.5	63.3	13.5	20.0	510
East-Central	31.8	57.4	58.5	63.0	75.8	14.8	5.5	646
Eastern	34.4	21.1	27.9	78.9	79.2	7.3	4.9	665
Tashkent City	17.9	39.2	73.1	81.6	86.0	14.0	10.3	198
Oversampled areas								
Karakalpakstan	53.7	85.6	65.5	72.7	72.7	29.9	3.7	185
Ferghana	70.8	28.1	41.3	89.5	81.3	14.4	2.3	259
Education								
Primary/middle	34.0	39.2	34.0	63.8	68.1	13.3	10.5	188
Secondary	34.9	43.8	45.4	61.3	71.6	11.6	10.1	1,311
Secondary special	34.1	47.6	46.5	69.3	75.8	18.2	6.5	470
Higher	34.5	50.0	60.0	78.2	83.7	17.7	5.7	364
Ethnicity								
Uzbek	32.6	40.8	44.5	63.9	72.6	11.1	9.7	2,011
Russian	35.2	60.5	79.6	87.6	89.8	26.8	6.5	48
Karakalpak	47.9	87.0	71.2	81.7	82.4	34.5	1.6	67
Tajik	(20.4)	(47.6)	(16.7)	(69.0)	(80.8)	(2.3)	(0.0)	60
Kazakh	54.4	92.9	67.9	70.5	73.6	32.5	2.1	65
Tatar	(84.0)	(82.7)	(83.9)	(83.7)	(94.1)	(68.4)	(2.2)	48
Other	43.0	53.4	64.8	75.0	82.8	32.3	6.9	33
Total	34.6	45.2	47.0	65.7	74.0	14.0	8.7	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

A significant majority of men believe that a wife should have at least an equal say in what to do with her earnings and in how many and when to have children (66 and 74 percent, respectively). Less than half of the men, however, agree that a wife should have an equal say in when to visit family, friends, or relatives and even for making daily purchases (47 and 45 percent, respectively). Only a third of men (35 percent) believe that a wife should have an equal say in making large purchases. Fourteen percent of men say that a wife should share in decisionmaking equally for all specified decisions, and 9 percent believe that a woman should have an equal say in none of the specified decisions. The distribution of men's attitudes by background characteristics is similar to women. For example, there is a positive correlation of men's agreement that a wife should have at least an equal say in all specified decisions, by age and education. However, when men's attitudes towards women's equal participation in decisionmaking (as shown in Table 16.6.2) are compared with the reality as perceived by women (Table 16.6.1), men's reported attitudes appear to be more egalitarian than the practice.

16.2.1 Freedom of Movement

Restrictions on women's freedom of movement constrains their social interaction and limits their ability to access and utilize societal resources. Women's freedom of movement is likely to vary along a continuum, ranging from unrestricted movement (can go alone anywhere) to no movement (can never go alone anywhere). Some women may be allowed to go to a destination only when accompanied. In the 2002 UHES, women's freedom of movement is evaluated in terms of their ability to go to three different destinations—to the local market to buy things, to the local health center or doctor, and to the homes of friends in the neighborhood. A three-point scale was used to measure a woman's freedom of movement: able to go alone, can go only with someone else, and not permitted to go at all (Table 16.7).

Women's freedom of movement does not vary greatly by neighborhood destinations, and at least two-thirds of women report that they are able to go alone to each of the three specified destinations, namely, the local market, local health center, or friends' homes (65, 76, and 77 percent, respectively). Women's freedom of movement is most restricted concerning visits to the local market; 27 percent of women can go only when accompanied by another person, and 8 percent report that they are not allowed to go at all.

Freedom of movement increases with age and number of children and is higher in urban areas than in rural areas. In rural areas 18 percent of women are not allowed to go alone to all of the three destinations compared with 13 percent in urban areas. There is also a strong association between educational attainment and women's freedom to move about in their neighborhoods. Only 7 percent of women with higher education are not allowed to go alone to all three destinations compared with 25 percent of women with less than a secondary school education. Similar to other empowerment indicators, ethnic Uzbek and Tajik women fare worse than Russians and other ethnicities. Women's employment for cash is positively associated with freedom of movement. For example, among women who are not working, one in five are not allowed to go alone to all of the three destinations, whereas among women who are employed for cash, this proportion is only 1 in 10.

Table 16.7 Freedom of movement

Percent distribution of women by destination-specific freedom of movement, according to background characteristics, Uzbekistan 2002

Background characteristic	To local market to buy things				To local health center or doctor				To home of friends in the neighborhood				Not allowed to go alone to any destination	Number of women
	Alone	With someone	Not at all	Total	Alone	With someone	Not at all	Total	Alone	With someone	Not at all	Total		
Age														
15-19	45.1	39.2	15.7	100.0	52.3	39.0	8.7	100.0	71.7	20.4	7.9	100.0	26.0	1,091
20-24	56.5	32.8	10.7	100.0	69.8	27.4	2.7	100.0	72.6	22.6	4.8	100.0	20.2	1,049
25-29	68.7	22.7	8.6	100.0	80.3	17.2	2.5	100.0	77.0	18.1	4.9	100.0	14.6	809
30-34	78.0	19.4	2.5	100.0	87.3	12.4	0.3	100.0	79.7	19.0	1.3	100.0	9.0	734
35-39	73.3	23.1	3.7	100.0	86.1	12.6	1.3	100.0	80.6	17.8	1.6	100.0	10.4	687
40-44	75.7	21.0	3.3	100.0	86.4	13.3	0.2	100.0	82.0	17.3	0.7	100.0	9.3	626
45-49	79.0	17.7	3.3	100.0	86.9	12.6	0.6	100.0	84.7	14.2	1.1	100.0	10.0	466
Marital status														
Never married	52.6	34.2	13.1	100.0	58.8	34.2	7.1	100.0	76.5	17.7	5.8	100.0	21.4	1,421
Married or living together	68.0	25.6	6.4	100.0	80.6	18.0	1.5	100.0	76.3	20.4	3.2	100.0	14.3	3,720
Divorced/separated/ widowed	87.5	9.4	3.1	100.0	93.3	5.5	1.2	100.0	89.0	9.8	1.2	100.0	5.9	322
Number of living children														
0	52.9	34.6	12.5	100.0	60.1	33.6	6.2	100.0	74.9	19.3	5.8	100.0	22.1	1,751
1-2	68.3	24.2	7.5	100.0	80.5	17.5	1.9	100.0	76.1	19.4	4.5	100.0	14.4	1,644
3-4	73.1	22.7	4.2	100.0	85.7	13.6	0.8	100.0	80.5	18.0	1.5	100.0	10.3	1,560
5+	72.9	22.2	4.9	100.0	82.4	16.5	1.2	100.0	78.1	20.5	1.5	100.0	14.3	508
Residence														
Urban	72.1	21.3	6.6	100.0	81.6	16.0	2.4	100.0	79.3	16.1	4.6	100.0	12.5	2,175
Rural	60.6	30.6	8.8	100.0	71.7	25.1	3.2	100.0	75.7	21.1	3.3	100.0	17.8	3,288
Region														
Western	69.4	25.3	5.3	100.0	74.2	22.5	3.4	100.0	75.7	21.9	2.4	100.0	15.0	699
Central	51.8	38.5	9.7	100.0	57.7	39.3	3.0	100.0	56.3	40.2	3.5	100.0	29.2	1,311
East-Central	74.6	18.9	6.4	100.0	80.5	15.2	4.3	100.0	81.3	14.3	4.4	100.0	16.6	1,431
Eastern	63.8	27.9	8.3	100.0	83.9	15.4	0.7	100.0	90.9	6.7	2.4	100.0	5.0	1,518
Tashkent City	71.1	18.9	10.0	100.0	85.8	9.5	4.8	100.0	80.1	11.2	8.7	100.0	10.8	503
Oversampled areas														
Karakalpakstan	82.0	16.2	1.8	100.0	85.0	13.7	1.3	100.0	82.8	15.5	1.7	100.0	10.2	387
Ferghana	63.3	22.0	14.7	100.0	90.9	8.9	0.3	100.0	85.3	11.7	3.0	100.0	7.7	632
Education														
Primary/middle	54.7	31.3	14.1	100.0	62.8	29.5	7.7	100.0	70.8	21.1	8.1	100.0	24.6	578
Secondary	62.4	29.3	8.2	100.0	73.3	24.0	2.8	100.0	75.7	20.5	3.8	100.0	17.0	3,189
Secondary special	71.4	22.0	6.6	100.0	82.0	15.9	2.1	100.0	79.9	17.2	2.9	100.0	11.9	1,122
Higher	78.6	18.8	2.5	100.0	89.3	10.3	0.4	100.0	86.0	12.8	1.2	100.0	7.0	574
Employment														
Not employed	58.1	31.4	10.4	100.0	69.3	26.6	4.0	100.0	73.7	21.1	5.2	100.0	19.9	3,052
Employed for cash	74.4	20.8	4.8	100.0	84.3	14.4	1.4	100.0	81.9	16.1	2.0	100.0	9.9	2,227
Employed, not for cash	71.1	26.3	2.6	100.0	77.1	21.8	1.1	100.0	77.7	21.4	0.9	100.0	13.3	181
Ethnicity														
Uzbek	62.6	28.8	8.7	100.0	73.8	23.1	3.1	100.0	75.7	20.3	4.0	100.0	16.8	4,669
Russian	90.4	8.4	1.2	100.0	93.5	5.3	1.2	100.0	89.4	8.9	1.7	100.0	4.8	149
Karakalpak	91.1	7.5	1.4	100.0	91.5	7.1	1.4	100.0	91.8	6.3	1.9	100.0	5.2	134
Tajik	63.2	28.2	8.6	100.0	75.1	19.5	5.4	100.0	78.9	12.7	8.4	100.0	15.8	157
Kazakh	82.9	15.4	1.7	100.0	89.9	9.6	0.5	100.0	86.3	13.2	0.5	100.0	6.8	140
Tatar	75.8	20.3	3.9	100.0	83.0	17.0	0.0	100.0	82.7	17.3	0.0	100.0	14.2	75
Other	79.3	16.3	4.4	100.0	84.5	15.0	0.5	100.0	84.0	14.4	1.6	100.0	9.3	138
Total	65.2	26.9	7.9	100.0	75.6	21.5	2.9	100.0	77.1	19.1	3.8	100.0	15.7	5,463

Note: Total includes 3 cases for which information on employment is missing.

16.3 FINANCIAL EMPOWERMENT

Direct access to financial resources is likely to be an important cause of and contributor to women's status and empowerment. Earnings control has been discussed in Chapter 2, but financial empowerment can also take other forms. This section presents data on asset ownership and control over money for household and personal purchases.

Table 16.8 shows the proportion of ever-married women who own, alone or jointly with someone else, each of the following six types of assets: land, current house or dwelling, some other house, car, jewelry or gems, and livestock. Eighty-seven percent of women report that they own, alone or jointly, the dwelling in which they reside. Almost half the women co-own land (48 percent) or livestock (45 percent). On the other hand, only 17 percent of women co-own a car, and almost no women (5 percent or less) own any of the specified assets alone, with the exception of jewelry (33 percent).

Table 16.8 Ownership of assets

Percentage of ever-married women who own specific types of assets alone or jointly and among those who own the asset alone, percentage who can sell the asset without permission, by type of asset, Uzbekistan 2002

Asset	Percentage of women who own assets			Number	Percentage who own asset alone and can sell without permission	Number of women who own asset alone
	Alone	Jointly	Total			
This house/dwelling	4.6	82.0	86.6	4,042	76.0	188
Any other house	0.4	5.0	5.4	4,042	*	18
Land	1.6	48.2	49.8	4,042	63.5	64
Car	0.6	16.7	17.2	4,042	(62.8)	23
Jewelry/gems	33.0	8.8	41.8	4,042	53.1	1,335
Livestock	0.9	45.4	46.3	4,042	(75.6)	37

Note: An asterisk indicates that a figure is based on fewer than 25 cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

Although being in a position to even co-own valuable assets can be an important indicator of women's status in a given society, for assets to be a source of financial empowerment for women, it is important that women know that if they ever need to they can sell the asset without first having to ask someone else for permission. The majority of women who reported sole ownership of an asset said that they could sell it without permission. However, only slightly more than half (53 percent) of women who reported sole ownership of jewelry/gems, the only asset that women are most likely to own on their own, said that they could sell without permission, as opposed to larger percentages of women who own other assets.

Table 16.9 shows women's control over household and personal expenditures. The 2002 UHES asked women if they controlled the money needed to buy vegetables and fruits and three different types of personal items for their own use, namely, clothes, any kind of medicine, and toiletries. Having to ask for money even for small household or personal expenditures limits women's financial autonomy.

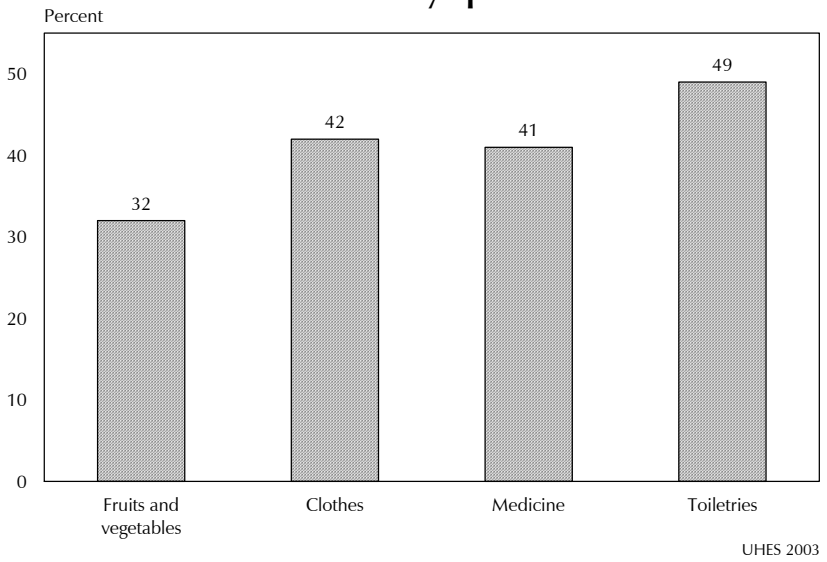
Table 16.9 Economic autonomy

Percentage of women who control money for specified household and personal expenditures, by background characteristics, Uzbekistan 2002

Background characteristic	Controls money for fruits/ vegetables	Controls money for personal items				Number of women
		Clothes	Medicine	Toiletries	At least one personal item	
Age						
15-19	8.7	15.4	10.7	32.3	35.4	1,091
20-24	15.3	27.2	25.8	47.5	52.1	1,049
25-29	32.2	41.9	43.9	52.7	61.2	809
30-34	44.2	53.6	52.8	57.7	69.8	734
35-39	52.5	59.4	59.2	56.1	71.0	687
40-44	49.5	61.2	58.8	51.9	71.3	626
45-49	55.9	65.1	67.0	55.6	72.6	466
Marital status						
Never married	11.8	22.0	16.3	39.9	43.5	1,421
Married or living together	36.7	46.0	46.2	49.9	62.3	3,720
Divorced/separated/ widowed	73.9	80.4	83.3	76.9	85.9	322
Number of living children						
0	14.1	24.2	19.6	41.3	45.5	1,751
1-2	37.2	46.8	48.0	56.2	64.7	1,644
3-4	44.5	52.4	53.3	53.6	67.2	1,560
5+	43.1	53.0	50.2	36.8	59.9	508
Residence						
Urban	43.4	53.1	52.5	64.0	70.7	2,175
Rural	25.1	34.3	32.7	38.9	50.9	3,288
Region						
Western	39.2	43.1	44.8	47.8	66.2	699
Central	27.0	35.4	32.7	39.5	50.7	1,311
East-Central	43.4	48.5	47.2	44.1	56.8	1,431
Eastern	19.6	30.8	30.0	50.8	55.3	1,518
Tashkent City	44.9	70.0	68.4	83.0	85.7	503
Oversampled areas						
Karakalpakstan	43.9	40.6	43.9	43.8	62.7	387
Ferghana	26.9	37.5	41.4	56.6	61.3	632
Education						
No education/primary/ middle	24.3	29.4	29.5	28.5	40.8	578
Secondary	28.1	37.5	35.4	42.1	53.3	3,189
Secondary special	38.0	48.2	49.2	64.3	71.8	1,122
Higher	53.5	65.1	63.6	77.2	82.0	574
Ethnicity						
Uzbek	29.2	39.2	37.8	46.3	56.2	4,669
Russian	71.9	83.3	83.2	90.0	93.1	149
Karakalpak	47.1	40.7	45.5	47.7	65.5	134
Tajik	22.0	38.3	31.0	49.8	56.6	157
Kazakh	55.2	50.5	54.5	56.9	69.8	140
Tatar	61.1	61.9	69.4	77.7	84.3	75
Other	57.3	66.4	65.6	68.9	79.5	138
Total	32.4	41.7	40.6	48.9	58.8	5,463

A third of women say that they control the money for fruits and vegetables for the household (Figure 16.1). The likelihood of control of money for fruits and vegetables increases from 9 percent among women age 15-19 to 15 percent among women age 20-24 and to 32 percent among women age 25-29. It is not until their late thirties, however, that more than half of women control money for this basic household expenditure. Control of household money for this purpose also increases once a woman has children. The likelihood of control is greater in urban than in rural areas (43 versus 25 percent) and increases by level of education. By region, likelihood of control is lowest in the Eastern region, and by ethnicity, it is lowest among Tajik and Uzbek women.

Figure 16.1 **Percentage of Women Who Control the Money Needed to Buy Specific Items**



Women in Uzbekistan have more control over money for personal items—clothes, medicine, and toiletries—than money for daily household shopping. Fifty-nine percent control money for one or more personal items, but the pattern of control of money for personal items by background characteristics is similar to that of money for household fruits and vegetables.

16.4 Attitudes Toward Gender Roles

An important aspect of women's status and empowerment is the belief in gender egalitarian roles and rights in society, as well as in the home. The 2002 UHES explores women's acceptance of unequal gender roles by asking women and men several sets of questions related to gender roles. The first set seeks to determine women's and men's attitudes towards wife beating. Attitudes that see the beating of wives by husbands as justified are indicative of women's lower status, both absolutely and relative to men. While such attitudes do not necessarily signify approval of men beating their wives, they do signify women's and men's acceptance of norms that give men the right to do so. The other set of questions explores the issue of sexual rights of wives. Beliefs about whether and when a woman can refuse sex to her husband reflect issues of gender equity with regard to sexual rights and bodily integrity. Besides yielding an important measure of empowerment, the information about women's attitudes toward sexual rights is useful for improving and monitoring reproductive health programs that depend on women's ability to control their own sexual lives.

16.4.1 Attitude Toward Wife Beating

To gather information on women's and men's attitudes toward wife beating, the 2002 UHES asked respondents whether a husband is justified in beating his wife under a series of circumstances. Possible circumstances that justify a man beating his wife included burning the food, arguing with him, going out without telling him, neglecting the children, and refusing sexual relations. The results for women are summarized in Table 16.10.1 and for men in Table 16.10.2.

Table 16.10.1 Women's attitude toward wife beating

Percentage of women who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Uzbekistan 2002

Background characteristic	Husband is justified in hitting or beating his wife if she: Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sex with him	Agrees with at least one specified reason	Number of women
Age							
15-19	23.1	41.5	54.2	52.3	12.6	63.0	1,091
20-24	27.9	50.3	62.8	61.2	17.9	73.4	1,049
25-29	28.0	49.3	65.4	61.0	21.3	73.3	809
30-34	29.0	47.8	61.3	60.1	23.9	70.0	734
35-39	34.2	53.3	65.2	62.8	29.6	71.9	687
40-44	25.2	49.8	64.2	60.2	24.0	71.9	626
45-49	29.2	44.8	56.5	55.5	23.7	62.8	466
Marital status							
Never married	23.6	40.8	53.5	53.0	12.1	62.8	1,421
Married or living together	29.9	51.9	65.8	62.7	24.6	74.1	3,720
Divorced/separated/ widowed	20.1	33.3	41.8	40.5	15.4	47.4	322
Number of living children							
0	23.9	41.9	54.9	53.5	13.4	63.9	1,751
1-2	25.5	46.8	59.3	57.4	18.9	68.9	1,644
3-4	29.8	51.0	64.9	61.2	26.2	72.4	1,560
5+	41.5	62.7	77.0	74.5	35.8	82.9	508
Residence							
Urban	16.7	33.1	44.7	42.9	14.7	52.8	2,175
Rural	35.0	57.7	72.1	69.4	24.9	80.7	3,288
Region							
Western	28.7	59.8	69.3	70.6	25.9	80.3	699
Central	46.5	62.2	75.2	74.9	22.5	84.9	1,311
East-Central	28.6	50.1	58.7	59.8	30.0	69.9	1,431
Eastern	19.0	42.5	66.4	56.4	15.0	71.7	1,518
Tashkent City	0.8	4.2	4.6	5.1	1.1	7.4	503
Oversampled areas							
Karakalpakstan	29.0	52.9	66.3	62.0	27.5	75.3	387
Ferghana	11.2	29.0	56.1	42.6	10.1	62.3	632
Education							
Primary/middle	34.5	57.5	65.9	64.2	27.4	73.5	578
Secondary	31.8	53.0	66.9	64.4	23.1	75.2	3,189
Secondary special	20.5	40.0	55.8	52.5	16.9	64.7	1,122
Higher	12.0	25.7	35.0	35.4	9.3	43.9	574
Employment							
Not employed	30.4	51.3	63.5	60.7	22.0	71.8	3,052
Employed for cash	22.6	42.2	57.0	55.2	18.1	65.6	2,227
Employed, not for cash	44.9	61.6	73.6	72.6	34.5	83.6	181
Number of decisions in which woman has final say[1]							
0	34.5	53.7	63.9	63.5	25.5	72.9	1,052
1-3	27.2	51.3	65.3	63.2	22.7	73.1	2,153
4-6	29.3	49.9	65.1	59.7	18.5	74.4	1,180
7-8	20.3	33.2	45.7	44.5	15.1	54.1	1,078
Ethnicity							
Uzbek	29.6	51.0	64.7	62.6	21.6	73.6	4,669
Russian	0.0	2.6	5.4	6.4	0.0	8.6	149
Karakalpak	28.5	51.1	60.6	51.4	29.2	66.3	134
Tajik	30.1	46.4	63.7	61.0	23.4	68.5	157
Kazakh	22.2	45.3	54.1	45.6	24.2	61.4	140
Tatar	1.6	3.9	13.7	12.5	3.1	19.9	75
Other	10.4	18.3	32.1	33.2	11.9	39.3	138
Total	27.7	47.9	61.2	58.8	20.8	69.6	5,463

Note: Total includes 3 cases for which information on employment is missing.
[1] Either by herself or jointly with others.

Seventy percent of women agree with at least one of the specified reasons justifying a husband beating his wife (Table 16.10.1). Women are most likely to agree for the following reasons: if she goes out without telling him (61 percent), if she neglects the children (59 percent), or if she argues with her husband (48 percent). Women are less likely to agree that beating is justified if the wife burns the food or refuses to have sex with her husband (28 and 21 percent, respectively).

Table 16.10.2 Men's attitude toward wife beating

Percentage of men who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Uzbekistan 2002

	Husband is justified in hitting or beating his wife if she:						
Background characteristic	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sex with him	Agrees with at least one specified reason	Number of men
Age							
15-19	7.9	38.3	45.3	38.4	8.2	62.8	380
20-24	9.9	42.9	53.0	43.5	14.9	66.2	388
25-29	7.1	41.2	48.9	40.2	9.4	64.3	399
30-34	7.9	26.8	44.0	36.9	7.4	54.5	293
35-39	8.6	39.7	47.8	41.9	10.2	60.1	256
40-44	8.4	35.6	39.8	37.6	10.5	57.3	227
45-49	8.0	27.7	49.3	33.8	8.6	53.5	196
50-54	0.8	19.2	31.7	26.6	6.4	43.8	140
54-59	11.6	22.2	42.0	28.1	5.5	44.4	54
Marital status							
Never married	8.1	40.1	47.6	38.8	10.7	63.9	692
Married or living together	7.6	33.7	45.3	37.9	9.3	57.4	1,600
Divorced/separated/ widowed	14.5	35.1	59.0	49.5	11.2	61.2	40
Residence							
Urban	5.3	31.8	37.1	32.0	6.7	50.1	916
Rural	9.6	38.0	52.1	42.4	11.7	65.4	1,417
Region							
Western	14.5	47.8	55.0	51.2	19.7	67.3	314
Central	10.0	34.9	49.1	48.5	12.9	60.6	510
East-Central	7.7	39.1	43.4	39.5	7.7	62.2	646
Eastern	4.1	30.1	45.4	25.9	4.6	56.7	665
Tashkent City	4.8	25.1	36.8	29.4	9.4	43.5	198
Oversampled areas							
Karakalpakstan	9.9	46.2	48.1	45.1	8.0	58.7	185
Ferghana	1.7	20.9	22.1	9.7	4.7	35.1	259
Education							
Primary/middle	7.4	34.2	49.0	35.7	7.7	61.3	188
Secondary	9.2	38.4	49.4	41.2	11.4	63.0	1,311
Secondary special	7.5	32.6	48.4	38.9	9.2	60.3	470
Higher	3.9	30.0	30.5	28.8	5.3	44.2	364
Ethnicity							
Uzbek	8.3	36.6	48.3	39.7	10.3	61.7	2,011
Russian	3.4	10.8	20.2	18.7	5.1	27.6	48
Karakalpak	14.1	46.6	49.7	44.1	13.7	58.1	67
Tajik	(5.3)	(44.7)	(44.5)	(28.7)	(5.3)	(65.6)	60
Kazakh	2.9	31.9	39.6	42.3	6.0	56.1	65
Tatar	(0.6)	(4.3)	(4.0)	(10.6)	(1.2)	(13.4)	48
Other	0.0	24.0	30.2	23.3	1.3	33.7	33
Total	7.9	35.6	46.2	38.3	9.7	59.4	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

Seventy-four percent of currently married women agree with at least one reason justifying a man beating his wife; this is a higher percentage than for never-married women or formerly married women (63 and 47 percent, respectively). Agreement also increases with number of living children, from 64 percent among women with no children to 83 percent among women with five or more children. Half (53 percent) of women residing in urban areas agree with at least one reason compared with 81 percent of women in rural areas. Women's likelihood of agreement decreases with education; nonetheless, 44 percent of women with higher education agree with at least one reason. Women who participate in all or almost all of the household's decisions are less likely to agree with wife beating for any specified reason than women with less decisionmaking power (54 percent compared with 73 to 74 percent, respectively). Approximately three-quarters (74 percent) of ethnic Uzbek women agree with at least one reason; this is higher than any other ethnic group. Nonetheless, what is most telling in these data is not the differentials by background characteristics, but the widespread agreement irrespective of most background characteristics.

Men were also asked about their opinion on the justification of wife beating under the same specified circumstances. As shown in Table 16.10.2, men are significantly less likely than women to agree with each of the reasons for wife beating. Men were less than half as likely as women to agree that burning the food (8 percent for men versus 28 percent for women) and refusing to have sex with her husband (10 percent for men versus 21 percent for women) are reasons justifying a husband beating his wife. Approximately 4 in 10 men agree with the reasons of arguing with him, going out without telling him, or neglecting the children as justification for husbands beating wives. Men are substantially less likely than women to agree with one or more of the given reasons justifying a man beating his wife (59 percent compared with 70 percent). Unlike married women, married men are somewhat less likely than unmarried men to agree with one or more reasons. Agreement is lower among men than among women in all regions except Tashkent City. Only 7 percent of women in Tashkent City agree with one or more reasons compared with 44 percent of men. Russian men are also much more likely than Russian women (28 percent of men compared with 9 percent of women) to agree with wife beating for any reason. Surprisingly, while less educated men are less likely than women with similar education to agree with wife beating for any reason, an almost identical proportion of men and women with higher education agree with at least one reason for wife beating (44 percent each).

16.4.2 Attitude Toward Refusing Sexual Relations

The extent of control women have over when and with whom they have sex has important implications for demographic and health outcomes. The 2002 UHES included a question on whether the respondent thinks that a wife is justified in refusing to have sex with her husband under the following four circumstances: if she knows her husband has a sexually transmitted infection, if she knows her husband has sex with other women, if she has recently given birth, or if she is tired or not in the mood. These four circumstances were chosen because they are effective in combining issues of women's rights and women's health.

Table 16.11.1 shows the percentage of women who say that wives are justified in refusing to have sex with their husbands for specific reasons, by background characteristics. The table also shows how women's opinions on this topic vary with each of the other two measures of empowerment, namely participation in decisionmaking and attitudes toward wife beating.

Nearly three-quarters (72 percent) of women in Uzbekistan agree that a woman is justified in refusing to have sex with her husband for all of the four specified reasons. Specifically, 86 percent said that a woman is justified in refusing to have sex with her husband if she knows he has a sexually transmitted infection, and similar percentages said she is justified in refusing sex if she knows her husband has sex with other women or if she has recently given birth. Women were slightly less likely to agree that a woman can refuse to have sex with her husband if she is tired or not in the mood (78 percent).

Table 16.11.1 Women's attitude toward refusing sex with husband

Percentage of women who believe that a wife is justified in refusing to have sex with her husband for specific reasons, by background characteristics, Uzbekistan 2002

Background characteristic	Wife is justified in refusing sex with husband if she: Knows husband has a sexually transmitted disease	Knows husband has sex with other women	Has recently given birth	Is tired or not in the mood	Agrees with all of the specified reasons	Agrees with none of the specified reasons	Number of women
Age							
15-19	59.1	60.5	56.2	50.9	41.7	29.5	1,091
20-24	86.4	84.4	85.8	76.2	70.1	8.1	1,049
25-29	95.4	91.0	93.6	84.8	79.2	1.4	809
30-34	94.5	90.5	94.3	86.9	81.3	2.5	734
35-39	94.9	92.0	95.5	88.5	83.0	1.2	687
40-44	94.4	93.2	95.3	89.9	84.3	1.8	626
45-49	94.6	91.4	95.5	86.8	82.1	1.8	466
Marital status							
Never married	61.5	63.3	58.7	53.5	45.0	27.9	1,421
Married or living together	94.6	91.2	94.6	86.1	80.4	1.6	3,720
Divorced/separated/ widowed	95.6	92.1	95.3	90.8	86.8	3.1	322
Number of living children							
0	67.1	67.6	64.4	59.0	50.6	23.5	1,751
1-2	95.5	92.0	95.2	86.5	81.7	1.3	1,644
3-4	94.9	91.3	94.9	86.9	81.1	1.6	1,560
5+	93.7	92.0	96.0	87.5	81.5	1.5	508
Residence							
Urban	88.9	85.6	87.6	81.1	76.8	7.9	2,175
Rural	84.2	82.9	83.8	75.7	68.1	8.9	3,288
Region							
Western	87.0	84.3	81.5	76.8	70.1	8.7	699
Central	84.6	88.4	84.5	81.5	71.0	6.3	1,311
East-Central	88.9	81.1	88.4	74.8	68.9	6.6	1,431
Eastern	83.2	81.6	83.8	75.4	70.9	11.7	1,518
Tashkent City	89.3	87.4	88.7	86.0	84.6	9.7	503
Oversampled areas							
Karakalpakstan	85.7	82.7	82.8	78.5	71.7	9.4	387
Ferghana	86.1	78.5	84.0	68.6	64.0	9.6	632
Education							
Primary/middle	71.8	72.2	75.3	66.7	57.7	18.2	578
Secondary	85.3	83.2	84.0	77.0	69.6	8.8	3,189
Secondary special	90.0	88.0	89.1	81.9	77.8	6.0	1,122
Higher	96.9	92.6	95.1	86.3	83.9	2.3	574
Employment							
Not employed	81.0	79.9	80.4	72.7	65.0	11.8	3,052
Employed for cash	92.8	89.8	92.2	85.3	80.8	4.0	2,227
Employed, not for cash	88.4	83.0	84.9	75.4	69.4	7.3	181
Number of decisions in which woman has final say[1]							
0	68.5	64.3	69.1	57.9	50.0	21.5	1,052
1-3	87.6	86.5	87.1	78.9	71.5	6.3	2,153
4-6	94.0	92.9	93.6	88.6	83.2	2.7	1,180
7-8	91.4	88.4	88.6	83.6	80.0	6.7	1,078
Number of reasons wife beating is justified							
0	84.5	83.0	82.3	79.8	76.6	12.7	1,661
1-2	87.4	83.9	86.1	75.3	69.7	8.2	1,310
3-4	85.9	84.4	85.7	77.2	68.6	6.4	1,733
5	87.5	85.3	89.8	79.7	70.4	4.8	758
Ethnicity							
Uzbek	85.6	83.7	85.2	77.2	70.7	8.7	4,669
Russian	96.2	95.4	97.1	93.0	91.7	2.9	149
Karakalpak	83.1	80.1	82.4	76.5	70.7	11.8	134
Tajik	80.6	75.6	81.8	74.1	67.0	12.1	157
Kazakh	87.7	85.3	81.9	77.7	71.6	8.3	140
Tatar	94.2	93.0	87.3	85.7	84.2	3.4	75
Other	94.1	88.2	87.9	85.9	78.2	5.1	138
Total	86.1	84.0	85.3	77.9	71.6	8.5	5,463

Note: Total includes 3 cases for which information on employment is missing.
[1] Either by herself or jointly with others.

The percentage of respondents who agree with all of the reasons increases substantially with educational attainment, from 58 percent among women with less than a secondary education to 84 percent among women with higher education. There is also a strong relationship between a woman's status in the household and her attitude toward a wife refusing sexual relations with her husband. For example, 50 percent of women who have no say in household decisionmaking agree with all of the specified reasons for refusing sex compared with 72 percent of women who have a say in a few decisions and 80 percent or more women who have a say in the majority of decisions. Women who do not agree with wife beating for any reason are also somewhat more likely to agree with all four reasons than women who agree that wife beating is justified for even one reason.

Only 9 percent of women do not agree with any of the given reasons for a wife to refuse sex with her husband. Younger women are more likely to not agree with any of the reasons; 30 percent of women age 15-19 do not feel that a woman is justified in refusing sex with her husband in any of the specified circumstances. Women who have never been married and who have no children are also more likely than most other women to disagree with the specified reasons justifying a wife's refusing sex to her husband. Russian women (92 percent) are most likely to agree with all reasons, whereas Tajik women are least likely to do so (67 percent).

Table 16.11.2 shows the percentage of men who say that women are justified in refusing sex with their husband, by background characteristics. Men are more likely than women to agree with three of the specified reasons: she knows her husband has a sexually transmitted infection (97 percent for men versus 86 percent for women), she knows her husband has sex with other women (90 percent for men versus 84 percent for women), and she has recently given birth (92 percent for men versus 85 percent for women). However, men are slightly less likely than women to agree that a woman is justified in refusing sex if she is tired or not in the mood (74 percent for men versus 78 percent for women). Men are somewhat less likely than women to agree with all four reasons for a wife refusing to have sex with her husband.

Similar to women, men's attitude toward a wife's right to refuse sex to her husband varies by education. Whereas only 63 percent of men with less than a secondary school education agree with all of the specified reasons, this proportion increases with educational attainment to 78 percent for men with higher education. Men with less than a secondary school education are the least likely to agree with any given reason for refusing sex; 4 percent of these less educated men say they agree with no reason, compared with only 1 percent of all men nationwide. Agreement with all four reasons increases with age and is much higher among married than unmarried men.

Table 16.11.2 Men's attitude toward a wife refusing sex with husband

Percentage of men who believe that a wife is justified in refusing to have sex with her husband for specific reasons, by background characteristics, Uzbekistan 2002

Background characteristic	Wife is justified in refuxing sex with husband if she: Knows husband has a sexually transmitted disease	Knows husband has sex with other women	Has recently given birth	Is tired or not in the mood	Agrees with all of the specified reasons	Agrees with none of the specified reasons	Number of men
Age							
15-19	92.1	83.8	83.3	56.3	51.9	3.6	380
20-24	98.0	89.4	87.1	69.2	64.0	1.3	388
25-29	97.2	90.8	93.3	71.9	67.5	0.6	399
30-34	97.3	91.1	95.6	76.5	72.4	1.3	293
35-39	99.5	93.1	95.4	80.4	77.3	0.3	256
40-44	98.8	93.2	98.6	82.3	79.1	0.3	227
45-49	97.0	91.8	94.5	80.2	76.6	2.2	196
50-54	98.6	95.5	95.3	90.0	87.2	0.1	140
54-59	98.3	95.6	97.7	93.6	89.7	0.0	54
Marital status							
Never married	93.7	85.8	82.5	60.1	54.9	2.8	692
Married or living together	98.4	92.5	96.2	79.7	76.0	0.7	1,600
Divorced/separated/ widowed	98.7	87.5	90.6	72.0	71.0	1.3	40
Residence							
Urban	96.1	90.5	92.3	76.9	74.0	2.0	916
Rural	97.6	90.4	91.8	71.7	66.8	0.9	1,417
Region							
Western	97.6	86.8	95.6	77.0	70.4	0.4	314
Central	99.3	94.4	99.3	86.3	83.6	0.0	510
East-Central	96.0	84.5	83.1	67.0	60.1	2.1	646
Eastern	97.6	96.8	95.9	67.2	66.3	0.5	665
Tashkent City	91.4	84.0	83.5	79.9	75.2	6.4	198
Oversampled areas							
Karakalpakstan	96.0	90.7	98.1	90.4	84.8	0.7	185
Ferghana	98.4	94.5	97.1	40.0	38.4	0.7	259
Education							
Primary/middle	92.0	90.3	84.9	69.5	63.4	4.4	188
Secondary	96.8	89.0	92.0	71.2	66.4	1.2	1,311
Secondary special	98.6	92.6	93.4	76.0	74.5	0.8	470
Higher	98.3	92.9	93.8	82.2	78.3	0.8	364
Ethnicity							
Uzbek	97.3	90.7	92.3	72.5	68.7	1.1	2,011
Russian	93.2	87.6	84.7	74.4	72.9	5.9	48
Karakalpak	99.1	93.7	100.0	93.6	89.7	0.0	67
Tajik	(96.2)	(90.6)	(85.8)	(64.6)	(64.6)	(2.5)	60
Kazakh	94.3	89.0	92.9	92.0	79.7	0.7	65
Tatar	(97.0)	(83.2)	(92.9)	(77.5)	(67.7)	(3.0)	48
Other	84.9	86.2	78.2	79.9	74.5	10.9	33
Total	97.0	90.4	92.0	73.7	69.7	1.3	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

In addition to the questions on a wife's right to refuse sex to her husband, men were also asked what actions a husband would be justified in taking if his wife refused to have sexual relations with him. Specifically, men were asked whether, when a wife refuses sex, a husband has the right to get angry and reprimand her, to refuse to give her money or financial support, to use force in order to have sex with her, or to have sex with someone else. Table 16.12 shows the percentage of men who say that a husband has the right to take specific actions if the wife refuses to have sex with him when he wants.

Table 16.12 Men's views on what to do if wife refuses sex with husband

Percentage of men who agree that a husband has the right to take specified actions if his wife refuses to have sex with him, by background characteristics, Uzbekistan 2002

Background characteristic	If wife refuses sex, husband has a right to: Get angry and reprimand her	Refuse money/ financial support	Force her to have sex	Have sex with another woman	Agrees with all of the specified actions	Agrees with none of the specified actions	Number of men
Age							
15-19	15.9	7.0	4.8	9.3	1.8	76.3	380
20-24	17.0	8.1	4.3	10.9	1.1	75.5	388
25-29	11.5	7.1	7.5	9.6	2.3	80.9	399
30-34	11.3	8.6	4.2	8.1	0.8	79.6	293
35-39	10.6	7.0	2.7	9.7	0.7	80.5	256
40-44	13.9	7.4	2.1	7.1	1.3	81.8	227
45-49	12.7	6.7	2.4	9.7	0.6	80.9	196
50-54	8.5	4.2	1.1	4.9	0.0	87.2	140
54-59	1.4	7.9	2.7	5.3	0.0	87.6	54
Marital status							
Never married	16.2	8.1	5.2	10.0	1.9	76.5	692
Married or living together	11.3	6.8	3.7	8.0	0.9	81.5	1,600
Divorced/separated/ widowed	20.5	12.8	5.3	32.0	1.4	61.6	40
Residence							
Urban	12.3	8.3	3.7	11.2	1.6	79.6	916
Rural	13.4	6.6	4.4	7.6	1.0	79.7	1,417
Region							
Western	23.9	14.1	10.9	18.0	3.2	65.9	314
Central	19.1	6.7	1.9	4.2	0.3	76.9	510
East-Central	10.2	3.0	2.6	7.5	0.6	84.2	646
Eastern	4.4	9.0	2.9	8.0	0.8	84.7	665
Tashkent City	17.3	6.0	8.6	15.0	4.1	76.7	198
Oversampled areas							
Karakalpakstan	11.8	6.8	5.2	9.2	1.5	81.6	185
Ferghana	2.3	15.4	1.9	12.9	0.3	76.2	259
Education							
Primary/middle	8.8	3.7	2.6	3.1	0.6	87.2	188
Secondary	12.8	8.9	5.3	9.6	1.5	79.0	1,311
Secondary special	15.7	5.5	3.3	11.3	0.9	75.1	470
Higher	12.0	5.7	1.9	6.6	1.0	84.1	364
Ethnicity							
Uzbek	12.7	7.6	3.9	8.2	1.2	80.1	2,011
Russian	26.8	6.4	9.8	22.5	4.6	67.1	48
Karakalpak	10.9	8.3	5.4	7.4	1.6	82.4	67
Tajik	(5.3)	(0.0)	(10.7)	(8.5)	(0.0)	(83.8)	60
Kazakh	18.5	5.6	2.6	9.1	0.0	76.1	65
Tatar	(11.8)	(3.5)	(2.5)	(24.6)	(1.0)	(71.0)	48
Other	16.5	9.7	0.0	14.5	0.0	78.6	33
Total	12.9	7.3	4.2	9.0	1.2	79.7	2,333

Note: Figures in parentheses are based on 25-49 unweighted cases.

Eighty percent of men agree with none of the specified actions. Regarding specific actions, men were most likely to agree that a husband had a right to get angry and reprimand his wife (13 percent). Fewer than 1 in 10 men believe that a man has a right to go and have sex with another woman (9 percent), to refuse money or financial support (7 percent), or to force his wife to have sex (4 percent). Only 1 percent of men agreed with all of the specified reasons. Agreement with none of the specified actions increases with age from 76 percent for men age 24 or less to 88 percent among men age 54-59. Agreement with none of the specified actions does not vary consistently with education, although the least educated men are most likely to not agree with any of the specified actions.

REFERENCES

Anderson, B.A. and B.D. Silver. 1986. Infant mortality in the Soviet Union: Regional differences and measurement issues. *Population and Development Review* 12(4): 705-738.

Anderson, B.A. and B.D. Silver. 1997. Issues of data quality in assessing mortality trends and levels in the New Independent States. In: *Premature death in the New Independent States*, edited by F. Mitchell. Washington, D.C.: National Academy Press. 120-155.

Arneil, G. 1997. Statement and recommendations for the prevention of micronutrient deficiencies of importance for children. *International Pediatric Association Journal* (INCH) Vol. 9, No. 1. Presented at IPA/WHO/UNICEF Pre-Congress Workshop: The Girl Child and Micronutrient Deficiencies.

Axmann, A. 1998. Eastern Europe and community of independent states. *International Migration* 36(4): 587-607.

Brown, K.H., R.Y. Stallings, H.C. de Kanashiro, G. Lopez de Romana, and R.E. Black. 1990. Effects of common illnesses on infants' energy intakes from breast milk and other foods during longitudinal community-based studies in Huascar (Lima), Peru. *American Journal of Clinical Nutrition* 52(6): 1005-1013.

Brozek, J. and B. Schurch. 1984. *Malnutrition and behavior: Critical assessment of key issues*. Nestle Foundation Publication Series Vol. 4. Lausanne, Switzerland: Nestle Foundation.

Centers for Disease Control and Prevention (CDC). 1993. Estimates of future global tuberculosis morbidity and mortality. *Morbidity and Mortality Weekly Report* 42(49): 961-964.

Cohen R.J., K.H. Brown, J. Canahuait, L.L. Rivera, and K.G. Dewey. 1994. Effect of age of introduction of complementary foods on infant breastmilk intake, total energy intake, and growth: A randomized intervention study in Honduras. *Lancet* 334(8918): 288-293.

DeMaeyer, E.M., P. Dallman, J.M. Gurney, L. Hallberg et al. 1989. *Preventing and controlling iron deficiency anemia through primary health care: A guide for health administrators and programme managers*. Geneva: World Health Organization.

Doll, R., R. Peto, K. Wheatley, R. Gray, and I. Sutherland. 1994. Mortality in relation to smoking: 40 years' observations on male British doctors. *British Medical Journal* 309(6959): 901-911.

European Centre on Health of Societies in Transition (ECOHOST). 1998. *Childhood injuries: A priority area for the transition countries of Central and Eastern Europe and the Newly Independent States. Final Report.* London: European Centre on Health of Societies in Transition.

George, A.M. 1999. *Lead poisoning, prevention and treatment: Implementing a national program in developing countries.* Bangalore, India: The George Foundation.

Gerasimov, G. 2002. IDD in Eastern Europe and Central Asia. *IDD Newsletter* 18(3): 33-37.

Gu, D., K. Reynolds, X. We, J. Chen, X. Duan, P. Muntner, G. Huang, R.F. Reynolds, S. Su, P.K. Whelton, and J. He. InterASIA Collaborative groups. 2002. The International Collaborative Study of Cardiovascular Disease in ASIA: Prevalence, awareness, treatment, and control of hypertension in China. *Hypertension* 40(6): 920-7.

Habicht, J.-P., R. Martorell, C. Yarbrough, R.M. Malina, and R.E. Klein. 1974. Height and weight standards for preschool children. How relevant are ethnic differences in growth potential? *Lancet* 1(858): 611-614.

Huffman, S.L. and C. Combest. 1990. Role of breast-feeding in the prevention and treatment of diarrhoea. Journal of Diarrhoeal Disease Research 8(3): 68-81.

Institute of Obstetrics and Gynecology (IOG) [Uzbekistan] and Macro International Inc. 1997. *Uzbekistan Demographic and Health Survey, 1996.* Calverton, Maryland: Institute of Obstetrics and Gynecology] and Macro International Inc.

Institute of Medicine (IOM), Committee to Study the Prevention of Low Birthweight. 1985. *Preventing low birthweight*. Washington, D.C.: National Academy Press.

International Vitamin A Consultative Group (IVACG). 1998. Vitamin A and iron interactions. IVACG statement, June 1998.

Ilkhamov, F.A. and E. Jakubowski. 2001. *Health care systems in transition: Uzbekistan 2001*. European Observatory on Health Care Systems, WHO Regional Office for Europe, Copenhagen, Denmark: European Observatory on Health Care Systems.

Joint United Nations Programme on HIV/AIDS (UNAIDS). 2002. *Fact sheet 2002. Eastern Europe and Central Asia.* Geneva: UNAIDS

Joint United Nations Programme on HIV/AIDS and World Health Organization (UNAIDS/WHO). 2002. *Epidemiological fact sheets on HIV/AIDS and sexually transmitted infections: 2002 update: Uzbekistan.* Geneva: UNAIDS/WHO.

Kaul, B., J.O. Rasmuson, R.L. Olsen, C.R. Chanda, T.I. Slazhneva, and E.I. Granovsky. 2000. Blood lead and erythrocyte protoporphyrin levels in Kazakhstan. *Indian Journal of Pediatrics* 67(2): 87-91.

Kingkade, W.W. and C.C. Sawyer. 2001. *Infant mortality in Eastern Europe and the former Soviet Union before and after the breakup*. Paper presented at the 2001 Meetings of the International Union for the Scientific Study of Population, Salvador de Bahia, Brazil, August 19-24, 2001.

Ksenofontova, N. 1994. Trends in infant mortality in the USSR. In *Demographic trends and patterns in the Soviet Union before 1991,* edited by W. Lutz, S. Scherbov, and A. Volkov. Laxenburg, Austria: International Institute for Applied Systems Research.

Leous, P. 1996. *Oral health situation analysis – Uzbekistan. Assignment report.* Geneva: World Health Organization.

Lozoff B., E. Jiminez, and A.W. Wolf. 1991. Long-term development outcome of infants with iron deficiency. *New England Journal of Medicine* 325(10): 687-694.

Makhmudov, B.Kh., T.M. Karimov, F.R. Kadyrova, M.S. Adilova, Mirakhmedova, A.Sh. Kasymkhodzhaev. 1990. Results of 5-year multifactorial primary and secondary prevention of coronary heart disease in Tashkent. *Terapevtichesky Arkhiv*. 62(12): 34-7. (Russian).

Ministry of Health (MOH) [Uzbekistan]. 1993. *Prikaz No.518 (October 23,1993): Procedures for immunoprofylaxis of infectious diseases in the Republic of Uzbekistan.* Tashkent, Uzbekistan: Ministry of Health.

Ministry of Health (MOH) [Uzbekistan]. 1996. *Prikaz No.721 (October 29,1996): Rules and procedures for pregnancy termination.* Tashkent, Uzbekistan: Ministry of Health.

Morse, C. 1994. *The prevalence and causes of anemia in Muynak District of Karakalpakstan*. Report for the IMPACT Project. Washington, D.C.: United States Agency for Inernational Development.

National Center for Health Statistics (NCHS). 2002. *Health, United States, 2002. With chartbook on trends in the health of Americans.* Hyattsville, Maryland: NCHS.

National Institutes of Health (NIH). 2002. *Detection, evaluation, and treatment of high blood cholesterol in adults (Adult Treatment Panel III): Final report.* NIH Publication No. 02-5215. Washington, D.C.: National Institutes of Health, National Cholesterol Education Program.

Pakistan Medical Research Council (PMRC). 1998. *National Health Survey of Pakistan 1990-1994.* Islamabad, Pakistan: Pakistan Medical Research Council.

Pelletier, D.L., E.A. Frongillo, Jr., and J.-P. Habicht. 1993. Epidemiologic evidence for a potentiating effect of malnutrition on child mortality. *American Journal of Public Health* 83(8): 1130-1133.

Peto, R., A.D. Lopez., J. Boreham, M. Thun, and C. Heath. 1994. *Mortality from smoking in developed countries, 1950-2000: Indirect estimates from national vital statistics*. Oxford: Oxford University Press.

Population, Health, and Nutrition Information (PHNI) Project. 2003. *USAID country health statistical report: Uzbekistan*. Washington, D.C.: PHNI Project.

Ruzibakiev, R., H. Kato, R. Ueda, N. Yuldasheva, T. Hegay, D. Avazova, F. Kurbanov, M. Zalalieva, L. Tuichiev, B. Achundjanov, and M. Mizokami. 2001. Risk factors and seroprevalence of hepatatis B virus, hepatatis C virus, and human immunodeficiency virus infection in Uzbekistan. *Intervirology* 44: 327-332.

Scrimshaw, N.S., C.E. Taylor, and J.E. Gordon. 1968. *Interactions of nutrition and infection*. Geneva: World Health Organization.

Scrimshaw, N.S. 1984. Functional consequences of iron deficiency in human populations. *Journal of Nutritional Science and Vitaminology* 30(1): 47-63.

Sommer, A. and F.R. Davidson. 2002. Assessment and control of vitamin A deficiency: The Annecy Accords. *Journal of Nutrition* 132 (9 Suppl): 2845S-2850S.

State Department of Statistics [Uzbekistan]. 2002. *Uzbekistan in numbers, 2001*. Tashkent, Uzbekistan: State Department of Statistics.

Sullivan, J.M. and H. Goldberg. 2003. Fertility. In *Reproductive maternal and child health in Eastern Europe and Eurasia: A comparative report*. Atlanta, Georgia and Calverton, Maryland, USA: Centers for Disease Control and Prevention and ORC Macro. 21-34.

Sullivan, J.M. and A. Themme. 2003. Infant and child mortality. In *Reproductive maternal and child health in Eastern Europe and Eurasia: A comparative report*. Atlanta, Georgia and Calverton, Maryland, USA: Centers for Disease Control and Prevention and ORC Macro. 165-181.

United Nations. 1961. *1961 demographic yearbook.* New York: United Nations.

United Nations. 1975. *1974 demographic yearbook.* New York: United Nations.

United Nations. 1982. *Non-sampling errors in household surveys: Sources, assessment and control.* National Household Survey Capability Programme. New York: United Nations.

United Nations Children's Fund (UNICEF). 1990. *Strategy for improved nutrition of children and women in developing countries*. New York: UNICEF.

United Nations Children's Fund (UNICEF). 1999. *Prevention and control of iron deficiency anaemia in women and children*. Report of the UNICEF/WHO Regional Consultation.

United Nations Children's Fund (UNICEF). 2001. *Multiple Indicator Cluster Survey, Republic of Uzbekistan, 2000.* New York: UNICEF. Available at www.unicef.org/statistics.

United Nations Committee on the Rights of the Child (UNCRC). 2001. Committee on the Rights of the Child concludes consideration of initial report of Uzbekistan. Press release October 9, 2001.

United Nations Integrated Regional Information Networks (UNIRIN). 2003. Uzbekistan: HIV/AIDS on the rise, experts say. Press release June 23, 2003.

Vanderpump, M.P., W.M. Tunbridge, J.M. French, D. Appleton, D. Bates, F. Clark, J. Grimley Evans, D.M. Hasan, H. Rodgers, F. Tunbridge et al. 1995. The incidence of thyroid disorders in the community: A twenty-year follow-up of the Whickham Survey. *Clinical Endocrinology* (Oxf) 43(1): 55-68.

Velkoff, V.A., and J.E. Miller, 1995. Trends and differentials in infant mortality in the Soviet Union, 1970–90: How much is due to misreporting. *Population Studies* (Camb) 49(2): 241-258.

Victora, C.G., J.P. Vaughan, C. Lombardi, S.M. Fuchs, et al. 1987. Evidence for protection of breast-feeding against infant deaths from infectious diseases in Brazil. *Lancet* 2(8554): 319-322.

Villar, J. and J. Rivera. 1988. Nutritional supplementation during two consecutive pregnancies and the interim lactation period: Effect on birth weight. *Pediatrics* 81(1): 51-57.

Westat Inc. 1993. *Pulse and blood pressure procedures for household interviews.* National Health and Nutritional Examination Survey III, Cycle 2. Rockville, Maryland, USA: Westat Inc.

Westoff, C.F., A.T. Sharmanov, J.M. Sullivan, and T. Croft. 1998. *Replacement of abortion by contraception in three Central Asian Republics.* Calverton, Maryland, USA: The Policy Project and Macro International Inc.

Westoff, C.F., J.M. Sullivan, H.A. Newby, and A.R. Themme. 2002. *Contraception-abortion connections in Armenia.* DHS Analytical Studies No. 6. Calverton, Maryland, USA: ORC Macro.

World Bank. 1998. Danish Environmental Protection Agency (Denmark), and The United Nations-Economic Commission for Europe Task Force on Phase Out Leaded Petrol in Europe. National Commitment Building Program to Phase Out Lead from Gasoline in Azerbaijan, Kazakhstan, and Uzbekistan. Fourth Ministerial Conference, Environment for Europe. Arhus, Denmark, June 1998.

World Health Organization (WHO) Working Group. 1986. Use and interpretation of anthropometric indicators of nutritional status. *Bulletin of the World Health Organization* 64(6): 929-941.

World Health Organization (WHO). 1993. *International classification of diseases and related health problems.* Tenth revision. Geneva, Switzerland: World Health Organization.

World Health Organization (WHO). 1994. *Indicators for assessing vitamin A status and their application in monitoring and evaluating intervention programmes.* Report of a joint WHO/UNICEF consultation. Geneva: World Health Organization. Rev. version, WHO/NUT/941.

World Health Organization (WHO). 1995. *World Health Organization Expert Committee. Physical status: The use and interpretation of anthropometry*. (WHO Technical Report Series No. 854) Geneva: World Health Organization.

World Health Organization (WHO). 1998. *Report of a World Health Organization consultation on obesity. Obesity, prevention and managing the global epidemic*. Rep WHO/NUT/NCD/98.1.

World Health Organization (WHO). 1999a. *Highlights on health in Uzbekistan.* Copenhagen, Denmark World Health Organization, Regional Office for Europe.

World Health Organization (WHO). 1999b. International Society of Hypertension guidelines for the management of hypertension, *Journal of Hypertension* 17(2): 151-183.

World Health Organization (WHO). 1999c. *What is DOTS? A guide to understanding the WHO-recommended TB control strategy known as DOTS.* Rep WHO/CDS/CPC/TB/99.270.

World Health Organization (WHO). 2000. *Bronchial asthma.* Fact sheet No. 206. Available: http://www.who.int/inf-fs/en/fact206.html.

World Health Organization (WHO). 2001a. *Global prevalence and incidence of selected curable sexually transmitted infections: Overview and estimates.* Geneva: World Health Organization. Rep WHO/HIV_AIDS/2001.02.

World Health Organization (WHO). 2001b. World Health Assembly endorses WHO'S strategic priorities. Press release WHA 54/6. May 2001.

World Health Organization (WHO). 2003a. *Global tuberculosis control: Surveillance, planning, financing*. Rep WHO/CDS/TB/2003.316.

World Health Organization (WHO). 2003b. Health for All Database. Available: http://hfadb.who.dk/HFA.

World Health Organization (WHO). 2003c. Mortality database Table 1: Uzbekistan 1998. Available: http://www3.who.int/whosis/mort/table1_process.cfm.

World Health Organization (WHO). 2003d. Tobacco control database. Available: http://data.euro.who.int/Default.aspx?TabID=2444.

World Health Organization Regional Office for Europe (WHO/EURO). 1999. *Highlights on health in Uzbekistan.* Copenhagen, Denmark: WHO/EURO Health Information Unit.

World Health Organization Regional Office for Europe (WHO/EURO). 2000. *Complementary feeding and the control of iron deficiency anaemia in the newly independent states*. Rep EUR/ICP/LVNG 01 01 07.

World Health Organization Regional Office for Europe (WHO/EURO). 2002. *HIV/AIDS – the extent of the invisible epidemic.* Fact sheet 09/02. Copenhagen, Denmark: WHO/EURO.

World Health Organization, Regional Office for Europe (WHO/EURO). 2003. Health for All Database. Copenhagen, Denmark. Available: http://www.euro.who.int/hfadb.

World Health Organization Regional Office for South-East Asia (WHO/SEARO). 2003. *HIV/AIDS in Asia and the Pacific Region.* Annex 1. Available: http://w3.whosea.org/hivaids/asia2_16.htm.

SAMPLE DESIGN AND IMPLEMENTATION

APPENDIX A

A. Aliaga

A.1 INTRODUCTION

The 2002 Uzbekistan Health Examination Survey (UHES) was a nationally representative population and health examination survey carried out by the Analytical and Information Center of the Ministry of Health. ORC Macro provided financial and technical assistance for all survey activities, including sampling activities, through the USAID-funded MEASURE *DHS+* project. The sample was designed and implemented jointly by staff from ORC Macro and the State Department of Statistics.

A.2 SURVEY OBJECTIVES

The principal objectives of the 2002 UHES were to provide current and reliable data and statistic indicators on reproductive health practices, infant and child mortality, and selected biometric indicators of the health of women age 15-49, men age 15-59, and children less than five years of age at the national level, and for urban and rural areas. Additionally, to the extent possible, estimates of these indicators were to be provided for five major regions of Uzbekistan. The five regions consisted of the following grouping of administrative areas:

Western:	The Autonomous Republic of Karakalpakstan and Khorezm Oblast
Central:	Navoi, Bukhara, Kashkadarya, and Surkhandarya Oblasts
East-Central:	Samarkhand, Jizzakh, Syrdarya, and Tashkent Oblasts
Eastern:	Namangan, Ferghana, and Andizhan Oblasts
Tashkent City	

The population covered by the 2002 UHES was defined as the universe of all women age 15-49, men age 15-59, and children less than five years of age residing in private households. A sample of households was selected, and all women and children identified in the specified age ranges were eligible for the survey. Eligibility of men for the survey differed between Tashkent City and the other four regions. In Tashkent City, all men age 15-59 in the survey households were eligible for the survey. However, in the four other regions, men age 15-59 in only every third household were eligible for the survey. The design called for a relatively large sample of men from Tashkent City to ensure a sufficient number of observations to permit gender comparisons of the expanded biometric indicators collected only in Tashkent City.

A.3 Sample Design and Allocation by Region

A weighted, multistage, stratified cluster sampling approach was used in the selection of the 2002 UHES sample. The sample design called for a target of at least 800 completed Women's Questionnaires in each of the five sampling regions. In addition, the Autonomous Republic of Karakalpakstan and Ferghana Oblast were to be oversampled by an additional 400 Women's Questionnaires each. This would yield a total sample of at least 4,800 completed Women's Questionnaires.

The target sample size and sample allocation was calculated in terms of the number of target women age 15-49 with completed questionnaires (Table A.1, column 1). The target number of households for each region was calculated from the target number of women and information from the 1996 Uzbekistan Demographic and Health Survey (UDHS) (the ratio of the number of selected households and the

number of completed Women's Questionnaires, by region). That number was rounded to the next higher number divisible by 20, which was the target number of households to be selected from each sample segment. Division of the rounded number by 20 determined the number of sample segments allocated to each region (Table A.1, column 5).

Table A.1 Allocation of sample segments to regions

Region	Target number of women age 15-49 (1)	Ratio of selected households to completed women in 1996 UDHS (2)	Target number of households for 2002 UHES (3)	Rounded number of house-holds (4)	Number of allocated sample segments (5)
Western	1,200	0.777	932	940	47
Central	800	0.817	654	660	33
East-Central	800	1.016	813	820	41
Eastern	1,200	0.839	1007	1,100	55
Tashkent City	800	1.066	853	860	43
Total	4,800	1.127	4,259	4,380	219

A.4 SAMPLE FRAME

The frame for the selection of the primary sampling units was the 1999 Administrative Listing of Population, published by the State Department of Statistics, which provided population data for all major cities, small cities, towns, and villages in Uzbekistan. The frame was divided into urban and rural sectors. The assigned number of sample segments by region was allocated to urban and rural areas within each region proportional to the size of those areas. The result was 219 sample segments: 101 in urban areas and 118 in rural areas (Table A.2).

Table A.2 Sample allocation to urban and rural areas

	Number of segments		
Region	Urban	Rural	Total
Western	19	28	47
Central	9	24	33
East-Central	13	28	41
Eastern	17	38	55
Tashkent City	43	0	43
Total	101	118	219

A.5 HOUSEHOLD LISTING AND RESPONDENT SELECTION

Following the selection of sample segments, a household listing was conducted in each selected segment, followed by a systematic selection of households. The systematic selection started with a random number and employed a fixed interval calculated as the number of occupied households (from the household listing) divided by the number 20. The Household Questionnaire was completed for each selected household. In all regions, all women age 15-49 were eligible for the Woman's Questionnaire. In Tashkent City, all men age 15-59 in each household selected for the Women's Questionnaire were eligible for the Men's Questionnaire. In all other regions, all men age 15-59 in every third household were eligible for the Men's Questionnaire.

A.6 RESPONSE RATES

Information on the selected households and the number with a completed Household Questionnaire is shown for the total sample, the urban and rural components of the sample, and by region in Tables A.3 and A.4. Also included in those tables are the number of eligible women and men respondents and the numbers with completed Women's and Men's Questionnaires.

For the women's sample, a total of 4,385 households were selected, of which 4,207 were occupied households. Household interviews were completed for 4,168 households, for a household response rate of 99.1 percent of the occupied households. A total of 5,588 eligible women were found in the occupied households, and interviews were completed for 5,463 women, for an eligible woman response rate of 97.8 percent. The overall response rate for women (the product of the household and eligible woman response rates) was 96.9 percent.

For the men's sample, a total of 2,094 households were selected, of which 2,007 were occupied households. Household interviews were completed for 1,982 households, for a household response rate of 98.8 percent of the occupied households. A total of 2,447 eligible men were found in the occupied households, and interviews were completed for 2,333 men, for an eligible man response rate of 95.3 percent. The overall response rate for men (the product of the household and eligible man response rates) was 94.2 percent.

The overall response rates were high for both women and men, although somewhat higher for women (96.9) than for men (94.2 percent). For both women and men, the overall rates did not differ greatly between urban and rural areas or among the regions, with the single exception that the rates were somewhat lower for the East-Central region (93.0 percent for women and 88.1 percent for men).

Table A.3 Sample implementation: women

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women, and overall response rates, according to urban-rural residence and region, Uzbekistan 2002

	Residence		Region					
Result	Urban	Rural	Western	Central	East-Central	Eastern	Tashkent City	Total
Selected households								
Completed (C)	92.3	97.4	96.7	94.7	93.4	96.4	93.4	95.1
Household present but no competent respondent at home (HP)	0.5	0.1	0.1	0.6	0.5	0.2	0.3	0.3
Refused (R)	0.7	0.0	0.3	0.0	0.1	0.2	1.0	0.3
Dwelling not found (DNF)	0.3	0.2	0.3	0.6	0.1	0.1	0.1	0.2
Household absent (HA)	2.4	0.8	1.3	1.4	1.7	0.6	3.0	1.6
Dwelling vacant/address not a dwelling (DV)	3.6	1.4	1.3	2.6	3.9	2.5	1.7	2.4
Dwelling destroyed (DD)	0.1	0.1	0.0	0.2	0.2	0.0	0.1	0.1
Other (O)	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of selected households	2,021	2,364	940	660	823	1,100	862	4,385
Household response rate (HRR)[1]	98.4	99.7	99.2	98.7	99.2	99.5	98.4	99.1
Eligible women								
Completed (EWC)	98.2	97.5	98.5	98.1	93.7	98.9	99.4	97.8
Not at home (EWNH)	0.9	1.5	0.3	1.4	4.5	0.4	0.0	1.2
Refused (EWR)	0.4	0.3	0.2	0.1	0.9	0.3	0.2	0.4
Partly completed (EWPC)	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Incapacitated (EWI)	0.4	0.7	0.9	0.5	0.8	0.4	0.1	0.6
Other (EWO)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of eligible women	2,240	3,348	1,375	873	1,068	1,402	870	5,588
Eligible women response rate (EWRR)2	98.2	97.5	98.5	98.1	93.7	98.9	99.4	97.8
Overall response rate (ORR)[3]	96.6	97.1	97.8	96.8	93.0	98.4	97.8	96.9

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 \times C}{C + HP + R + DNF}$$

[2] Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{100 \times EWC}{EWC + EWNH + EWR + EWPC + EWI + EWO}$$

[3] The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR/100$$

Table A.4 Sample implementation: men

Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men, and overall response rates, according to urban-rural residence and region, Uzbekistan 2002

	Residence		Region					
Result	Urban	Rural	Western	Central	East-Central	Eastern	Tashkent City	Total
Selected households								
Completed (C)	93.1	97.0	96.4	93.1	94.8	96.1	93.7	94.7
Household present but no competent respondent at home (HP)	0.3	0.2	0.3	0.4	0.3	0.0	0.3	0.3
Refused (R)	0.9	0.1	0.3	0.0	0.3	0.5	1.0	0.6
Dwelling not found (DNF)	0.3	0.2	0.6	0.9	0.0	0.3	0.1	0.3
Household absent (HA)	2.0	1.0	0.6	1.7	1.0	0.3	2.7	1.6
Dwelling vacant/address not a dwelling (DV)	3.0	1.3	1.8	3.4	3.1	2.9	1.7	2.3
Dwelling destroyed (DD)	0.2	0.1	0.0	0.4	0.3	0.0	0.1	0.1
Other (O)	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of selected households	1,265	829	329	232	290	385	858	2,094
Household response rate (HRR)[1]	98.3	99.4	98.8	98.6	99.3	99.2	98.4	98.8
Eligible men								
Completed (EMC)	95.1	95.6	96.0	97.1	88.8	98.3	95.7	95.3
Not at home (EMNH)	1.3	2.9	3.0	2.2	6.3	0.6	0.4	2.1
Postponed (EMP)	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Refused (EMR)	2.6	0.6	0.2	0.0	3.4	0.0	3.3	1.7
Partly completed (EMPC)	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1
Incapacitated (EMI)	0.8	0.7	0.6	0.7	1.3	0.8	0.5	0.7
Other (EMO)	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of eligible men	1,293	1,154	502	276	383	473	813	2,447
Eligible men response rate (EMRR)2	95.1	95.6	96.0	97.1	88.8	98.3	95.7	95.3
Overall response rate (ORR)[3]	93.5	95.0	94.8	95.8	88.1	97.5	94.2	94.2

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 \times C}{C + HP + R + DNF}$$

[2] Using the number of eligible men falling into specific response categories, the eligible man response rate (EMRR) is calculated as:

$$\frac{100 \times EMC}{EMC + EMNH + EMR + EMPC + EMI + EMO}$$

[3] The overall response rate (ORR) is calculated as:

$$ORR = HRR * EMRR/100$$

ESTIMATES OF SAMPLING ERRORS

APPENDIX B

R. Ren

The estimates from a sample survey are affected by two types of errors: 1) nonsampling errors, and 2) sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions by either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2002 Uzbekistan Health Examination Survey (UHES) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2002 UHES is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

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

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2002 UHES sample is the result of a multistage stratified design and, consequently, it was necessary to use more complex formulas. The computer software used to calculate sampling errors for the 2002 UHES is the Integrated System for Survey Analysis (ISSA) Sampling Error Module. This module used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error (SE) being the square root of the variance:

$$SE^2(r) = var(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[\frac{m_h}{m_{h-1}} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}\text{, and } z_h = y_h - rx_h$$

where h represents the stratum that varies from 1 to H,
m_h is the total number of clusters selected in the *h-th* stratum,
y_{hi} is the sum of the weighted values of variable y in the *i-th* cluster in the *h-th* stratum,
x_{hi} is the sum of the weighted number of cases in the *i-th* cluster in the *h-th* stratum, and
f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample and calculates standard errors for these estimates using simple formulas. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2002 UHES, there were 219 non-empty clusters. Hence, 218 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 219 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 218 clusters (*i-th* cluster excluded), and
k is the total number of clusters.

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

Sampling errors for the 2002 UHES are calculated for selected variables considered to be of primary interest for surveying women and men, respectively. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for each of the five regions (Western, Central, Eastern, East-Central, and Tashkent City). For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.9 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable. Table B.10 presents the sampling errors for some selected biomarkers for Tashkent City and Ferghana Oblast. The DEFT is considered undefined when the standard error considering a simple random sample is zero (when the estimate is close to 0 or 1). In the case of the total fertility rate, the number of unweighted cases is not relevant, as there is no known unweighted value for woman-years of exposure to childbearing.

The confidence interval (e.g., as calculated for *children ever born to women age 40-49*) can be interpreted as follows: the overall average from the national sample is 4.303, and its standard error is 0.084. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate (i.e., 4.303 ± 2 × 0.084). There is a high probability (95 percent) that the *true* average number of children ever born to all women age 40-49 is between 4.135 and 4.471.

Sampling errors are analyzed for the national woman sample and for two separate groups of estimates: 1) means and proportions and 2) complex demographic rates. The relative standard errors (SE/R)

for the means and proportions range between 0.7 and 21.7 percent, with an average of 4.9 percent; the highest relative standard errors are for estimates of very low values (e.g., *women currently smoking*). If estimates of very low values (less than 10 percent) were removed, then the average drops to 2.5 percent. So in general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. The relative standard error for the total fertility rate is small, 3.1 percent. However, for the mortality rates, the average relative standard error is much higher, 12 percent.

There are differentials in the relative standard error for the estimates of subpopulations. For example, for the variable *knows condom use prevents AIDS*, the relative standard errors as a percent of the estimated mean for the whole country and for the urban areas are 2.6 and 3.5 percent, respectively.

For the total sample, the value of the design effect (DEFT), averaged over all variables, is 1.29, which means that, because of the multistage clustering of the sample, the average standard error is increased by a factor of 1.29 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Uzbekistan 2002

Variable	Estimate	Base population
WOMEN		
Urban residence	Proportion	All women 15-49
Primary/middle education	Proportion	All women 15-49
Secondary education	Proportion	All women 15-49
Secondary-special education	Proportion	All women 15-49
Higher education	Proportion	All women 15-49
Never married	Proportion	All women 15-49
Currently married (in union)	Proportion	All women 15-49
Married before age 18	Proportion	All women 20-49
Children ever born	Mean	All women 15-49
Children surviving	Mean	All women 15-49
Children ever born to women age 40-49	Mean	All women 40-49
Ever used any contraceptive method	Proportion	Currently married women 15-49
Currently using any contraceptive method	Proportion	Currently married women 15-49
Currently using any modern method	Proportion	Currently married women 15-49
Currently using any traditional method	Proportion	Currently married women 15-49
Currently using IUD	Proportion	Currently married women 15-49
Currently using condom	Proportion	Currently married women 15-49
Currently using LAM	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Body mass index below 18.5 (thin)	Proportion	All women 15-49
Body mass index over 25.0 (overweight/obese)	Proportion	All women 15-49
Hypertensive	Proportion	All women 15-49
Currently smoking	Proportion	All women 15-49
Knows ways tuberculosis spreads	Proportion	All women 15-49
Dental problem last 12 months	Proportion	All women 15-49
STI symptoms last 12 months	Proportion	All women 15-49
Knows condom use prevents AIDS	Proportion	All women 15-49
Knows limiting partners prevents AIDS	Proportion	All women 15-49
CHILDREN		
Weight-for-height 2SD below the median	Proportion	All children under 5 years of age
Height-for-age 2SD below the median	Proportion	All children under 5 years of age
Weight-for-age 2SD below the median	Proportion	All children under 5 years of age
Prevalence of any anemia	Proportion	All children 6 to 59 months of age
Net school attendance ratio (primary/middle)	Proportion	All children 7-15 years of age
MEN		
Body mass index below 18.5 (thin)	Proportion	All men 15-59
Body mass index over 25.0 (overweight/obese)	Proportion	All men 15-59
Hypertensive	Proportion	All men 15-59
Currently smoking	Proportion	All men 15-59
Knows ways tuberculosis spreads	Proportion	All men 15-59
Dental problem last 12 months	Proportion	All men 15-59
STI symptoms last 12 months	Proportion	All men 15-59
Knows condom use prevents AIDS	Proportion	All men 15-59
Knows limiting partners prevents AIDS	Proportion	All men 15-59
FERTILITY, ABORTION, AND MORTALITY RATES		
Total fertility rate	Rate	All women 15-49
Total abortion rate	Rate	All women 15-49
Neonatal mortality rate	Rate	Number of births
Postneonatal mortality rate	Rate	Number of births
Infant mortality rate	Rate	Number of births
Child mortality rate	Rate	Number of children surviving to age one
Under-five mortality rate	Rate	Number of births

Table B.2 Sampling errors for national sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.398	0.012	5463	5463	1.830	0.030	0.374	0.422
Primary/middle education	0.106	0.005	5463	5463	1.211	0.048	0.096	0.116
Secondary education	0.584	0.010	5463	5463	1.563	0.018	0.563	0.605
Secondary-special education	0.205	0.008	5463	5463	1.484	0.039	0.189	0.222
Higher education	0.105	0.007	5463	5463	1.570	0.062	0.092	0.118
Never married	0.260	0.007	5463	5463	1.101	0.025	0.247	0.273
Currently married (in union)	0.681	0.007	5463	5463	1.104	0.010	0.667	0.695
Married before age 18	0.130	0.006	4368	4372	1.221	0.048	0.118	0.142
Children ever born	2.165	0.028	5463	5463	1.013	0.013	2.109	2.221
Children surviving	1.984	0.026	5463	5463	1.043	0.013	1.931	2.036
Children ever born to women 40-49	4.303	0.084	1097	1092	1.325	0.020	4.134	4.472
Ever used any contraceptive method	0.846	0.006	3666	3720	0.962	0.007	0.835	0.858
Currently using any contraceptive method	0.677	0.009	3666	3720	1.117	0.013	0.659	0.694
Current using any modern method	0.628	0.009	3666	3720	1.145	0.015	0.609	0.646
Currently using any traditional method	0.049	0.004	3666	3720	1.155	0.084	0.041	0.057
Currently using IUD	0.518	0.009	3666	3720	1.138	0.018	0.499	0.536
Currently using condom	0.020	0.002	3666	3720	1.072	0.124	0.015	0.025
Currently using LAM	0.028	0.004	3666	3720	1.383	0.135	0.020	0.035
Currently using withdrawal	0.035	0.003	3666	3720	1.153	0.100	0.028	0.042
Body mass index below 18.5 (thin)	0.059	0.005	4998	4967	1.408	0.085	0.049	0.069
Body mass index over 25.0 (overweight/obese)	0.278	0.008	4998	4967	1.322	0.030	0.261	0.294
Hypertensive	0.077	0.005	5459	5456	1.330	0.063	0.067	0.086
Currently smoking	0.009	0.002	5463	5463	1.549	0.217	0.005	0.013
Knows ways tuberculosis spreads	0.599	0.010	5463	5463	1.565	0.017	0.578	0.619
Dental problem past 12 months	0.367	0.010	5463	5463	1.482	0.026	0.347	0.386
STI symptoms past 12 months	0.073	0.005	4035	4057	1.254	0.070	0.063	0.084
Knows condom use prevents AIDS	0.427	0.011	5463	5463	1.636	0.026	0.405	0.449
Knows limiting partners prevents AIDS	0.610	0.010	5463	5463	1.553	0.017	0.590	0.631
CHILDREN								
Weight-for-height (-2SD)	0.071	0.006	2564	2400	1.122	0.088	0.059	0.084
Height-for-age (-2SD)	0.211	0.012	2564	2400	1.346	0.057	0.187	0.235
Weight-for-age (-2SD)	0.079	0.007	2564	2400	1.129	0.082	0.066	0.093
Prevalence of anemia	0.492	0.015	2448	2305	1.414	0.031	0.461	0.523
Net school attendance ratio (primary/middle)	0.954	0.003	4877	5016	1.139	0.004	0.948	0.961
MEN								
Body mass index below 18.5 (thin)	0.038	0.004	2292	2058	0.920	0.107	0.030	0.046
Body mass index over 25.0 (overweight/obese)	0.319	0.013	2292	2058	1.206	0.040	0.294	0.345
Hypertensive	0.083	0.007	2329	2328	1.139	0.079	0.070	0.096
Currently smoking	0.241	0.012	2333	2333	1.311	0.048	0.217	0.264
Knows ways tuberculosis spreads	0.553	0.019	2333	2333	1.875	0.035	0.514	0.592
Dental problem past 12 months	0.266	0.013	2333	2333	1.437	0.049	0.240	0.293
STI symptoms past 12 months	0.005	0.002	1745	1773	1.290	0.443	0.001	0.009
Knows condom use prevents AIDS	0.646	0.015	2333	2333	1.551	0.024	0.616	0.677
Knows limiting partners prevents AIDS	0.691	0.016	2333	2333	1.672	0.023	0.659	0.723
FERTILITY, ABORTION, AND MORTALITY RATES								
Total fertility rate (past 3 years)	2.922	0.092	na	15357	1.381	0.031	2.739	3.106
Total abortion rate (past 3 years)	0.946	0.087	na	15357	1.424	0.092	0.772	1.120
Neonatal mortality rate (past 5 years)	33.947	4.651	2474	2479	1.176	0.137	24.645	43.250
Postneonatal mortality rate (past 5 years)	27.750	3.531	2481	2486	1.080	0.127	20.689	34.811
Infant mortality rate (past 5 years)	61.697	5.710	2481	2486	1.102	0.093	50.277	73.117
Infant mortality rate (5-9 years ago)	64.110	5.978	2524	2620	1.141	0.093	52.154	76.066
Infant mortality rate (10-14 years ago)	51.710	4.925	2727	2842	1.121	0.095	41.859	61.561
Child mortality rate (past 5 years)	12.340	2.548	2490	2493	1.128	0.206	7.245	17.436
Under-five mortality rate (past 5 years)	73.276	6.217	2497	2501	1.106	0.085	60.842	85.710

na = Not applicable

Table B.3 Sampling errors for urban sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	1.000	0.000	2200	2175	na	0.000	1.000	1.000
Primary/middle education	0.087	0.008	2200	2175	1.296	0.089	0.072	0.103
Secondary education	0.447	0.016	2200	2175	1.499	0.036	0.415	0.479
Secondary-special education	0.276	0.013	2200	2175	1.368	0.047	0.250	0.302
Higher education	0.190	0.014	2200	2175	1.647	0.073	0.162	0.217
Never married	0.240	0.011	2200	2175	1.209	0.046	0.217	0.262
Currently married (in union)	0.659	0.012	2200	2175	1.204	0.018	0.635	0.684
Married before age 18	0.126	0.009	1805	1797	1.151	0.071	0.108	0.144
Children ever born	1.957	0.040	2200	2175	1.058	0.020	1.878	2.036
Children surviving	1.823	0.036	2200	2175	1.055	0.020	1.751	1.895
Children ever born to women 40-49	3.367	0.122	500	497	1.467	0.036	3.123	3.611
Ever used any contraceptive method	0.832	0.009	1402	1434	0.869	0.010	0.815	0.849
Currently using any contraceptive method	0.656	0.013	1402	1434	1.030	0.020	0.629	0.682
Current using any modern method	0.599	0.014	1402	1434	1.066	0.023	0.571	0.627
Currently using any traditional method	0.057	0.007	1402	1434	1.127	0.123	0.043	0.071
Currently using IUD	0.488	0.013	1402	1434	0.983	0.027	0.462	0.514
Currently using condom	0.036	0.005	1402	1434	1.030	0.143	0.025	0.046
Currently using LAM	0.017	0.005	1402	1434	1.324	0.268	0.008	0.026
Currently using withdrawal	0.035	0.007	1402	1434	1.351	0.190	0.022	0.048
Body mass index below 18.5 (thin)	0.067	0.008	2019	1988	1.418	0.123	0.051	0.084
Body mass index over 25.0 (overweight/obese)	0.295	0.011	2019	1988	1.122	0.039	0.272	0.318
Hypertensive	0.071	0.007	2197	2170	1.339	0.104	0.056	0.085
Currently smoking	0.023	0.005	2200	2175	1.628	0.229	0.012	0.033
Knows ways tuberculosis spreads	0.689	0.018	2200	2175	1.792	0.026	0.654	0.724
Dental problem past 12 months	0.404	0.016	2200	2175	1.496	0.039	0.373	0.436
STI symptoms past 12 months	0.078	0.009	1668	1672	1.367	0.115	0.060	0.096
Knows condom use prevents AIDS	0.563	0.020	2200	2175	1.870	0.035	0.523	0.602
Knows limiting partners prevents AIDS	0.669	0.016	2200	2175	1.631	0.024	0.636	0.701
CHILDREN								
Weight-for-height (-2SD)	0.079	0.011	903	849	1.141	0.138	0.057	0.101
Height-for-age (-2SD)	0.163	0.020	903	849	1.477	0.125	0.122	0.203
Weight-for-age (-2SD)	0.058	0.010	903	849	1.161	0.168	0.039	0.078
Prevalence of anemia	0.446	0.029	891	845	1.654	0.066	0.387	0.505
Net school attendance ratio (primary/middle)	0.950	0.006	1726	1832	1.096	0.006	0.938	0.961
MEN								
Body mass index below 18.5 (thin)	0.051	0.006	1187	973	0.866	0.124	0.038	0.063
Body mass index over 25.0 (overweight/obese)	0.338	0.019	1187	973	1.187	0.055	0.300	0.375
Hypertensive	0.089	0.009	1228	913	1.098	0.100	0.071	0.107
Currently smoking	0.320	0.021	1230	916	1.567	0.065	0.279	0.362
Knows ways tuberculosis spreads	0.651	0.034	1230	916	2.514	0.053	0.583	0.719
Dental problem past 12 months	0.313	0.023	1230	916	1.750	0.074	0.267	0.360
STI symptoms past 12 months	0.007	0.004	930	714	1.459	0.572	0.000	0.015
Knows condom use prevents AIDS	0.718	0.023	1230	916	1.821	0.033	0.671	0.765
Knows limiting partners prevents AIDS	0.710	0.028	1230	916	2.128	0.039	0.655	0.765
FERTILITY, ABORTION, AND MORTALITY RATES								
Total fertility rates (past 3 years)	2.481	0.139	na	6178	1.352	0.056	2.202	2.760
Total abortion rates (past 3 years)	1.091	0.168	na	6178	1.645	0.154	0.756	1.427
Neonatal mortality rate (past 10 years)	26.798	5.351	1795	1850	1.269	0.200	16.097	37.499
Postneonatal mortality rate (past 10 years)	16.075	2.958	1795	1850	1.039	0.184	10.159	21.990
Infant mortality rate (past 10 years)	42.873	6.641	1795	1850	1.229	0.155	29.591	56.155
Child mortality rate (past 10 years)	10.966	2.592	1797	1852	1.062	0.236	5.782	16.149
Under-five mortality rate (past 10 years)	53.368	6.723	1797	1852	1.163	0.126	39.923	66.813

na = Not applicable

Table B.4 Sampling errors for rural sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.000	0.000	3263	3288	na	na	0.000	0.000
Primary/middle education	0.118	0.007	3263	3288	1.159	0.055	0.105	0.131
Secondary education	0.674	0.013	3263	3288	1.598	0.019	0.648	0.700
Secondary-special education	0.159	0.010	3263	3288	1.541	0.062	0.139	0.179
Higher education	0.049	0.006	3263	3288	1.503	0.116	0.038	0.061
Never married	0.274	0.008	3263	3288	1.035	0.030	0.258	0.290
Currently married (in union)	0.695	0.008	3263	3288	1.035	0.012	0.679	0.712
Married before age 18	0.133	0.008	2563	2575	1.263	0.064	0.116	0.150
Children ever born	2.303	0.038	3263	3288	0.985	0.017	2.226	2.379
Children surviving	2.090	0.036	3263	3288	1.029	0.017	2.018	2.162
Children ever born to women 40-49	5.083	0.119	597	596	1.461	0.023	4.846	5.320
Ever used any contraceptive method	0.856	0.008	2264	2286	1.016	0.009	0.841	0.871
Currently using any contraceptive method	0.690	0.011	2264	2286	1.172	0.017	0.667	0.713
Current using any modern method	0.646	0.012	2264	2286	1.181	0.018	0.622	0.669
Currently using any traditional method	0.044	0.005	2264	2286	1.157	0.113	0.034	0.054
Currently using IUD	0.536	0.013	2264	2286	1.223	0.024	0.510	0.562
Currently using condom	0.010	0.002	2264	2286	1.134	0.235	0.005	0.015
Currently using LAM	0.035	0.005	2264	2286	1.388	0.154	0.024	0.045
Currently using withdrawal	0.035	0.004	2264	2286	1.007	0.111	0.027	0.043
Body mass index below 18.5 (thin)	0.053	0.006	2979	2980	1.386	0.117	0.040	0.065
Body mass index over 25.0 (overweight/obese)	0.266	0.012	2979	2980	1.448	0.044	0.242	0.289
Hypertensive	0.080	0.006	3262	3286	1.324	0.078	0.068	0.093
Currently smoking	0.000	0.000	3263	3288	1.009	0.807	0.000	0.000
Knows ways tuberculosis spreads	0.539	0.013	3263	3288	1.435	0.023	0.514	0.564
Dental problem past 12 months	0.342	0.012	3263	3288	1.440	0.035	0.318	0.366
STI symptoms past 12 months	0.070	0.006	2367	2385	1.169	0.087	0.058	0.083
Knows condom use prevents AIDS	0.338	0.012	3263	3288	1.446	0.035	0.314	0.362
Knows limiting partners prevents AIDS	0.572	0.013	3263	3288	1.529	0.023	0.545	0.598
CHILDREN								
Weight-for-height (-2SD)	0.067	0.008	1661	1551	1.104	0.114	0.052	0.082
Height-for-age (-2SD)	0.238	0.014	1661	1551	1.240	0.060	0.209	0.266
Weight-for-age (-2SD)	0.091	0.009	1661	1551	1.137	0.096	0.074	0.108
Prevalence of anemia	0.519	0.018	1557	1460	1.284	0.034	0.484	0.554
Net school attendance ratio (primary/middle)	0.957	0.004	3151	3184	1.174	0.005	0.948	0.966
MEN								
Body mass index below 18.5 (thin)	0.026	0.005	1105	1086	1.027	0.203	0.015	0.036
Body mass index over 25.0 (overweight/obese)	0.303	0.017	1105	1086	1.208	0.057	0.268	0.337
Hypertensive	0.079	0.009	1101	1415	1.110	0.115	0.061	0.097
Currently smoking	0.189	0.014	1103	1417	1.202	0.075	0.160	0.217
Knows ways tuberculosis spreads	0.490	0.023	1103	1417	1.499	0.046	0.445	0.535
Dental problem past 12 months	0.236	0.015	1103	1417	1.176	0.064	0.206	0.266
STI symptoms past 12 months	0.003	0.002	815	1059	1.168	0.702	0.000	0.008
Knows condom use prevents AIDS	0.600	0.021	1103	1417	1.390	0.034	0.559	0.641
Knows limiting partners prevents AIDS	0.679	0.019	1103	1417	1.383	0.029	0.641	0.718
FERTILITY, ABORTION, AND MORTALITY RATES								
Total fertility rate (past 3 years)	3.214	0.116	na	9180	1.320	0.036	2.983	3.445
Total abortion rate (past 3 years)	0.859	0.091	na	9179	1.153	0.105	0.678	1.041
Neonatal mortality rate (past 10 years)	37.936	3.797	3195	3242	0.963	0.100	30.341	45.531
Postneonatal mortality rate (past 10 years)	36.621	3.720	3203	3249	1.120	0.102	29.180	44.061
Infant mortality rate (past 10 years)	74.557	5.044	3203	3249	0.986	0.068	64.469	84.645
Child mortality rate (past 10 years)	13.990	2.222	3208	3256	1.087	0.159	9.546	18.434
Under-five mortality rate (past 10 years)	87.504	5.438	3216	3263	0.991	0.062	76.629	98.379

na = Not applicable

Table B.5 Sampling errors for Western sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.426	0.017	1355	699	1.228	0.039	0.393	0.459
Primary/middle education	0.087	0.007	1355	699	0.977	0.086	0.072	0.102
Secondary education	0.561	0.022	1355	699	1.664	0.040	0.516	0.606
Secondary-special education	0.245	0.019	1355	699	1.622	0.077	0.207	0.283
Higher education	0.108	0.013	1355	699	1.536	0.120	0.082	0.134
Never married	0.310	0.011	1355	699	0.859	0.035	0.288	0.331
Currently married (in union)	0.638	0.014	1355	699	1.056	0.022	0.610	0.665
Married before age 18	0.130	0.011	1071	552	1.031	0.082	0.109	0.151
Children ever born	2.122	0.051	1355	699	0.882	0.024	2.020	2.225
Children surviving	1.898	0.042	1355	699	0.820	0.022	1.815	1.981
Children ever born to women 40-49	4.793	0.123	250	130	0.952	0.026	4.546	5.039
Ever used any contraceptive method	0.869	0.017	859	446	1.441	0.019	0.836	0.902
Currently using any contraceptive method	0.683	0.025	859	446	1.564	0.036	0.633	0.733
Current using any modern method	0.680	0.024	859	446	1.522	0.036	0.632	0.729
Currently using any traditional method	0.003	0.002	859	446	1.158	0.717	0.000	0.007
Currently using IUD	0.570	0.024	859	446	1.439	0.043	0.522	0.619
Currently using condom	0.006	0.003	859	446	1.150	0.526	0.000	0.011
Currently using LAM	0.037	0.009	859	446	1.463	0.255	0.018	0.056
Currently using withdrawal	0.002	0.002	859	446	1.156	1.012	0.000	0.005
Body mass index below 18.5 (thin)	0.072	0.008	1245	645	0.977	0.104	0.057	0.087
Body mass index over 25.0 (overweight/obese)	0.275	0.017	1245	645	1.354	0.062	0.241	0.309
Hypertensive	0.087	0.007	1355	699	0.892	0.079	0.073	0.101
Currently smoking	0.004	0.002	1355	699	1.166	0.533	0.000	0.007
Knows ways tuberculosis spreads	0.770	0.017	1355	699	1.450	0.022	0.736	0.803
Dental problem past 12 months	0.419	0.020	1355	699	1.489	0.048	0.379	0.459
STI symptoms past 12 months	0.125	0.012	932	484	1.082	0.094	0.102	0.149
Knows condom use prevents AIDS	0.452	0.019	1355	699	1.433	0.043	0.413	0.491
Knows limiting partners prevents AIDS	0.692	0.025	1355	699	1.969	0.036	0.642	0.741
CHILDREN								
Weight-for-height (-2SD)	0.039	0.010	575	295	1.294	0.267	0.018	0.059
Height-for-age (-2SD)	0.153	0.017	575	295	1.063	0.109	0.120	0.187
Weight-for-age (-2SD)	0.056	0.009	575	295	0.923	0.161	0.038	0.075
Prevalence of anemia	0.498	0.022	519	268	0.994	0.044	0.455	0.542
Net school attendance ratio (primary/middle)	0.942	0.008	1251	639	1.087	0.008	0.926	0.957
MEN								
Body mass index below 18.5 (thin)	0.051	0.011	482	242	1.026	0.213	0.029	0.073
Body mass index over 25.0 (overweight/obese)	0.260	0.024	482	242	1.198	0.093	0.212	0.309
Hypertensive	0.134	0.016	482	314	1.007	0.117	0.102	0.165
Currently smoking	0.162	0.015	482	314	0.892	0.093	0.132	0.192
Knows ways tuberculosis spreads	0.596	0.032	482	314	1.441	0.054	0.532	0.661
Dental problem past 12 months	0.310	0.019	482	314	0.906	0.062	0.272	0.348
STI symptoms past 12 months	0.007	0.005	329	219	1.096	0.722	0.000	0.017
Knows condom use prevents AIDS	0.745	0.019	482	314	0.975	0.026	0.706	0.783
Knows limiting partners prevents AIDS	0.847	0.019	482	314	1.142	0.022	0.810	0.885
FERTILITY AND ABORTION RATES								
Total fertility rate (past 10 years)	3.050	0.145	na	1944	1.109	0.048	2.759	3.340
Total abortion rate (past 10 years)	0.754	0.097	na	1944	1.062	0.129	0.559	0.949

na = Not applicable

Table B.6 Sampling errors for Central sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.301	0.020	856	1311	1.292	0.067	0.260	0.341
Primary/middle education	0.114	0.012	856	1311	1.062	0.101	0.091	0.137
Secondary education	0.625	0.025	856	1311	1.523	0.040	0.575	0.676
Secondary-special education	0.189	0.018	856	1311	1.308	0.093	0.154	0.224
Higher education	0.072	0.012	856	1311	1.403	0.172	0.047	0.097
Never married	0.265	0.016	856	1311	1.058	0.060	0.234	0.297
Currently married (in union)	0.678	0.019	856	1311	1.186	0.028	0.640	0.716
Married before age 18	0.123	0.015	666	1031	1.177	0.122	0.093	0.153
Children ever born	2.363	0.089	856	1311	1.164	0.038	2.186	2.541
Children surviving	2.164	0.084	856	1311	1.219	0.039	1.996	2.333
Children ever born to women 40-49	4.732	0.260	171	267	1.499	0.055	4.212	5.252
Ever used any contraceptive method	0.878	0.008	584	889	0.596	0.009	0.862	0.894
Currently using any contraceptive method	0.640	0.018	584	889	0.928	0.029	0.603	0.677
Current using any modern method	0.572	0.020	584	889	0.991	0.036	0.531	0.612
Currently using any traditional method	0.068	0.010	584	889	1.002	0.154	0.047	0.089
Currently using IUD	0.450	0.022	584	889	1.069	0.049	0.406	0.494
Currently using condom	0.013	0.006	584	889	1.247	0.453	0.001	0.024
Currently using LAM	0.036	0.010	584	889	1.284	0.277	0.016	0.055
Currently using withdrawal	0.048	0.008	584	889	0.913	0.169	0.031	0.064
Body mass index below 18.5 (thin)	0.038	0.009	792	1213	1.354	0.247	0.019	0.056
Body mass index over 25.0 (overweight/obese)	0.291	0.020	792	1213	1.188	0.067	0.252	0.330
Hypertensive	0.100	0.008	856	1311	0.794	0.081	0.084	0.117
Currently smoking	0.012	0.007	856	1311	1.821	0.567	0.000	0.025
Knows ways tuberculosis spreads	0.599	0.025	856	1311	1.481	0.041	0.550	0.649
Dental problem past 12 months	0.446	0.018	856	1311	1.036	0.040	0.410	0.481
STI symptoms past 12 months	0.133	0.016	625	968	1.184	0.121	0.101	0.165
Knows condom use prevents AIDS	0.381	0.025	856	1311	1.484	0.065	0.332	0.431
Knows limiting partners prevents AIDS	0.662	0.019	856	1311	1.151	0.028	0.624	0.699
CHILDREN								
Weight-for-height (-2SD)	0.068	0.015	371	565	1.043	0.215	0.039	0.098
Height-for-age (-2SD)	0.195	0.024	371	565	1.064	0.124	0.146	0.244
Weight-for-age (-2SD)	0.090	0.014	371	565	0.990	0.161	0.061	0.119
Prevalence of anemia	0.581	0.037	345	528	1.298	0.064	0.507	0.656
Net school attendance ratio (primary/middle)	0.961	0.008	874	1333	1.140	0.008	0.946	0.976
MEN								
Body mass index below 18.5 (thin)	0.021	0.009	269	399	0.972	0.411	0.004	0.038
Body mass index over 25.0 (overweight/obese)	0.353	0.042	269	399	1.291	0.118	0.270	0.437
Hypertensive	0.094	0.016	268	510	0.888	0.168	0.063	0.126
Currently smoking	0.183	0.026	268	510	1.113	0.144	0.130	0.236
Knows ways tuberculosis spreads	0.448	0.047	268	510	1.539	0.104	0.355	0.542
Dental problem past 12 months	0.168	0.033	268	510	1.438	0.196	0.102	0.233
STI symptoms past 12 months	0.004	0.004	209	402	0.919	0.985	0.000	0.012
Knows condom use prevents AIDS	0.713	0.042	268	510	1.519	0.059	0.628	0.797
Knows limiting partners prevents AIDS	0.539	0.042	268	510	1.369	0.078	0.455	0.622
FERTILITY AND ABORTION RATES								
Total fertility rate (past 10 years)	3.431	0.189	na	3682	1.167	0.055	3.053	3.808
Total abortion rate (past 10 years)	1.282	0.222	na	3682	1.249	0.173	0.838	1.725

na = Not applicable

Table B.7 Sampling errors for East-Central sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.319	0.032	1001	1431	2.201	0.102	0.254	0.384
Primary/middle education	0.134	0.011	1001	1431	1.034	0.083	0.112	0.157
Secondary education	0.574	0.018	1001	1431	1.167	0.032	0.537	0.610
Secondary-special education	0.200	0.017	1001	1431	1.354	0.086	0.165	0.234
Higher education	0.092	0.011	1001	1431	1.244	0.123	0.070	0.115
Never married	0.256	0.015	1001	1431	1.094	0.059	0.226	0.286
Currently married (in union)	0.698	0.013	1001	1431	0.914	0.019	0.672	0.725
Married before age 18	0.129	0.011	800	1152	0.952	0.088	0.106	0.151
Children ever born	2.279	0.050	1001	1431	0.728	0.022	2.179	2.379
Children surviving	2.072	0.044	1001	1431	0.709	0.021	1.984	2.160
Children ever born to women 40-49	4.568	0.164	189	274	0.976	0.036	4.241	4.896
Ever used any contraceptive method	0.809	0.014	698	999	0.916	0.017	0.782	0.837
Currently using any contraceptive method	0.635	0.022	698	999	1.198	0.034	0.592	0.679
Current using any modern method	0.569	0.022	698	999	1.183	0.039	0.524	0.613
Currently using any traditional method	0.066	0.008	698	999	0.836	0.119	0.051	0.082
Currently using IUD	0.462	0.021	698	999	1.128	0.046	0.419	0.504
Currently using condom	0.026	0.005	698	999	0.774	0.181	0.016	0.035
Currently using LAM	0.022	0.008	698	999	1.382	0.352	0.006	0.037
Currently using withdrawal	0.053	0.007	698	999	0.818	0.131	0.039	0.067
Body mass index below 18.5 (thin)	0.035	0.007	897	1228	1.020	0.187	0.022	0.048
Body mass index over 25.0 (overweight/obese)	0.291	0.014	897	1228	0.897	0.048	0.263	0.319
Hypertensive	0.085	0.012	1000	1429	1.311	0.136	0.062	0.109
Currently smoking	0.011	0.004	1001	1431	1.102	0.328	0.004	0.018
Knows ways tuberculosis spreads	0.451	0.022	1001	1431	1.397	0.049	0.407	0.495
Dental problem past 12 months	0.398	0.024	1001	1431	1.567	0.061	0.349	0.446
STI symptoms past 12 months	0.032	0.006	743	1066	0.947	0.191	0.020	0.044
Knows condom use prevents AIDS	0.458	0.024	1001	1431	1.504	0.052	0.411	0.506
Knows limiting partners prevents AIDS	0.576	0.020	1001	1431	1.287	0.035	0.536	0.616
CHILDREN								
Weight-for-height (-2SD)	0.072	0.015	401	530	1.032	0.205	0.042	0.101
Height-for-age (-2SD)	0.232	0.022	401	530	0.956	0.094	0.188	0.275
Weight-for-age (-2SD)	0.134	0.017	401	530	0.892	0.126	0.100	0.168
Prevalence of anemia	0.576	0.036	375	499	1.280	0.062	0.505	0.647
Net school attendance ratio (primary/middle)	0.950	0.007	1045	1419	1.005	0.008	0.936	0.965
MEN								
Body mass index below 18.5 (thin)	0.043	0.011	342	463	0.920	0.253	0.021	0.064
Body mass index over 25.0 (overweight/obese)	0.375	0.024	342	463	0.910	0.064	0.327	0.423
Hypertensive	0.065	0.015	338	643	1.124	0.233	0.034	0.095
Currently smoking	0.250	0.021	340	646	0.914	0.086	0.207	0.293
Knows ways tuberculosis spreads	0.550	0.039	340	646	1.443	0.071	0.472	0.628
Dental problem past 12 months	0.288	0.032	340	646	1.309	0.112	0.224	0.352
STI symptoms past 12 months	0.004	0.004	262	504	0.990	0.994	0.000	0.011
Knows condom use prevents AIDS	0.600	0.031	340	646	1.160	0.051	0.538	0.662
Knows limiting partners prevents AIDS	0.757	0.028	340	646	1.215	0.037	0.701	0.814
FERTILITY AND ABORTION RATES								
Total fertility rate (past 10 years)	2.964	0.220	na	4027	1.402	0.074	2.525	3.403
Total abortion rate (past 10 years)	1.141	0.196	na	4027	1.163	0.172	0.749	1.532

na = Not applicable

Table B.8 Sampling errors for Eastern sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.345	0.024	1386	1518	1.859	0.069	0.297	0.392
Primary/middle education	0.089	0.009	1386	1518	1.173	0.101	0.071	0.107
Secondary education	0.643	0.019	1386	1518	1.453	0.029	0.606	0.681
Secondary-special education	0.181	0.015	1386	1518	1.479	0.085	0.150	0.211
Higher education	0.087	0.013	1386	1518	1.724	0.150	0.061	0.113
Never married	0.246	0.011	1386	1518	0.981	0.046	0.223	0.269
Currently married (in union)	0.713	0.011	1386	1518	0.896	0.015	0.691	0.734
Married before age 18	0.143	0.013	1113	1219	1.253	0.092	0.117	0.170
Children ever born	2.083	0.042	1386	1518	0.833	0.020	2.000	2.167
Children surviving	1.917	0.039	1386	1518	0.873	0.021	1.838	1.996
Children ever born to women 40-49	4.216	0.114	261	290	1.159	0.027	3.988	4.445
Ever used any contraceptive method	0.871	0.009	1001	1082	0.828	0.010	0.854	0.889
Currently using any contraceptive method	0.758	0.012	1001	1082	0.874	0.016	0.734	0.781
Current using any modern method	0.726	0.015	1001	1082	1.030	0.020	0.697	0.755
Currently using any traditional method	0.032	0.008	1001	1082	1.379	0.241	0.016	0.047
Currently using IUD	0.626	0.015	1001	1082	0.955	0.023	0.597	0.656
Currently using condom	0.012	0.004	1001	1082	1.112	0.315	0.005	0.020
Currently using LAM	0.030	0.006	1001	1082	1.115	0.202	0.018	0.042
Currently using withdrawal	0.026	0.007	1001	1082	1.457	0.284	0.011	0.040
Body mass index below 18.5 (thin)	0.090	0.013	1280	1419	1.543	0.148	0.063	0.117
Body mass index over 25.0 (overweight/obese)	0.235	0.018	1280	1419	1.570	0.077	0.199	0.271
Hypertensive	0.057	0.010	1383	1513	1.531	0.168	0.038	0.076
Currently smoking	0.001	0.001	1386	1518	1.073	1.020	0.000	0.002
Knows ways tuberculosis spreads	0.576	0.019	1386	1518	1.419	0.033	0.538	0.614
Dental problem past 12 months	0.277	0.018	1386	1518	1.489	0.065	0.241	0.313
STI symptoms past 12 months	0.047	0.008	1061	1146	1.263	0.174	0.031	0.064
Knows condom use prevents AIDS	0.346	0.018	1386	1518	1.431	0.053	0.309	0.382
Knows limiting partners prevents AIDS	0.529	0.023	1386	1518	1.685	0.043	0.484	0.575
CHILDREN								
Weight-for-height (-2SD)	0.057	0.009	856	792	0.905	0.153	0.040	0.075
Height-for-age (-2SD)	0.257	0.027	856	792	1.565	0.106	0.203	0.311
Weight-for-age (-2SD)	0.055	0.012	856	792	1.245	0.212	0.032	0.079
Prevalence of anemia	0.463	0.023	830	779	1.235	0.050	0.418	0.509
Net school attendance ratio (primary/middle)	0.966	0.005	1212	1337	1.013	0.005	0.955	0.976
MEN								
Body mass index below 18.5 (thin)	0.028	0.008	461	519	1.084	0.295	0.011	0.044
Body mass index over 25.0 (overweight/obese)	0.244	0.024	461	519	1.218	0.099	0.196	0.292
Hypertensive	0.055	0.009	464	664	0.820	0.158	0.038	0.073
Currently smoking	0.263	0.025	465	665	1.200	0.093	0.214	0.312
Knows ways tuberculosis spreads	0.556	0.038	465	665	1.635	0.068	0.480	0.631
Dental problem past 12 months	0.261	0.017	465	665	0.819	0.064	0.228	0.294
STI symptoms past 12 months	0.005	0.005	353	497	1.349	0.992	0.000	0.016
Knows condom use prevents AIDS	0.556	0.032	465	665	1.370	0.057	0.493	0.620
Knows limiting partners prevents AIDS	0.661	0.032	465	665	1.459	0.049	0.597	0.725
FERTILITY AND ABORTION RATES								
Total fertility rate (past 10 years)	2.709	0.159	na	4279	1.107	0.059	2.391	3.028
Total abortion rate (past 10 years)	0.510	0.091	na	4279	1.207	0.179	0.327	0.693

na = Not applicable

Table B.9 Sampling errors for Tashkent City sample, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	1.000	0.000	865	503	na	0.000	1.000	1.000
Primary/middle education	0.080	0.012	865	503	1.282	0.148	0.056	0.103
Secondary education	0.357	0.022	865	503	1.328	0.061	0.314	0.400
Secondary-special education	0.284	0.019	865	503	1.243	0.067	0.246	0.323
Higher education	0.279	0.027	865	503	1.747	0.096	0.226	0.332
Never married	0.233	0.014	865	503	1.009	0.062	0.204	0.262
Currently married (in union)	0.604	0.023	865	503	1.358	0.037	0.559	0.650
Married before age 18	0.113	0.011	718	418	0.944	0.099	0.091	0.135
Children ever born	1.631	0.051	865	503	1.053	0.032	1.528	1.734
Children surviving	1.580	0.049	865	503	1.058	0.031	1.482	1.679
Children ever born to women 40-49	2.591	0.124	226	132	1.318	0.048	2.342	2.839
Ever used any contraceptive method	0.755	0.025	524	304	1.314	0.033	0.706	0.805
Currently using any contraceptive method	0.622	0.022	524	304	1.042	0.036	0.578	0.666
Current using any modern method	0.558	0.024	524	304	1.088	0.042	0.510	0.605
Currently using any traditional method	0.064	0.014	524	304	1.325	0.221	0.036	0.093
Currently using IUD	0.435	0.024	524	304	1.115	0.056	0.387	0.483
Currently using condom	0.072	0.014	524	304	1.268	0.199	0.043	0.101
Currently using LAM	0.006	0.004	524	304	1.105	0.618	0.000	0.014
Currently using withdrawal	0.018	0.006	524	304	1.055	0.338	0.006	0.031
Body mass index below 18.5 (thin)	0.060	0.010	784	461	1.055	0.161	0.041	0.079
Body mass index over 25.0 (overweight/obese)	0.341	0.020	784	461	1.150	0.057	0.302	0.380
Hypertensive	0.034	0.009	865	503	1.532	0.279	0.015	0.053
Currently smoking	0.031	0.007	865	503	1.131	0.217	0.017	0.044
Knows ways tuberculosis spreads	0.845	0.017	865	503	1.395	0.020	0.811	0.880
Dental problem past 12 months	0.270	0.026	865	503	1.731	0.097	0.218	0.322
STI symptoms past 12 months	0.050	0.014	674	393	1.728	0.292	0.021	0.079
Knows condom use prevents AIDS	0.671	0.020	865	503	1.263	0.030	0.631	0.712
Knows limiting partners prevents AIDS	0.706	0.017	865	503	1.108	0.024	0.672	0.740
CHILDREN								
Weight-for-height (-2SD)	0.173	0.029	361	218	1.426	0.168	0.115	0.231
Height-for-age (-2SD)	0.116	0.014	361	218	0.820	0.121	0.088	0.145
Weight-for-age (-2SD)	0.038	0.008	361	218	0.805	0.208	0.022	0.054
Prevalence of anemia	0.198	0.027	379	231	1.271	0.136	0.144	0.252
Net school attendance ratio (primary/middle)	0.919	0.015	495	288	1.149	0.016	0.889	0.949
MEN								
Body mass index below 18.5 (thin)	0.052	0.006	738	435	0.650	0.112	0.040	0.064
Body mass index over 25.0 (overweight/obese)	0.350	0.021	738	435	1.132	0.059	0.309	0.392
Hypertensive	0.124	0.009	777	198	0.761	0.073	0.106	0.142
Currently smoking	0.408	0.026	778	198	1.476	0.064	0.356	0.460
Knows ways tuberculosis spreads	0.755	0.021	778	198	1.364	0.028	0.713	0.797
Dental problem past 12 months	0.400	0.021	778	198	1.182	0.052	0.359	0.442
STI symptoms past 12 months	0.006	0.003	592	150	1.048	0.573	0.000	0.012
Knows condom use prevents AIDS	0.773	0.018	778	198	1.166	0.023	0.738	0.808
Knows limiting partners prevents AIDS	0.724	0.019	778	198	1.174	0.026	0.686	0.762
FERTILITY AND ABORTION RATES								
Total fertility rate (past 10 years)	1.957	0.168	na	1424	1.221	0.086	1.621	2.292
Total abortion rate (past 10 years)	0.984	0.190	na	1424	1.165	0.193	0.604	1.365

na = Not applicable

Table B.10 Errors for biomarkers in Tashkent City and Ferghana Oblast, Uzbekistan 2002

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
TASHKENT CITY, WOMEN 15-49								
Total cholesterol ≥240 mg/dl	0.018	0.003	702	412	0.686	0.190	0.011	0.025
Total mean cholesterol	156.556	1.241	702	412	1.018	0.008	154.074	159.037
Triglycerides ≥200 mg/dl	0.111	0.013	702	412	1.062	0.114	0.085	0.136
Tested positive for hepatitis B	0.026	0.006	702	412	1.016	0.233	0.014	0.039
Hemoglobin A1c ≥8.0%	0.007	0.003	701	412	1.008	0.445	0.001	0.014
Tested positive for chlamydia	0.095	0.012	610	353	1.017	0.127	0.071	0.119
TASHKENT CITY, MEN 15-59								
Total cholesterol ≥240 mg/dl	0.024	0.006	614	159	1.009	0.258	0.012	0.037
Mean total cholesterol	156.140	1.252	614	159	0.891	0.008	153.636	158.644
Triglycerides ≥200 mg/dl	0.215	0.018	614	159	1.065	0.082	0.180	0.251
Tested positive for hepatitis B	0.056	0.008	614	159	0.813	0.135	0.041	0.071
Hemoglobin A1c ≥8.0%	0.028	0.007	615	159	1.017	0.241	0.015	0.042
TASHKENT CITY, CHILDREN UNDER AGE 5								
Lead level ≥10.0 μg/dl	0.061	0.020	378	230	1.450	0.332	0.020	0.101
FERGHANA OBLAST, CHILDREN UNDER AGE 5								
Vitamin A								
Any deficiency (<20.0 μg/dl)	0.531	0.046	633	476	1.626	0.086	0.440	0.622
Moderately deficient (10.0-19.9 μg/dl)	0.437	0.037	633	476	1.373	0.084	0.363	0.511
Severely deficient (<10.0 μg/dl)	0.094	0.028	633	476	1.523	0.296	0.038	0.150

DATA QUALITY TABLES

APPENDIX C

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Uzbekistan 2002

	Male		Female			Male		Female	
Age	Number	Percentage	Number	Percentage	Age	Number	Percentage	Number	Percentage
0	268	2.5	237	2.1	37	129	1.2	118	1.1
1	235	2.2	197	1.8	38	119	1.1	132	1.2
2	306	2.8	260	2.3	39	127	1.2	157	1.4
3	290	2.7	231	2.1	40	134	1.2	117	1.0
4	305	2.8	323	2.9	41	113	1.0	141	1.3
5	304	2.8	268	2.4	42	136	1.3	125	1.1
6	237	2.2	227	2.0	43	126	1.2	131	1.2
7	231	2.1	254	2.3	44	100	0.9	122	1.1
8	266	2.5	256	2.3	45	122	1.1	127	1.1
9	274	2.5	242	2.2	46	96	0.9	111	1.0
10	268	2.5	279	2.5	47	80	0.7	104	0.9
11	295	2.7	287	2.6	48	81	0.7	72	0.6
12	304	2.8	291	2.6	49	80	0.7	57	0.5
13	251	2.3	299	2.7	50	74	0.7	138	1.2
14	324	3.0	334	3.0	51	57	0.5	85	0.8
15	255	2.4	230	2.1	52	75	0.7	100	0.9
16	244	2.3	230	2.1	53	68	0.6	56	0.5
17	218	2.0	246	2.2	54	55	0.5	63	0.6
18	204	1.9	203	1.8	55	54	0.5	71	0.6
19	186	1.7	213	1.9	56	35	0.3	55	0.5
20	176	1.6	233	2.1	57	27	0.2	35	0.3
21	208	1.9	222	2.0	58	23	0.2	42	0.4
22	202	1.9	211	1.9	59	14	0.1	23	0.2
23	173	1.6	196	1.8	60	86	0.8	65	0.6
24	172	1.6	199	1.8	61	56	0.5	44	0.4
25	178	1.6	182	1.6	62	60	0.6	66	0.6
26	208	1.9	179	1.6	63	57	0.5	67	0.6
27	183	1.7	177	1.6	64	59	0.5	52	0.5
28	146	1.4	147	1.3	65	44	0.4	77	0.7
29	160	1.5	147	1.3	66	47	0.4	42	0.4
30	172	1.6	166	1.5	67	29	0.3	39	0.4
31	128	1.2	153	1.4	68	24	0.2	43	0.4
32	132	1.2	142	1.3	69	32	0.3	43	0.4
33	128	1.2	149	1.3	70+	389	3.6	440	3.9
34	109	1.0	136	1.2	Don't know/ missing	0	0.0	3	0.0
35	135	1.2	144	1.3					
36	118	1.1	141	1.3					
					Total	10,800	100.0	11,194	100.0

Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

Table C.2 Age distribution of eligible and interviewed women

The de facto household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by five-year age groups, Uzbekistan 2002

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
		Number	Percent	
10-14	1,490	na	na	na
15-19	1,123	1,086	20.0	96.7
20-24	1,062	1,036	19.1	97.6
25-29	832	807	14.9	97.0
30-34	745	728	13.4	97.7
25-39	692	681	12.6	98.4
40-44	636	624	11.5	98.1
45-49	471	457	8.4	97.0
50-54	442	na	na	na
15-49	5,560	5,419	100.0	97.5

Note: The de facto population includes all residents and nonresidents (visitors) who slept in the household the night before interview.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Uzbekistan 2002

Subject	Reference group	Percentage with missing information	Number of cases
Birth date	Births in the 15 years preceding the survey		
Month only		0.05	7,898
Month and year		0.01	7,898
Age at death	Deceased children born in the 15 years preceding the survey	0.00	562
Age/date at first union[1]	Ever-married women age 15-49	0.01	4,042
Respondent's education	All women age 15-49	0.00	5,463
Anthropometry	Living children age 0-59 months (from the household questionnaire)		
Height		3.24	2,622
Weight		3.19	2,622
Height or weight		3.24	2,622

[1] Both year and age missing

Table C.4 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living , dead, and total children (weighted), Uzbekistan 2002

	Number of births			Percentage with complete birth date			Sex ratio at birth			Calendar year ratio		
Year	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
2001	428	26	454	100.0	100.0	100.0	107.1	219.7	111.4	na	na	na
2000	497	29	525	100.0	97.5	99.9	128.6	120.6	128.1	na	na	na
1999	434	34	468	100.0	100.0	100.0	118.3	66.3	113.5	92.7	100.5	93.2
1998	440	38	478	100.0	100.0	100.0	88.2	123.8	90.6	94.2	102.2	94.8
1997	499	41	540	100.0	100.0	100.0	110.6	105.8	110.2	111.1	90.2	109.2
1996	459	53	512	99.5	100.0	99.5	102.0	219.7	110.0	93.7	128.6	96.4
1995	480	41	521	100.0	100.0	100.0	97.6	132.9	100.0	103.9	97.5	103.4
1994	465	32	497	100.0	100.0	100.0	96.1	177.6	99.8	93.8	76.5	92.5
1993	511	42	553	100.0	100.0	100.0	114.1	68.3	109.8	103.7	108.3	104.1
1992	521	45	566	100.0	100.0	100.0	115.8	146.1	118.0	99.2	105.3	99.6
1997-2001	2,298	167	2,465	100.0	99.6	100.0	110.1	113.9	110.4	na	na	na
1992-1996	2,436	213	2,649	99.9	100.0	99.9	105.2	139.5	107.6	na	na	na
1987-1991	2,575	186	2,761	99.9	99.6	99.9	96.5	122.5	98.0	na	na	na
1982-1986	1,821	184	2,004	100.0	97.3	99.7	100.5	119.9	102.1	na	na	na
< 1982	1,288	219	1,507	99.9	99.1	99.8	108.8	135.7	112.3	na	na	na
All	10,418	969	11,387	99.9	99.1	99.9	103.6	126.8	105.4	na	na	na

na = Not applicable

Table C.5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey (weighted), Uzbekistan 2002

Age at death (days)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1	8	6	1	7	23
1	16	31	19	11	77
2	1	10	6	7	24
3	11	15	13	8	47
4	1	2	6	1	9
5	4	1	4	1	10
6	6	1	2	3	12
7	4	11	4	2	21
8	2	1	0	0	3
9	1	2	3	1	7
10	2	3	3	3	11
11	1	0	1	2	5
12	0	0	2	1	2
13	0	0	2	0	2
15	3	0	4	0	6
16	0	1	0	0	2
17	0	2	3	0	5
18	2	2	0	0	4
20	2	4	4	1	11
21	2	0	0	0	2
22	5	0	0	0	5
23	1	0	0	2	4
24	0	2	0	0	2
25	3	0	0	0	3
27	0	0	0	2	2
28	1	0	0	0	1
29	0	2	0	0	2
30	0	0	1	0	1
Total 0-30	79	92	77	53	301
Percent early neonatal	60	70	67	74	67

Table C.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for five-year periods of birth preceding the survey, Uzbekistan 2002

Age at death (months)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1	79	92	77	53	301
1	16	11	9	8	44
2	8	9	10	9	36
3	4	7	8	10	29
4	2	4	5	5	16
5	5	4	8	4	21
6	6	16	10	9	42
7	9	4	6	3	22
8	3	10	3	5	21
9	5	4	5	5	19
10	0	2	1	1	5
11	4	6	4	14	28
12	1	3	3	8	16
13	0	0	1	1	3
14	2	2	5	2	11
15	0	0	1	0	1
16	0	1	0	2	4
18	3	7	2	6	18
19	0	0	1	0	1
20	0	0	0	2	2
21	0	1	0	0	1
22	0	0	1	0	1
23	1	0	2	0	3
24+	1	0	0	0	1
1 year	2	2	3	3	9
Total 0-11	141	169	147	126	583
Percent neonatal	56	54	53	42	52

PERSONS INVOLVED IN THE 2002 UZBEKISTAN HEALTH EXAMINATION SURVEY

APPENDIX ***D***

National Director
Ministry of Health, Republic of Uzbekistan
Dr. Firuz Nazirov, Minister

Technical Directors
Dr. Zulkhumor Mutalova
Dr. Saidkasim Aripov

Quality Control Coordinators
Dr. Gulistan Bekbaulieva
Dr. Ozoda Islamova

Senior Field Staff
Mr. Komekbai Allamuratov, Field Coordinator
Mr. Atabai Sabirov, Field Coordinator
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Ms. Valentina Ovchinnikova, Field Coordinator
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Ms. Donohon Mamanazarova, Field Coordinator

Macro International Staff
Dr. Jeremiah M. Sullivan, Technical Director
Dr. Gregory Pappas, Deputy Director for Health
Dr. Gulnara Semenov, Health Specialist
Ms. Jasbir Saggu, Biomarker Specialist
Ms. Holly Newby, Demographer
Ms. Rebecca Stallings, Health Specialist
Mr. Alexander Izmukhambetov, Data Processing Specialist
Mr. Alfredo Aliaga, Sampling Statistician
Mr. Ruilin Ren, Sampling Statistician
Mr. Nicolae Beldescu, Consultant
Dr. Sidney Moore, Editor
Ms. Kaye Mitchell, Document Production Specialist
Ms. Katherine A. Senzee, Graphics Specialist
Mr. Noah M. Bartlett, Graphics Specialist
Ms. Svetlana Negroustoueva, Research Associate

Chiefs of Oblast Health Departments
M.S. Islomov, Deputy Minister of Health of Uzbekistan,
Chief of the Main Health Department Tashkent City
M.T. Turumbetova, Minister of Health, Karakalpakstan
C.N. Tzsoy, Khorezm Oblast
A.M. Nosirov, Navoi Oblast
H.R. Toshev, Bukhara Oblast
R.K. Rahmonov, Kashkadarya Oblast
H.A. Abdullaev, Surkhandarya Oblast

M.M. Muslimov, Samarkhand Oblast
R.D. Muminov, Jizzakh Oblast
T.B. Buranov, Syrdarya Oblast
K.I. Akromov, Tashkent Oblast
M.T. Rahmonov, Namangan Oblast
D.U. Yuldashev, Ferghana Oblast
A.O. Otahanov, Andizhan Oblast

Interviewing Staff

Western Region

Supervisors
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Field Editors
G. Bekbaulieva
M. Akhmedov

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East-Central Region

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Medical Technician
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A. Lim
K. Absotarov

Tashkent City

Supervisor
M. Mamadalieva

Field Editor
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Interviewers
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J. Zufarova
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S. Nikadambaev
Y. Nikadambaev
B. Akhmedov

Medical Technician
N. Muhkamedova
G. Ahatova
F. Yusupova
S. Mutalova

Data Processing Staff

E. Abdurashitova
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QUESTIONNAIRES

APPENDIX E

2002 UZBEKISTAN HEALTH EXAMINATION SURVEY QUESTIONNAIRE

2002 UZBEKISTAN HES **HOUSEHOLD QUESTIONNAIRE**

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER .....

HOUSEHOLD NUMBER .....

OBLAST .....

RAYON .....

MAHALLAH/SSG .....

URBAN/RURAL (URBAN=1, RURAL=2) .....

LARGE CITY/SMALL CITY/TOWN/COUNTRYSIDE .....
(LARGE CITY=1, SMALL CITY=2, TOWN=3, COUNTRYSIDE=4)

HOUSEHOLD SELECTED FOR MALE INTERVIEW (YES=1, NO=2) .....

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY MONTH YEAR 2 0 0 2
INTERVIEWER'S NAME	_____	_____	_____	NAME
RESULT*	_____	_____	_____	RESULT
NEXT VISIT: DATE & TIME				TOTAL NO. OF VISITS

HEALTH TECH VISITS	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY MONTH YEAR 2 0 0 2
HEALTH TECH'S NAME	_____	_____	_____	NAME
RESULT*	_____	_____	_____	RESULT
NEXT VISIT: DATE & TIME				TOTAL NO. OF VISITS

*RESULT CODES:
1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME OR
NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD

TOTAL ELIGIBLE WOMEN

TOTAL ELIGIBLE MEN

LINE NO. OF RESP. TO HOUSEHOLD QUEST.

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ DATE _____	NAME _____ DATE _____		

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	SEX	RESIDENCE		AGE	ELIGIBILITY		
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL MEN AGE 15-59	CIRCLE LINE NUMBER OF ALL CHILDREN UNDER AGE 6
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8A)	(9)
			M F	YES NO	YES NO	IN YEARS			
01			1 2	1 2	1 2		01	01	01
02			1 2	1 2	1 2		02	02	02
03			1 2	1 2	1 2		03	03	03
04			1 2	1 2	1 2		04	04	04
05			1 2	1 2	1 2		05	05	05
06			1 2	1 2	1 2		06	06	06
07			1 2	1 2	1 2		07	07	07
08			1 2	1 2	1 2		08	08	08
09			1 2	1 2	1 2		09	09	09
10			1 2	1 2	1 2		10	10	10

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:
01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/ STEPCHILD
12 = NOT RELATED
98 = DON'T KNOW

LINE NO.	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD**				EDUCATION***						
	Is (NAME)'s natural mother alive?	IF ALIVE	Is (NAME)'s natural father alive?	IF ALIVE	IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS				
		Does (NAME)'s natural mother live in this house-hold? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER		Does (NAME)'s natural father live in this house-hold? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? What is the highest grade (NAME) completed at that level?	Is (NAME) currently attending school?	During the current school year, did (NAME) attend school at any time?	During the current school year, what level and grade is (NAME) attending?	During the previous school year, did (NAME) attend school at any time?	During that school year, what level and grade did (NAME) attend?
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	YES NO DK		YES NO DK		YES NO	LEVEL GRADE	YES NO	YES NO	LEVEL GRADE	YES NO	LEVEL GRADE
01	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
02	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
03	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
04	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
05	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
06	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
07	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
08	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
09	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	
10	1 2 8		1 2 8		1 NEXT LINE 2		1 2 GO TO 18	1 2 GO TO 19		1 NEXT LINE 2	

** Q.10 THROUGH Q.13 THESE QUESTIONS REFER TO THE BIOLOGICAL PARENTS OF THE CHILD.

IN Q.11 AND Q.13, RECORD '00' IF PARENT NOT LISTED IN HOUSEHOLD SCHEDULE.

***CODES FOR Qs. 15, 18 AND 20

EDUCATION LEVEL:
1 = SCHOOL, GYMNASIUM
2 = PTU, SPTU, LICEE
3 = TEKNIKUM, COLLEGE
4 = UNIVERSITY, INSTITUTE
8 = DON'T KNOW

EDUCATION GRADE:
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	SEX	RESIDENCE		AGE	ELIGIBILITY		
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL MEN AGE 15-59	CIRCLE LINE NUMBER OF ALL CHILDREN UNDER AGE 6
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8A)	(9)
			M F	YES NO	YES NO	IN YEARS			
11			1 2	1 2	1 2		11	11	11
12			1 2	1 2	1 2		12	12	12
13			1 2	1 2	1 2		13	13	13
14			1 2	1 2	1 2		14	14	14
15			1 2	1 2	1 2		15	15	15
16			1 2	1 2	1 2		16	16	16
17			1 2	1 2	1 2		17	17	17
18			1 2	1 2	1 2		18	18	18
19			1 2	1 2	1 2		19	19	19
20			1 2	1 2	1 2		20	20	20

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:
01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/ STEPCHILD
12 = NOT RELATED
98 = DON'T KNOW

** Q.10 THROUGH Q.13

THESE QUESTIONS REFER TO THE BIOLOGICAL PARENTS OF THE CHILD.

IN Q.11 AND Q.13, RECORD '00' IF PARENT NOT LISTED IN HOUSEHOLD SCHEDULE.

***CODES FOR Qs. 15, 18 AND 20

EDUCATION LEVEL:
1 = SCHOOL, GYMNASIUM
2 = PTU, SPTU, LICEE
3 = TEKNIKUM, COLLEGE
4 = UNIVERSITY, INSTITUTE
8 = DON'T KNOW

EDUCATION GRADE:
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

LINE NO.	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD**				EDUCATION***						
	Is (NAME)'s natural mother alive?	IF ALIVE	Is (NAME)'s natural father alive?	IF ALIVE	IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS				
		Does (NAME)'s natural mother live in this house-hold? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER		Does (NAME)'s natural father live in this house-hold? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? What is the highest grade (NAME) completed at that level?	Is (NAME) currently attending school?	During the current school year, did (NAME) attend school at any time?	During the current school year, what level and grade is (NAME) attending?	During the previous school year, did (NAME) attend school at any time?	During that school year, what level and grade did (NAME) attend?
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	YES NO DK		YES NO DK		YES NO	LEVEL GRADE	YES NO	YES NO	LEVEL GRADE	YES NO	LEVEL GRADE
11	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
12	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
13	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
14	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
15	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
16	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
17	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
18	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
19	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	
20	1 2 8		1 2 8		1 NEXT LINE 2		1 GO TO 18 2	1 GO TO 19 2		1 NEXT LINE 2	

TICK HERE IF CONTINUATION SHEET USED ☐

Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed? YES ☐ → ENTER EACH IN TABLE NO ☐

2) In addition, are there any other people who may not be members of your family, such as lodgers or friends who usually live here? YES ☐ → ENTER EACH IN TABLE NO ☐

3) Are there any guests or temporary visitors staying here, or anyone else who slept here last night, who have not been listed? YES ☐ → ENTER EACH IN TABLE NO ☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
21A	What type of accommodation do you have—A self-contained flat, a self-contained house, part of a house or flat, or another type of accommodation? IF "SELF-CONTAINED FLAT," ASK: Is this flat in a building constructed of bricks, in a building constructed of cement blocks, or in a cottage?	SELF CONTAINED FLAT BRICK BUILDING .....1 CEMENT BUILDING .....2 COTTAGE .....3 SELF-CONTAINED HOUSE .....4 PART OF HOUSE OR FLAT .....5 OTHER _____ 6 (SPECIFY)	
21B	Who is the owner of this accommodation? CHECK COL. 2 AND 5 TO SEE WHETHER THE PERSON LIVES IN THE HOUSEHOLD.	MEMBER OF HOUSEHOLD .....1 OTHER RELATIVE .....2 OTHER PERSON 3	
22A	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO DWELLING .....11 PIPED INTO YARD/PLOT .....12 PUBLIC TAP .....13 WATER FROM OPEN WELL OPEN WELL IN DWELLING .....21 OPEN WELL IN YARD/PLOT .....22 OPEN PUBLIC WELL .....23 WATER FROM COVERED WELL OR BOREHOLE PROTECTED WELL IN DWELLING .....31 PROTECTED WELL IN YARD/PLOT .....32 PROTECTED PUBLIC WELL .....33 SURFACE WATER SPRING .....41 RIVER/STREAM .....42 POND/LAKE .....43 DAM .....44 RAINWATER .....51 TANKER TRUCK .....61 BOTTLED WATER .....71 OTHER _____ 96 (SPECIFY)	23 23 23 23 23 23 23 23
22B	How long does it take you to go there, get water, and come back?	MINUTES ..... [ ][ ][ ] ON PREMISES 996	
23	What kind of toilet facilities does your household have?	FLUSH TOILET .....11 PIT TOILET/LATRINE TRADITIONAL PIT TOILET .....21 VENTILATED IMPROVED PIT (VIP) LATRINE .....22 NO FACILITY/BUSH/FIELD .....31 OTHER _____ 96 (SPECIFY)	 25
24	Do you share these facilities with other households?	YES .....1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
25	Does your household have the following working items? electricity? air conditioning? a radio? a television? a telephone? a refrigerator? a dishwasher? a freezer? a washing machine? an electric vacuum cleaner? a tape recorder? a video player? a video camera? a camera? a satellite antenna? a sewing machine? a knitting machine? a personal computer?	YES NO ELECTRICITY ..... 1 2 AIR CONDITIONING ..... 1 2 RADIO ..... 1 2 TELEVISION ..... 1 2 TELEPHONE ..... 1 2 REFRIGERATOR ..... 1 2 DISHWASHER ..... 1 2 FREEZER ..... 1 2 WASHING MACHINE ..... 1 2 VACUUM CLEANER ..... 1 2 TAPE RECORDER ..... 1 2 VIDEO PLAYER ..... 1 2 VIDEO CAMERA ..... 1 2 CAMERA ..... 1 2 SATELLITE ANTENNA ..... 1 2 SEWING MACHINE ..... 1 2 KNITTING MACHINE ..... 1 2 PERSONAL COMPUTER 1 2	
26	What type of fuel does your household mainly use for cooking?	ELECTRICITY ..... 01 LPG/NATURAL GAS ..... 02 BIOGAS ..... 03 KEROSENE ..... 04 COAL, LIGNITE ..... 05 CHARCOAL ..... 06 FIREWOOD, STRAW ..... 07 DUNG ..... 08 OTHER _____ 96 (SPECIFY)	
27A	MAIN MATERIAL OF THE WALLS OF THE LIVING AREA. RECORD OBSERVATION.	CONCRETE ..... 01 NON-FIRED BRICKS ..... 02 FIRED BRICKS ..... 03 CLAY WALLS ..... 04 WOOD ..... 05 STONE ..... 06 OTHER _____ 96 (SPECIFY)	
27B	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR EARTH/SAND ..... 11 DUNG ..... 12 RUDIMENTARY FLOOR WOOD PLANKS ..... 21 PALM/BAMBOO ..... 22 FINISHED FLOOR PARQUET OR POLISHED WOOD ..... 31 VINYL OR ASPHALT STRIPS ..... 32 CERAMIC TILES ..... 33 CEMENT ..... 34 CARPET ..... 35 OTHER _____ 96 (SPECIFY)	
28	Does any member of your household own: a bicycle? a motorcycle or motor scooter? a car or truck? a horse or donkey cart? a boat?	YES NO BICYCLE ..... 1 2 MOTORCYCLE/SCOOTER ..... 1 2 CAR/TRUCK ..... 1 2 HORSE/DONKEY CART ..... 1 2 BOAT 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
29	Do you or any members of your household usually go on a holiday trip of at least one week each year?	YES .....1 NO 2	
30	If you consider your current income, are you and your household able to make ends meet with: great difficulty, some difficulty, a little difficulty, fairly easily, easily, or very easily?	GREAT DIFFICULTY .....1 SOME DIFFICULTY .....2 A LITTLE DIFFICULTY .....3 FAIRLY EASILY .....4 EASILY .....5 VERY EASILY .....6 DON'T KNOW 8	
31	Has your household had problems paying bills for rent, electricity, or gas during the last 12 months?	YES .....1 NO .....2 DON'T KNOW 8	
32	During the last 12 months, have you or your household been forced to borrow money from friends or relatives to make ends meet?	YES .....1 NO .....2 DON'T KNOW 8	
33	If you were in a situation where you had to get 80,000 sum in one week, would you manage to do that?	YES .....1 NO .....2 DON'T KNOW 8	 → 35 → 35
34	If you could raise 80,000 sum in one week, how would you do it? RECORD ALL RESPONSES.	OWN SAVINGS..... A BORROW FROM FAMILY ..... B BORROW FROM FRIENDS/ RELATIVES..... C BORROW FROM BANK ..... D OTHER _____ X (SPECIFY)	
35	Where do you usually wash your hands?	IN DWELLING/YARD/PLOT.....1 SOMEWHERE ELSE .....2 NOWHERE.....3	 → END
36	ASK TO SEE THE PLACE AND OBSERVE IF THE FOLLOWING ITEMS ARE PRESENT.	YES NO WATER/TAP .....1 2 SOAP, ASH OR OTHER CLEANSING AGENT .....1 2 BASIN.....1 2	

BIOMARKERS AND OTHER MEASUREMENTS

NAME OF THE MEASURER: _____ ☐☐ NAME OF THE ASSISTANT: _____ ☐☐

CHECK COLUMN 7 AND 9: RECORD THE LINE NUMBER, NAME AND AGE OF ALL CHILDREN UNDER AGE 6				ELIGIBILITY FOR TESTING CHILDREN* FOR ALL REGIONS AND TASHKENT (BORN IN 1997 OR LATER)		ELIGIBILITY FOR VITAMIN A TESTING OF CHILDREN** IN FERGHANA VALLEY ONLY (6-59 MONTHS)	
LINE NO.	NAME OF CHILD	AGE	What is (NAME'S) date of birth? DAY MONTH YEAR	YES	NO	YES	NO
(37)	(38)	(39)	(40)	(41)		(42)	
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2
☐☐		☐☐	☐☐ ☐☐ ☐☐☐☐	1	2	1	2

*** IN ALL HOUSEHOLD IN THE SAMPLE, CHILDREN WITH A YES (1) IN COLUMN 41 ARE ELIGIBLE TO HAVE HEIGHT, WEIGHT AND BE TESTED FOR ANEMIA.**

IN TASHKENT, THESE ELIGIBLE CHILDREN WILL ALSO BE TESTED FOR LEAD.

**** IN FERGHANA VALLEY ONLY: ALL CHILDREN THAT HAVE YES (1) IN COLUMN 42 ARE ELIGIBLE FOR VITAMIN A TESTING.**

(PLEASE NOTE THAT ONLY THESE ELIGIBLE CHILDREN WILL BE CARRIED OVER TO THE SUBSEQUENT FORMS).

PART A: ALL REGIONS INCLUDING TASHKENT AND FERGHANA VALLEY

WEIGHT AND HEIGHT MEASUREMENT IN CHILDREN

TECHNICIAN: IN 42 AND 43 RECORD THE LINE NUMBER AND NAME FOR EACH CHILD BORN IN 1997 OR LATER.
(NOTE: IF THERE ARE MORE THAN 4 LIVING CHILDREN BORN IN 1997 OR LATER, CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

	CHILD 1	CHILD 2	CHILD 3	CHILD 4
(43) LINE NO. FROM COL. 9	☐☐	☐☐	☐☐	☐☐
(44) NAME FROM COL. 2 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
(45) WEIGHT (in kilograms)	☐☐ . ☐	☐☐ . ☐	☐☐ . ☐	☐☐ . ☐
(46) HEIGHT (in centimeters)	☐☐☐ . ☐	☐☐☐ . ☐	☐☐☐ . ☐	☐☐☐ . ☐
(47) WAS HEIGHT/ LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?	LYING …….. 1 STANDING …….. 2	LYING ……..……1 STANDING ……..……2	LYING ……..……1 STANDING …….. 2	LYING ……..……1 STANDING……..……2
(48) RESULT	MEASURED...……..1 NOT PRESENT……..……2 REFUSED……..……3 OTHER _____6 _____ (SPECIFY)	MEASURED...……..1 NOT PRESENT……..……2 REFUSED……..……3 OTHER _____6 _____ (SPECIFY)	MEASURED...……..1 NOT PRESENT……..……2 REFUSED……..……3 OTHER _____6 _____ (SPECIFY)	MEASURED...……..1 NOT PRESENT……..……2 REFUSED……..……3 OTHER _____6 _____ (SPECIFY)

HEMOGLOBIN MEASUREMENT IN CHILDREN

(NOTE: IF THERE ARE MORE THAN 4 LIVING CHILDREN BORN IN 1997 OR LATER, CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

	CHILD 1	CHILD 2	CHILD 3	CHILD 4
(49) NAME	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
(50) LINE NO. FROM COL. 1	☐☐	☐☐	☐☐	☐☐
(51) LINE NO. OF PARENT/RESPONSIBLE ADULT. RECORD '00' IF NOT LISTED IN HOUSEHOLD SCHEDULE	☐☐	☐☐	☐☐	☐☐
(52) READ CONSENT STATEMENT TO PARENT/ RESPONSIBLE ADULT AND CIRCLE CODE	GRANTED 1 REFUSED 2 → GO TO THE NEXT COL.	GRANTED 1 REFUSED 2 → GO TO THE NEXT COL.	GRANTED 1 REFUSED 2 → GO TO THE NEXT COL.	GRANTED 1 REFUSED 2 → GO TO THE NEXT COL.
(53) SIGNATURE OF THE PARENT/RESPONSIBLE ADULT	_____	_____	_____	_____
(54) HEMOGLOBIN LEVEL (G/DL)	☐☐.☐	☐☐.☐	☐☐.☐	☐☐.☐
(55) RESULT	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)

WEIGHT AND HEIGHT MEASUREMENT IN WOMEN (15-49 YEARS)

RECORD THE LINE NUMBER, NAME AND AGE OF ALL WOMEN AGE 15-49 YEARS.
(NOTE: IF THERE ARE MORE THAN 4 WOMEN IN THE HOUSEHOLD, CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4
(56) LINE NO. FROM COL. 8	☐☐	☐☐	☐☐	☐☐
(57) NAME FROM COL. 2	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
(58) WEIGHT (in kilograms)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
(59) HEIGHT (in centimeters)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
(60) RESULT	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)

WEIGHT AND HEIGHT MEASUREMENT IN MEN (15-59 YEARS)

RECORD THE LINE NUMBER, NAME AND AGE OF ALL MEN AGE 15-59 YEARS.
(NOTE: IF THERE ARE MORE THAN 4 MEN IN THE HOUSEHOLLD, CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

	MAN 1	MAN 2	MAN 3	MAN 4
(61) LINE NO. FROM COL. 8A	☐☐	☐☐	☐☐	☐☐
(62) NAME	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
(63) WEIGHT (in kilograms)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
(64) HEIGHT (in centimeters)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
(65) RESULT	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)

PART B: FERGHANA OBLAST ONLY*

VENOUS BLOOD COLLECTION FOR VITAMIN A TESTING IN CHILDREN

(NOTE: IF THERE ARE MORE THAN 4 LIVING (6-59 MONTHS), CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

	CHILD 1	CHILD 2	CHILD 3	CHILD 4
(66) NAME	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
(67) LINE NO. FROM COL. 9	☐☐	☐☐	☐☐	☐☐
(68) SAMPLE ID	V☐☐☐☐	V☐☐☐☐	V☐☐☐☐	V☐☐☐☐
(69) READ CONSENT STATEMENT TO PARENT/ RESPONSIBLE ADULT AND CIRCLE CODE	GRANTED 1 REFUSED 2 GO TO THE NEXT COL.	GRANTED 1 REFUSED 2 GO TO THE NEXT COL.	GRANTED 1 REFUSED 2 GO TO THE NEXT COL.	GRANTED 1 REFUSED 2 GO TO THE NEXT COL.
(70) SIGNATURE OF THE PARENT/RESPONSIBLE ADULT	_____	_____	_____	_____
(71) RESULT	COLLECTED AND FILLED……1 COLLECTED AND PARTIALLY FILLED……2 NOT PRESENT……3 REFUSED……4 COULDN'T FIND THE VEIN……5 CHILD DIDN'T COOPERATE……6 OTHER _____7 _____ (SPECIFY)	COLLECTED AND FILLED……1 COLLECTED AND PARTIALLY FILLED……2 NOT PRESENT……3 REFUSED……4 COULDN'T FIND THE VEIN……5 CHILD DIDN'T COOPERATE……6 OTHER _____7 _____ (SPECIFY)	COLLECTED AND FILLED……1 COLLECTED AND PARTIALLY FILLED……2 NOT PRESENT……3 REFUSED……4 COULDN'T FIND THE VEIN……5 CHILD DIDN'T COOPERATE……6 OTHER _____7 _____ (SPECIFY))	COLLECTED AND FILLED……1 COLLECTED AND PARTIALLY FILLED……2 NOT PRESENT……3 REFUSED……4 COULDN'T FIND THE VEIN……5 CHILD DIDN'T COOPERATE……6 OTHER _____7 _____ (SPECIFY)

* FOR ANTHROPOMETRY AND ANEMIA TESTING USE THE FORMS IN PART A: ALL REGIONS

PART C: TASHKENT ONLY

LEAD MEASUREMENT IN CHILDREN*

(NOTE: IF THERE ARE MORE THAN 4 LIVING CHILDREN BORN IN 1997 OR LATER, CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

	CHILD 1	CHILD 2	CHILD 3	CHILD 4
(72) NAME	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
(73) LINE NO. FROM COL. 9	☐☐	☐☐	☐☐	☐☐
(74) READ CONSENT STATEMENT TO PARENT/ RESPONSIBLE ADULT CIRCLE CODE	GRANTED 1 / REFUSED 2 → GO TO THE NEXT COL.	GRANTED 1 / REFUSED 2 → GO TO THE NEXT COL.	GRANTED 1 / REFUSED 2 → GO TO THE NEXT COL.	GRANTED 1 / REFUSED 2 → GO TO THE NEXT COL.
(75) SIGNATURE OF THE PARENT/RESPONSIBLE ADULT	_____	_____	_____	_____
(76) LEAD LEVEL (µg/dl)	☐☐.☐	☐☐.☐	☐☐.☐	☐☐.☐
(77) RESULT	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)	MEASURED……1 NOT PRESENT……2 REFUSED……3 OTHER _____6 _____ (SPECIFY)

* FOR ANTHROPOMETRY AND ANEMIA TESTING USE THE FORMS IN PART A: ALL REGIONS

VENOUS BLOOD COLLECTION IN WOMEN AND MEN IN TASHKENT ONLY

(NOTE: IF THERE ARE MORE THAN 7 ADULTS (MEN 15-59 YEARS AND WOMEN 15-49 YEARS), CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

LINE NO. (78)	NAME (79)	SAMPLE ID (80)	SEX (81)	AGE (82)	LINE NO. OF PARENT/ RESPONSIBLE ADULT. RECORD '00' IF NOT LISTED IN HOUSEHOLD SCHEDULE (83)	READ CONSENT STATEMENT TO MAN/ WOMAN/ RESPONSIBLE ADULT CIRCLE CODE AND HAVE THEM SIGN (84)	SAMPLE COLLECTED: RED TOP TUBE (85A)	SAMPLE COLLECTED: PURPLE TOP TUBE (85B)	From the time of blood collection, how many hours ago was the last meal or any food eaten? (86)	RESULT 1=COLLECTED 2 = NOT PRESENT 3 = REFUSED 4 = COULDN'T FIND A VEIN 6 = OTHER (87)
☐☐	_____	☐☐☐☐	M F 1 2	15-17 18+ 1 2 ↓ GO TO 84	☐☐	GRANTED REFUSED 1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	YES NO 1 2	YES NO 1 2	☐☐	☐
☐☐	_____	☐☐☐☐	1 2	1 2 ↓ GO TO 84	☐☐	1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	1 2	1 2	☐☐	☐
☐☐	_____	☐☐☐☐	1 2	1 2 ↓ GO TO 84	☐☐	1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	1 2	1 2	☐☐	☐
☐☐	_____	☐☐☐☐	1 2	1 2 ↓ GO TO 84	☐☐	1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	1 2	1 2	☐☐	☐
☐☐	_____	☐☐☐☐	1 2	1 2 ↓ GO TO 84	☐☐	1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	1 2	1 2	☐☐	☐
☐☐	_____	☐☐☐☐	1 2	1 2 ↓ GO TO 84	☐☐	1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	1 2	1 2	☐☐	☐
☐☐	_____	☐☐☐☐	1 2	1 2 ↓ GO TO 84	☐☐	1 2 ↓ ↓ RESPONDENT SIGN _____ NEXT LINE	1 2	1 2	☐☐	☐

VAGINAL SWAB COLLECTION IN EVER-MARRIED WOMEN IN TASHKENT ONLY

(NOTE: IF THERE ARE MORE THAN 7 EVER-MARRIED WOMEN 15-49 YEARS, CHECK BOX ☐ AND USE ADDITIONAL QUESTIONNAIRE)

LINE NO. (88)	NAME (89)	MARITAL STATUS (90)	SAMPLE ID (91)	READ CONSENT STATEMENT TO WOMAN CIRCLE CODE AND HAVE THEM SIGN (92)	RESULT 1=COLLECTED 2 = NOT PRESENT 3 = REFUSED 6 = OTHER (93)
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	GRANTED 1 → RESPONDENT SIGN _____ REFUSED 2 → NEXT LINE	☐
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	1 → RESPONDENT SIGN _____ 2 → NEXT LINE	☐
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	1 → RESPONDENT SIGN _____ 2 → NEXT LINE	☐
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	1 → RESPONDENT SIGN _____ 2 → NEXT LINE	☐
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	1 → RESPONDENT SIGN _____ 2 → NEXT LINE	☐
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	1 → RESPONDENT SIGN _____ 2 → NEXT LINE	☐
☐☐	_____	MARRIED ……1 WIDOWED ……..2 DIVORCED ……..3 NEVER BEEN MARRIED ……4 GO TO THE NEXT LINE	☐☐☐☐	1 → RESPONDENT SIGN _____ 2 → NEXT LINE	☐

2002 UZBEKISTAN HEALTH EXAMINATION SURVEY
WOMEN'S INDIVIDUAL QUESTIONNAIRE

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER .....

HOUSEHOLD NUMBER .....

OBLAST .....

RAYON .....

MAHALLAH/SSG .....

URBAN/RURAL (URBAN=1, RURAL=2) .....

LARGE CITY/SMALL CITY/TOWN/COUNTRYSIDE .....
(LARGE CITY=1, SMALL CITY=2, TOWN=3, COUNTRYSIDE=4)

NAME AND LINE NUMBER OF RESPONDENT _____

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY MONTH YEAR 2 0 0 2
INTERVIEWER'S NAME	_____	_____	_____	NAME
RESULT*	_____	_____	_____	RESULT
NEXT VISIT: DATE	_____	_____		TOTAL NO. OF VISITS
TIME	_____	_____		

*RESULT CODES:
1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ (SPECIFY)

	UZBEK	RUSSIAN	OTHER
1. LANGUAGE OF INTERVIEW	1	2	3
2. NATIVE LANGUAGE OF RESPONDENT	1	2	3
	YES	NO	
3. WHETHER TRANSLATOR USED	1	2	

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION A: RESPONDENT'S BACKGROUND AND GENERAL HEALTH

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with the Ministry of Health. We are conducting a national survey about the health of women, men and children. We would very much appreciate your participation in this survey. I would like to ask you about your health (and the health of your children). This information will help the government to plan health services. The survey usually takes between 45 minutes and 1 hour to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

Later, during the interview I would like to measure your blood pressure and pulse. This will be done two times during the interview. This is a harmless procedure. The results of this blood pressure and pulse measurement will be given to you after the interview and an explanation of the meaning of your blood pressure and pulse numbers. Elevated blood pressure or pulse is dangerous to your health, and it is important to know your numbers. We will give you the results of this test but we will not be able to provide you with any further testing of treatment. A brochure has been given to you explaining the physical examination part of the survey. Please read it before the health technician comes to collect specimens and sign it on the back if you agree to participate.

At this time, do you want to ask me anything about the survey? May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED..... 1 ↓ RESPONDENT DOESN'T AGREE TO BE INTERVIEWED.....2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
A1	RECORD THE TIME.	HOUR ..... [ ][ ] MINUTES ..... [ ][ ]	
A2	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in the countryside?	CITY .....1 TOWN.....2 COUNTRYSIDE 3	
A3	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS ..... [ ][ ] ALWAYS.....95 VISITOR 96	→ A5
A4	Just before you moved here, did you live in a city, in a town, or in the countryside?	CITY .....1 TOWN.....2 COUNTRYSIDE 3	
A5	In what month and year were you born?	MONTH ..... [ ][ ] DON'T KNOW MONTH .....98 YEAR..... [ ][ ][ ][ ] DON'T KNOW YEAR.....9998	
A6	How old were you at your last birthday? COMPARE AND CORRECT A5 AND/OR A6 IF INCONSISTENT.	AGE IN COMPLETED YEARS... [ ][ ]	
A7	Have you ever attended school?	YES .....1 NO 2	→ A17

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
A8	What is the highest level of school you attended? PROBE: Was it primary, secondary, PTU/SPTU, tekhnikum or higher?	SCHOOL, GYMNASIUM .....1 PTU/SPTU, LICEE .....2 TEKNIKUM, COLLEGE .....3 UNIVERSITY/INSTITUTE 4	
A9	What is the highest (grade/form/year) you completed at that level?	GRADE ..... [ ][ ]	
A17	What is your religion? PROBE: Are you Muslim, Christian, another religion, or do you not practice any religion?	MUSLIM .....1 CHRISTIAN .....2 NO RELIGION .....3 OTHER _____ 6 (SPECIFY)	
A18	What is your nationality? PROBE: Are you Uzbek, Russian, Karakalpak, Tajik, or another nationality?	UZBEK .....1 RUSSIAN .....2 KARAKALPAK .....3 TAJIK .....4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
A29	In general, would you say your health is: excellent, very good, good, fair, or poor?	EXCELLENT .....1 VERY GOOD .....2 GOOD .....3 FAIR .....4 POOR 5	
A30	Think about the two weeks ending yesterday, have you cut down on any of the things you usually do about the house, at work or in your free time because you were sick or injured?	YES .....1 NO .....2 →	A33
A31	On how many days did you cut down your activities during these two weeks, including Saturdays and Sundays?	DAYS ..... [ ][ ]	
A32	On how many of these days were you in bed for all or most of the day?	DAYS ..... [ ][ ]	

A33	Now I am going to ask you some questions about long-standing illnesses. ASK A33a – f (FIRST COLUMN). IF 'YES' ASK A34-A36. IF 'NO' OR 'DK' FOLLOW SKIP PATTERN. Have you ever, at any time in your life had:		A34 Was the (CONDITION) diagnosed by a doctor?	A35 Have you had (CONDITION) in the past 12 months?	A36 For the (CONDITION), did you take drugs or have you been under treatment in the past 12 months?
a	Asthma?	YES..... 1 NO..... 2 DK..... 8 (SKIP TO A33b)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
b	Diabetes?	YES..... 1 NO..... 2 DK..... 8 (SKIP TO A33c)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
c	Chronic bronchitis or emphysema?	YES..... 1 NO..... 2 DK..... 8 (SKIP TO A33d)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2

A33	Now I am going to ask you some questions about long-standing illnesses. ASK A33a – f (FIRST COLUMN). IF 'YES' ASK A34-A36. IF 'NO' OR 'DK' FOLLOW SKIP PATTERN. Have you ever, at any time in your life had:		A34 Was the (CONDITION) diagnosed by a doctor?	A35 Have you had (CONDITION) in the past 12 months?	A36 For the (CONDITION), did you take drugs or have you been under treatment in the past 12 months?
d	Chronic depression?	YES..... 1 NO..... 2 DK..... 8 (SKIP TO A33e)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
e	Goiter?	YES..... 1 NO..... 2 DK..... 8 (SKIP TO A33f)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
f	Any other illnesses or conditions that lasted longer than 3 months? IF YES, ASK: Which illnesses or conditions? (MAXIMUM 3 ILLNESSES)	YES..... 1 _____ (SPECIFY) _____ (SPECIFY) _____ (SPECIFY) NO..... 2 (SKIP TO B1)	YES .....1 NO .....2 YES .....1 NO .....2 YES .....1 NO 2	YES ..... 1 NO ..... 2 YES ..... 1 NO ..... 2 YES ..... 1 NO 2	YES ..... 1 NO ..... 2 YES ..... 1 NO ..... 2 YES ..... 1 NO 2

SECTION B: REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
B1	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES ..... 1 NO 2	→ B6
B2	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES ..... 1 NO 2	→ B4
B3	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME ..... [ ][ ] DAUGHTERS AT HOME..... [ ][ ]	
B4	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES ..... 1 NO 2	→ B6
B5	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE..... [ ][ ] DAUGHTERS ELSEWHERE ..... [ ][ ]	
B6	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES ..... 1 NO 2	→ B8
B7	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... [ ][ ] GIRLS DEAD..... [ ][ ]	
B7A	Were there any other children who were born alive, but who died within a few minutes, hours, or days?	YES ..... 1 NO 2	→ B8
B7B	CORRECT B7 AND THEN CONTINUE WITH QUESTION B8.		
B8	SUM ANSWERS TO B3, B5, AND B7, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL ..... [ ][ ]	
B9	CHECK B8: Just to make sure that I have this right: you have had <u>in total</u> _____ live birth(s) during your life. Is that correct? YES [ ] ↓ NO [ ] → PROBE AND CORRECT B1-B8 AS NECESSARY.		
B9A	Women sometimes have pregnancies which do not result in a live born child. That is, a pregnancy can be ended early by an abortion, a miscarriage, or a stillbirth. In total, how many abortions have you had?	TOTAL ABORTIONS..... [ ][ ]	
B9B	How many miscarriages?	TOTAL MISCARRIAGES ..... [ ][ ]	
B9C	How many stillbirths?	TOTAL STILLBIRTHS ..... [ ][ ]	
B9D	SUM ANSWERS TO B8, B9A, B9B, B9C, AND ENTER TOTAL. IF NO PREGNANCIES, RECORD '00'.	TOTAL ..... [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
B10	CHECK B9D NO PREGNANCIES ☐ ONE OR MORE PREGNANCIES ☐		B26

Pregnancy History

B11. Now I want to talk to you about each of your pregnancies, including those which ended in a live birth, an abortion, a miscarriage, or a still birth. Starting with your last pregnancy, please tell me the following information. RECORD ALL PREGNANCIES. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

B12 Did your (last/ next-to-last/etc) pregnancy end in a live birth, an abortion, a miscarriage, or a stillbirth?	B13 In what month and year (was this child born/did this pregnancy end)?	B14 Were there any other pregnancies between this and the pregnancy we were just talking about?	B15 CHECK B12: RECORD SAME RESPONSE.	B16 Was this a single or a multiple birth?	B17 What name was given to this child?	B18 Is (NAME) a boy or a girl?	B19 Is (NAME) still alive?	B20 How old was (NAME) on his/her last birthday? RECORD AGE IN COMPLETED YEARS	B21 Is (NAME) living with you?	B22 RECORD HOUSEHOLD LINE NUMBER OF CHILD. RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD.	B23 How old was (name) when he/she died? IF '1 YR.' PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.
01 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH ☐☐ YR. ☐☐☐☐		LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME _____	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS ☐☐	YES .....1 NO 2	LINE NUMBER ☐☐ NEXT PREGNANCY	DAYS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ YEARS ..... 3 ☐☐
02 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH ☐☐ YR. ☐☐☐☐	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME _____	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS ☐☐	YES .....1 NO 2	LINE NUMBER ☐☐ NEXT PREGNANCY	DAYS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ YEARS ..... 3 ☐☐
03 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH ☐☐ YR. ☐☐☐☐	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME _____	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS ☐☐	YES .....1 NO 2	LINE NUMBER ☐☐ NEXT PREGNANCY	DAYS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ YEARS ..... 3 ☐☐
04 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH ☐☐ YR. ☐☐☐☐	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME _____	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS ☐☐	YES .....1 NO 2	LINE NUMBER ☐☐ NEXT PREGNANCY	DAYS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ YEARS ..... 3 ☐☐
05 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH ☐☐ YR. ☐☐☐☐	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME _____	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS ☐☐	YES .....1 NO 2	LINE NUMBER ☐☐ NEXT PREGNANCY	DAYS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ YEARS ..... 3 ☐☐

B12 Did your (last/ next-to-last/etc) pregnancy end in a live birth, an abortion, a miscarriage, or a stillbirth?	B13 In what month and year (was this child born/did this pregnancy end)?	B14 Were there any other pregnancies between this and the pregnancy we were just talking about?	B15 CHECK B12: RECORD SAME RESPONSE.	B16 Was this a single or a multiple birth?	B17 What name was given to this child?	B18 Is (NAME) a boy or a girl?	B19 Is (NAME) still alive?	B20 How old was (NAME) on his/her last birthday? RECORD AGE IN COMPLETED YEARS	B21 Is (NAME) living with you?	B22 RECORD HOUSEHOLD LINE NUMBER OF CHILD. RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD.	B23 How old was (name) when he/she died? IF '1 YR.' PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.
06 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
07 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
08 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
09 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
10 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
11 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE .3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3

B12 Did your (last/ next-to-last/etc) pregnancy end in a live birth, an abortion, a miscarriage, or a stillbirth?	B13 In what month and year (was this child born/did this pregnancy end)?	B14 Were there any other pregnancies between this and the pregnancy we were just talking about?	B15 CHECK B12: RECORD SAME RESPONSE.	B16 Was this a single or a multiple birth?	B17 What name was given to this child?	B18 Is (NAME) a boy or a girl?	B19 Is (NAME) still alive?	B20 How old was (NAME) on his/her last birthday? RECORD AGE IN COMPLETED YEARS	B21 Is (NAME) living with you?	B22 RECORD HOUSEHOLD LINE NUMBER OF CHILD. RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD.	B23 How old was (name) when he/she died? IF '1 YR.' PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.
12 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE . 3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
13 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE . 3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
14 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE . 3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
15 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE . 3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3
16 LIVE BIRTH .....1 ABORTION .....2 MISCARRIAGE . 3 STILLBIRTH.....4	MONTH YR.	YES ..... 1 NO 2	LIVE BIRTH.....1 ABORTION.....2 MISCARRIAGE .....3 STILLBIRTH.....4 NEXT PREGNANCY	SING ..... 1 MULT 2	NAME	BOY .. 1 GIRL . 2	YES .....1 NO 2 B23	AGE IN YEARS	YES .....1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS ..... 1 MONTHS ..... 2 YEARS 3

B24	COMPARE B9D WITH NUMBER OF PREGNANCIES IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME ☐ → CHECK: NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE) FOR EACH PREGNANCY: YEAR OF BIRTH OR YEAR PREGNANCY ENDED IS RECORDED. ☐ FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. ☐ FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. ☐ FOR AGE AT DEATH 12 MONTHS OR 1 YR.: PROBE TO DETERMINE THE EXACT NUMBER OF MONTHS. ☐
B25	CHECK B13 AND B19: ENTER THE NUMBER OF SURVIVING CHILDREN BORN IN 1997 OR LATER. IF NONE, RECORD ‘0’. ☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
B26	Are you pregnant now?	YES ..... 1 NO ..... 2 UNSURE 8	→ B51
B27	How many months pregnant are you?	MONTHS ..... [ ][ ]	

Section B (Cont.) Contraception

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. CIRCLE CODE 1 IN B51 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN B51, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN B51, ASK B52.

B51	Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)?		B52 Have you ever used (METHOD)?
01	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES ..... 1 NO 2	Have you ever had an operation to avoid having any more children? YES ..... 1 NO 2
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES ..... 1 NO 2	Have you ever had a partner who had an operation to avoid having any more children? YES ..... 1 NO 2
03	PILL Women can take a pill every day to avoid becoming pregnant.	YES ..... 1 NO 2	YES ..... 1 NO 2
04	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES ..... 1 NO 2	YES ..... 1 NO 2
05	INJECTABLES Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES ..... 1 NO 2	YES ..... 1 NO 2
06	IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES ..... 1 NO 2	YES ..... 1 NO 2
07	CONDOM Men can put a rubber sheath on their penis before sexual intercourse.	YES ..... 1 NO 2	YES ..... 1 NO 2
08	FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse.	YES ..... 1 NO 2	YES ..... 1 NO 2
09	DIAPHRAGM Women can place a thin flexible disk in their vagina before intercourse.	YES ..... 1 NO 2	YES ..... 1 NO 2
10	FOAM OR JELLY Women can place a suppository, jelly, or cream in their vagina before intercourse.	YES ..... 1 NO 2	YES ..... 1 NO 2
11	LACTATIONAL AMENORRHEA METHOD (LAM) Up to 6 months after childbirth, a woman can use a method that requires that she breastfeeds frequently, day and night, and that her menstrual period has not returned.	YES ..... 1 NO 2	YES ..... 1 NO 2
12	RHYTHM OR PERIODIC ABSTINENCE Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant.	YES ..... 1 NO 2	YES ..... 1 NO 2
13	WITHDRAWAL Men can be careful and pull out before climax.	YES ..... 1 NO 2	YES ..... 1 NO 2
14	EMERGENCY CONTRACEPTION Women can take pills up to three days after sexual intercourse to avoid becoming pregnant.	YES ..... 1 NO 2	YES ..... 1 NO 2
15	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES ..... 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	YES ..... 1 NO ..... 2 YES ..... 1 NO 2

B53	CHECK B52: NOT A SINGLE "YES" (NEVER USED) ☐ ↓ AT LEAST ONE "YES" (EVER USED) ☐ →	B57

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
B54	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES ..... 1 NO ..... 2 →	C1
B56	What have you used or done? CORRECT B52 AND B53 (AND B51 IF NECESSARY).		
B57	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN..... ☐☐	
B58	CHECK B52 (01): WOMAN NOT STERILIZED ☐ ↓ WOMAN STERILIZED ☐ →		B61A
B59	CHECK B26: NOT PREGNANT OR UNSURE ☐ ↓ PREGNANT ☐ →		C1
B60	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES ..... 1 NO ..... 2 →	C1
B61 B61 A	Which method are you using?[1] CIRCLE ALL MENTIONED. CIRCLE 'A' FOR FEMALE STERILIZATION.	FEMALE STERILIZATION ..... A MALE STERILIZATION ..... B PILL ..... C IUD ..... D INJECTABLES ..... E IMPLANTS ..... F CONDOM ..... G FEMALE CONDOM ..... H DIAPHRAGM ..... I FOAM/JELLY ..... J LACTATIONAL AMEN. METHOD ..... K PERIODIC ABSTINENCE ..... L WITHDRAWAL ..... M OTHER _____ X (SPECIFY)	

SECTION C. CHILDREN'S HEALTH

C1	CHECK B25: ONE OR MORE SURVIVING CHILDREN BORN IN 1997 OR LATER ☐ ↓		NO SURVIVING CHILDREN BORN IN 1997 OR LATER ☐ → D1		
C2	ENTER IN THE TABLE THE LINE NUMBER AND NAME OF EACH SURVIVING CHILD BORN IN 1997 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE CHILDREN. BEGIN WITH THE YOUNGEST CHILD. (IF THERE ARE MORE THAN 4 CHILDREN, USE ADDITIONAL QUESTIONNAIRES). Now I would like to ask you some questions about the health of all your children who are 5 years old or younger. (We will talk about each separately.)				
C3	ENTER CHILD'S LINE NUMBER FROM B12	YOUNGEST CHILD LINE NUMBER..... ☐☐	NEXT-TO-YOUNGEST CHILD LINE NUMBER..... ☐☐	THIRD-YOUNGEST CHILD LINE NUMBER..... ☐☐	FOURTH-YOUNGEST CHILD LINE NUMBER..... ☐☐
C4	ENTER NAME FROM B17	NAME _____	NAME _____	NAME _____	NAME _____
C10	These next questions are about smoking. Were you smoking cigarettes when you became pregnant with (NAME)?	YES.....1 (SKIP TO C12) ← NO.....2	YES.....1 (SKIP TO C12) ← NO.....2	YES.....1 (SKIP TO C12) ← NO.....2	YES.....1 (SKIP TO C12) ← NO.....2
C11	Did you smoke cigarettes at any time during your pregnancy with (NAME)?	YES.....1 NO.....2 (SKIP TO C17) ←	YES.....1 NO.....2 (SKIP TO C17) ←	YES.....1 NO.....2 (SKIP TO C17) ←	YES.....1 NO.....2 (SKIP TO C17) ←
C12	Did you quit smoking for seven days or longer during your pregnancy with (NAME)?	YES.....1 NO.....2 (SKIP TO C15) ←	YES.....1 NO.....2 (SKIP TO C15) ←	YES.....1 NO.....2 (SKIP TO C15) ←	YES.....1 NO.....2 (SKIP TO C15) ←
C13	In what month of your pregnancy did you first quit for 7 days or longer?	MONTH..... ☐☐	MONTH..... ☐☐	MONTH..... ☐☐	MONTH..... ☐☐

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C14	Did you start smoking again during that pregnancy or did you stay off cigarettes for the rest of the pregnancy?	STARTED AGAIN ..... 1 STAYED OFF REST OF PREGNANCY ..... 2 NEVER STARTED AGAIN ..... 3 DON'T KNOW 8	STARTED AGAIN ..... 1 STAYED OFF REST OF PREGNANCY ..... 2 NEVER STARTED AGAIN ..... 3 DON'T KNOW 8	STARTED AGAIN ..... 1 STAYED OFF REST OF PREGNANCY ..... 2 NEVER STARTED AGAIN ..... 3 DON'T KNOW 8	STARTED AGAIN ..... 1 STAYED OFF REST OF PREGNANCY ..... 2 NEVER STARTED AGAIN ..... 3 DON'T KNOW 8
C15	How much TOTAL time did you smoke during your pregnancy with (NAME)?	DAYS ..... 1 [ ][ ] WEEKS ..... 2 [ ][ ] MONTHS ..... 3 [ ][ ] ENTIRE PREGNANCY 995	DAYS ..... 1 [ ][ ] WEEKS ..... 2 [ ][ ] MONTHS ..... 3 [ ][ ] ENTIRE PREGNANCY 995	DAYS ..... 1 [ ][ ] WEEKS ..... 2 [ ][ ] MONTHS ..... 3 [ ][ ] ENTIRE PREGNANCY 995	DAYS ..... 1 [ ][ ] WEEKS ..... 2 [ ][ ] MONTHS ..... 3 [ ][ ] ENTIRE PREGNANCY 995
C16	About how many cigarettes did you smoke per day when you were pregnant with (NAME) (on the days that you smoked)? IF ANSWER GIVEN IN PACKS, PROBE TO DETERMINE NUMBER OF CIGARETTES PER PACK AND CONVERT TO NUMBER OF CIGARETTES.	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... [ ][ ] VARIED 95	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... [ ][ ] VARIED 95	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... [ ][ ] VARIED 95	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... [ ][ ] VARIED 95
C17	For the first 40 days of (NAME'S) life, was he/she ever in the same room as someone who smoked?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C50)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C50)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C50)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C50)
C18	Approximately how many hours per day or per week was (NAME) in the same room as someone who smoked? IF LESS THAN ONE HOUR PER WEEK, CIRCLE CODE '2' AND RECORD '00'.	HOURS PER DAY ..... 1 [ ][ ] HOURS PER WEEK ..... 2 [ ][ ]	HOURS PER DAY ..... 1 [ ][ ] HOURS PER WEEK ..... 2 [ ][ ]	HOURS PER DAY ..... 1 [ ][ ] HOURS PER WEEK ..... 2 [ ][ ]	HOURS PER DAY ..... 1 [ ][ ] HOURS PER WEEK ..... 2 [ ][ ]
C50	Did you ever breastfeed (NAME)?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)
C51	Are you still breastfeeding (NAME)?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C53)

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C52	Yesterday, during the day and at night, did (NAME) consume each of the following:	YES NO DK	YES NO DK	YES NO DK	YES NO DK
a	Vitamins, mineral supplements or medicine?	VITAMINS 1 2 8	VITAMINS 1 2 8	VITAMINS 1 2 8	VITAMINS 1 2 8
b	Plain water?	WATER 1 2 8	WATER 1 2 8	WATER 1 2 8	WATER 1 2 8
c	Sweetened, flavored water or fruit juice, tea, or infusion?	JUICES 1 2 8	JUICES 1 2 8	JUICES 1 2 8	JUICES 1 2 8
d	Oral Rehydration Solutions	ORS 1 2 8	ORS 1 2 8	ORS 1 2 8	ORS 1 2 8
e	Tinned, powdered, or fresh milk or infant formula?	MILK 1 2 8	MILK 1 2 8	MILK 1 2 8	MILK 1 2 8
f	Any other liquids?	OTHER LIQUIDS 1 2 8	OTHER LIQUIDS 1 2 8	OTHER LIQUIDS 1 2 8	OTHER LIQUIDS 1 2 8
g	Solid or semi-solid (pureed) food?	PUREED FOODS 1 2 8	PUREED FOODS 1 2 8	PUREED FOODS 1 2 8	PUREED FOODS 1 2 8
C53	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES. ..... 1 NO. ..... 2 DON'T KNOW. 8	YES. ..... 1 NO. ..... 2 DON'T KNOW. 8	YES. ..... 1 NO. ..... 2 DON'T KNOW. 8	YES. ..... 1 NO. ..... 2 DON'T KNOW. 8
C55	Has (NAME) ever received vitamin D drops?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C57) ←	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C57) ←	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C57) ←	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C57) ←
C56	For how many weeks did (NAME) receive vitamin D drops? IF LESS THAN ONE WEEK, RECORD '00'.	WEEKS ..... [ ][ ]	WEEKS ..... [ ][ ]	WEEKS ..... [ ][ ]	WEEKS ..... [ ][ ]
C57	Was (NAME) ever swaddled?	YES ..... 1 NO ..... 2 (SKIP TO C61) ←	YES ..... 1 NO ..... 2 (SKIP TO C61) ←	YES ..... 1 NO ..... 2 (SKIP TO C61) ←	YES ..... 1 NO ..... 2 (SKIP TO C61) ←
C58	How old was (NAME) when he/she was first swaddled?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ]	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ]	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ]	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ]

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C58 A	CHECK B20:	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C60) ←	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C60) ←	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C60) ←	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C60) ←
C59	Is (NAME) still being swaddled?	YES ..... 1 (SKIP TO C61) ← NO 2	YES ..... 1 (SKIP TO C61) ← NO 2	YES ..... 1 (SKIP TO C61) ← NO 2	YES ..... 1 (SKIP TO C61) ← NO 2
C60	Until what age was (NAME) swaddled?	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ STILL SWADDLED 995	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ STILL SWADDLED 995	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ STILL SWADDLED 995	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ STILL SWADDLED 995
C61	Was (NAME) ever put into a beshik?	YES ..... 1 NO ..... 2 (SKIP TO C67) ←	YES ..... 1 NO ..... 2 (SKIP TO C67) ←	YES ..... 1 NO ..... 2 (SKIP TO C67) ←	YES ..... 1 NO ..... 2 (SKIP TO C67) ←
C62	How old was (NAME) when he/she was first put into a beshik?	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐
C62 A	CHECK B20:	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C66) ←	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C66) ←	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C66) ←	'00' ☐ ↓ '01' – '05' ☐ (SKIP TO C66) ←
C62 B	Is (NAME) still put into a beshik?	YES ..... 1 NO ..... 2 (SKIP TO C66) ←	YES ..... 1 NO ..... 2 (SKIP TO C66) ←	YES ..... 1 NO ..... 2 (SKIP TO C66) ←	YES ..... 1 NO ..... 2 (SKIP TO C66) ←
C63	Was (NAME) put into a beshik yesterday?	YES ..... 1 NO ..... 2 (SKIP TO C67) ←	YES ..... 1 NO ..... 2 (SKIP TO C67) ←	YES ..... 1 NO ..... 2 (SKIP TO C67) ←	YES ..... 1 NO ..... 2 (SKIP TO C67) ←
C64	For how many hours during the day yesterday was (NAME) in the beshik? IF LESS THAN ONE HOUR, RECORD '00'	HOURS ..... ☐☐ DON'T KNOW 98	HOURS ..... ☐☐ DON'T KNOW 98	HOURS ..... ☐☐ DON'T KNOW 98	HOURS ..... ☐☐ DON'T KNOW 98

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C65	For how many hours during last night was (NAME) in the beshik? IF LESS THAN ONE HOUR, RECORD '00'	HOURS ..... [ ][ ] DON'T KNOW ..... 98 (SKIP TO C67)	HOURS ..... [ ][ ] DON'T KNOW ..... 98 (SKIP TO C67)	HOURS ..... [ ][ ] DON'T KNOW ..... 98 (SKIP TO C67)	HOURS ..... [ ][ ] DON'T KNOW ..... 98 (SKIP TO C67)
C66	Until what age was (NAME) put into a beshik? IF LESS THAN ONE WEEK, CIRCLE CODE '1' AND RECORD '00'.	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] STILL IN BESHIK 995	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] STILL IN BESHIK 995	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] STILL IN BESHIK 995	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] STILL IN BESHIK 995
C67	How old was (NAME) when you first took him/her outside and exposed him/her to the sunlight? IF LESS THAN ONE WEEK, CIRCLE CODE '1' AND RECORD '00'.	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] NEVER EXPOSED TO SUNLIGHT ..... 993 (SKIP TO C71)	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] NEVER EXPOSED TO SUNLIGHT ..... 993 (SKIP TO C71)	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] NEVER EXPOSED TO SUNLIGHT ..... 993 (SKIP TO C71)	WEEKS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] NEVER EXPOSED TO SUNLIGHT ..... 993 (SKIP TO C71)
C67 A	CHECK B20:	'00' [ ] '01' – '05' [ ] (SKIP TO C71)	'00' [ ] '01' – '05' [ ] (SKIP TO C71)	'00' [ ] '01' – '05' [ ] (SKIP TO C71)	'00' [ ] '01' – '05' [ ] (SKIP TO C71)
C68	Was (NAME) taken outside yesterday? IF YESTERDAY WAS RAINY, ASK ABOUT LAST NON-RAINY DAY.	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C71)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C71)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C71)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C71)
C69	Were (NAME'S) face and hands exposed to direct sunlight? IF YES: Were they exposed to direct sunlight for at least 10 minutes?	YES, LESS THAN 10 MIN. ..... 1 YES, 10+ MINUTES. ..... 2 NO ..... 3 DON'T KNOW. 8	YES, LESS THAN 10 MIN. ..... 1 YES, 10+ MINUTES. ..... 2 NO ..... 3 DON'T KNOW. 8	YES, LESS THAN 10 MIN. ..... 1 YES, 10+ MINUTES. ..... 2 NO ..... 3 DON'T KNOW. 8	YES, LESS THAN 10 MIN. ..... 1 YES, 10+ MINUTES. ..... 2 NO ..... 3 DON'T KNOW. 8
C70	During the last week, were (NAME'S) face and hands exposed to direct sunlight for a total of at least 30 minutes?	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C71	Now I would like to ask about (NAME)'s health. Would you say (NAME)'s health in general is excellent, very good, good, fair, or poor?	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR 5	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR 5	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR 5	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR 5
C72	Is there a place that (NAME) goes when s/he is sick or when you need advice about his/her health?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C80)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C80)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C80)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C80)
C73	What kind of place is it that (NAME) goes to most often?	*PUBLIC SECTOR* INSTITUTE HOSPITAL ..... 11 OBLAST HOSPITAL ..... 12 CITY HOSPTIAL ..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC. ..... 15 WORKPLACE ..... 16 SVP ..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	*PUBLIC SECTOR* INSTITUTE HOSPITAL ..... 11 OBLAST HOSPITAL ..... 12 CITY HOSPTIAL ..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC. ..... 15 WORKPLACE ..... 16 SVP ..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	*PUBLIC SECTOR* INSTITUTE HOSPITAL ..... 11 OBLAST HOSPITAL ..... 12 CITY HOSPTIAL ..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC. ..... 15 WORKPLACE ..... 16 SVP ..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	*PUBLIC SECTOR* INSTITUTE HOSPITAL ..... 11 OBLAST HOSPITAL ..... 12 CITY HOSPTIAL ..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC. ..... 15 WORKPLACE ..... 16 SVP ..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98
C74	What kind of provider does (NAME) normally see there?	DOCTOR ..... 1 FELDSHER ..... 2 NURSE ..... 3 TRADITIONAL HEALER ..... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	DOCTOR ..... 1 FELDSHER ..... 2 NURSE ..... 3 TRADITIONAL HEALER ..... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	DOCTOR ..... 1 FELDSHER ..... 2 NURSE ..... 3 TRADITIONAL HEALER ..... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	DOCTOR ..... 1 FELDSHER ..... 2 NURSE ..... 3 TRADITIONAL HEALER ..... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C80	Has (NAME) ever been admitted to a health facility overnight because of illness or an injury?	YES ..... 1 NO ..... 2 (SKIP TO C90)	YES ..... 1 NO ..... 2 (SKIP TO C90)	YES ..... 1 NO ..... 2 (SKIP TO C90)	YES ..... 1 NO ..... 2 (SKIP TO C90)
C81	How many times has (NAME) been admitted to a health facility overnight because of illness or an injury?	NUMBER OF TIMES ..... [ ][ ]	NUMBER OF TIMES ..... [ ][ ]	NUMBER OF TIMES ..... [ ][ ]	NUMBER OF TIMES ..... [ ][ ]
C90	These next questions are about (NAME)'s breathing. Has (NAME) had wheezing or whistling in the chest at any time in the last 12 months?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C94)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C94)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C94)	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 (SKIP TO C94)
C91	How many attacks of wheezing or whistling has (NAME) had in the last 12 months?	NUMBER ..... [ ][ ]	NUMBER ..... [ ][ ]	NUMBER ..... [ ][ ]	NUMBER ..... [ ][ ]
C92	In the last 12 months, how often, on average, has (NAME)'s sleep been disturbed due to wheezing?	NEVER ..... 1 LESS THAN ONE NIGHT PER WEEK ..... 2 ONE OR MORE NIGHTS PER WEEK 3	NEVER ..... 1 LESS THAN ONE NIGHT PER WEEK ..... 2 ONE OR MORE NIGHTS PER WEEK 3	NEVER ..... 1 LESS THAN ONE NIGHT PER WEEK ..... 2 ONE OR MORE NIGHTS PER WEEK 3	NEVER ..... 1 LESS THAN ONE NIGHT PER WEEK ..... 2 ONE OR MORE NIGHTS PER WEEK 3
C93	In the last 12 months, has wheezing ever been severe enough to limit (NAME)'s speech to only one or two words at a time between breaths?	YES ..... 1 NO ..... 2 CHILD DOESN'T TALK 3	YES ..... 1 NO ..... 2 CHILD DOESN'T TALK 3	YES ..... 1 NO ..... 2 CHILD DOESN'T TALK 3	YES ..... 1 NO ..... 2 CHILD DOESN'T TALK 3
C94	Has (NAME) <u>ever</u> had asthma?	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2
C95	Now I'd like to ask you about any **injuries or poisonings** that happened to (NAME) during the **past 3 months** that **required medical advice or treatment**. During the past three months, have you sought medical advice or treatment for (NAME) because s/he was **injured**?	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2
C96	During the past three months, have you sought medical advice or treatment for (NAME) because s/he was **poisoned**?	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C97	CHECK C95 & C96:	AT LEAST ONE YES ☐ NOT A SINGLE YES (SKIP TO C106) ☐	AT LEAST ONE YES ☐ NOT A SINGLE YES (SKIP TO C106) ☐	AT LEAST ONE YES ☐ NOT A SINGLE YES (SKIP TO C106) ☐	AT LEAST ONE YES ☐ NOT A SINGLE YES (SKIP TO C106) ☐
C98	How many times during the past three months did you seek medical advice because (NAME) was (injured/poisoned)?	NUMBER..... ☐☐	NUMBER..... ☐☐	NUMBER..... ☐☐	NUMBER..... ☐☐
C99	I'd like to ask you some questions about (NAME)'s (most recent) (injury/poisoning) incident. Where did (NAME) receive medical advice or treatment for this incident?	*PUBLIC SECTOR* INSTITUTE HOSPITAL.....11 OBLAST HOSPITAL .....12 CITY HOSPTIAL .....13 RAYON HOSPTIAL.....14 POLYCLINIC. .....15 WORKPLACE .....16 SVP .....17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	*PUBLIC SECTOR* INSTITUTE HOSPITAL.....11 OBLAST HOSPITAL.....12 CITY HOSPTIAL.....13 RAYON HOSPTIAL.....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP .....17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....11 OBLAST HOSPITAL.....12 CITY HOSPTIAL.....13 RAYON HOSPTIAL .....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP.....17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	*PUBLIC SECTOR* INSTITUTE HOSPITAL ..... 11 OBLAST HOSPITAL..... 12 CITY HOSPTIAL..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC. ..... 15 WORKPLACE ..... 16 SVP..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98
C100	Did (NAME) stay in a hospital overnight as a result of the (injury/poisoning)?	YES .....1 NO 2	YES .....1 NO 2	YES .....1 NO 2	YES ..... 1 NO 2
C101	When did the (most recent) incident happen?	DAYS AGO ..... 1 ☐☐ WEEKS AGO ..... 2 ☐☐	DAYS AGO.....1 ☐☐ WEEKS AGO .....2 ☐☐	DAYS AGO.....1 ☐☐ WEEKS AGO .....2 ☐☐	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C102	Where did the incident occur?	HOME (INSIDE) ..... 01 HOME (OUTSIDE) ..... 02 ROAD ..... 03 SCHOOL ..... 04 FARM ..... 05 PARK ..... 06 RIVER/LAKE ..... 07 INDUSTRIAL /CONSTRUCTION AREA ..... 08 OTHER_____ 96 (SPECIFY)	HOME (INSIDE) ..... 01 HOME (OUTSIDE) ..... 02 ROAD ..... 03 SCHOOL ..... 04 FARM ..... 05 PARK ..... 06 RIVER/LAKE ..... 07 INDUSTRIAL /CONSTRUCTION AREA ..... 08 OTHER_____ 96 (SPECIFY)	HOME (INSIDE) ..... 01 HOME (OUTSIDE) ..... 02 ROAD ..... 03 SCHOOL ..... 04 FARM ..... 05 PARK ..... 06 RIVER/LAKE ..... 07 INDUSTRIAL /CONSTRUCTION AREA ..... 08 OTHER_____ 96 (SPECIFY)	HOME (INSIDE) ..... 01 HOME (OUTSIDE) ..... 02 ROAD ..... 03 SCHOOL ..... 04 FARM ..... 05 PARK ..... 06 RIVER/LAKE ..... 07 INDUSTRIAL /CONSTRUCTION AREA ..... 08 OTHER_____ 96 (SPECIFY)
C103	What was the cause of the injury?	**TRANSPORTATION-BASED** MOTOR VEHICLE ..... 11 PEDESTRIAN-VEHICLE CRASH ..... 12 MOTORCYCLE ..... 13 BICYCLE ..... 14 TRACTOR ..... 15 OTHER TRANSPORTATION _____ 16 (SPECIFY) **NON-TRANSPORTATION BASED** FALL (*LESS THAN 1 METER*) ..... 21 FALL (*1 METER OR MORE*) ... 22 STRUCK OR CRUSHED ..... 23 GUNSHOT ..... 24 AGRICULTURAL STAB/CUT .. 25 OTHER STAB/CUT ..... 26 FIRE/BURN ..... 27 ELECTROCUTION ..... 28 SMOKE INHALATION ..... 29 POISONING ..... 30 SCALD ..... 31 SEXUAL VIOLENCE ..... 32 OTHER PHYSICAL ASSAULT 33 NEAR-DROWNING ..... 34 ANIMAL RELATED ..... 35 OTHER_____ 96 (SPECIFY)	**TRANSPORTATION-BASED** MOTOR VEHICLE ..... 11 PEDESTRIAN-VEHICLE CRASH ..... 12 MOTORCYCLE ..... 13 BICYCLE ..... 14 TRACTOR ..... 15 OTHER TRANSPORTATION _____ 16 (SPECIFY) **NON-TRANSPORTATION BASED** FALL (*LESS THAN 1 METER*) ..... 21 FALL (*1 METER OR MORE*) ... 22 STRUCK OR CRUSHED ..... 23 GUNSHOT ..... 24 AGRICULTURAL STAB/CUT .. 25 OTHER STAB/CUT ..... 26 FIRE/BURN ..... 27 ELECTROCUTION ..... 28 SMOKE INHALATION ..... 29 POISONING ..... 30 SCALD ..... 31 SEXUAL VIOLENCE ..... 32 OTHER PHYSICAL ASSAULT 33 NEAR-DROWNING ..... 34 ANIMAL RELATED ..... 35 OTHER_____ 96 (SPECIFY)	**TRANSPORTATION-BASED** MOTOR VEHICLE ..... 11 PEDESTRIAN-VEHICLE CRASH ..... 12 MOTORCYCLE ..... 13 BICYCLE ..... 14 TRACTOR ..... 15 OTHER TRANSPORTATION _____ 16 (SPECIFY) **NON-TRANSPORTATION BASED** FALL (*LESS THAN 1 METER*) ..... 21 FALL (*1 METER OR MORE*) ... 22 STRUCK OR CRUSHED ..... 23 GUNSHOT ..... 24 AGRICULTURAL STAB/CUT .. 25 OTHER STAB/CUT ..... 26 FIRE/BURN ..... 27 ELECTROCUTION ..... 28 SMOKE INHALATION ..... 29 POISONING ..... 30 SCALD ..... 31 SEXUAL VIOLENCE ..... 32 OTHER PHYSICAL ASSAULT 33 NEAR-DROWNING ..... 34 ANIMAL RELATED ..... 35 OTHER_____ 96 (SPECIFY)	**TRANSPORTATION-BASED** MOTOR VEHICLE ..... 11 PEDESTRIAN-VEHICLE CRASH ..... 12 MOTORCYCLE ..... 13 BICYCLE ..... 14 TRACTOR ..... 15 OTHER TRANSPORTATION _____ 16 (SPECIFY) **NON-TRANSPORTATION BASED** FALL (*LESS THAN 1 METER*) ..... 21 FALL (*1 METER OR MORE*) .. 22 STRUCK OR CRUSHED ..... 23 GUNSHOT ..... 24 AGRICULTURAL STAB/CUT . 25 OTHER STAB/CUT ..... 26 FIRE/BURN ..... 27 ELECTROCUTION ..... 28 SMOKE INHALATION ..... 29 POISONING ..... 30 SCALD ..... 31 SEXUAL VIOLENCE ..... 32 OTHER PHYSICAL ASSAULT 33 NEAR-DROWNING ..... 34 ANIMAL RELATED ..... 35 OTHER_____ 96 (SPECIFY)

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C106	Now I will ask some questions about (NAME)'s teeth. How would you describe the condition of (NAME)'s natural teeth: excellent, very good, good, fair or poor?	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR ..... 5 HAS NO NATURAL TEETH 6	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR ..... 5 HAS NO NATURAL TEETH 6	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR ..... 5 HAS NO NATURAL TEETH 6	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR ..... 5 HAS NO NATURAL TEETH 6
C107	In the last three months, has (NAME) ever had pain in his/her teeth that was not related to teething or erupting teeth?	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2
C108	About how long has it been since (NAME) last saw a dentist? INCLUDE ALL TYPES OF DENTISTS, SUCH AS ORTHODONTISTS, ORAL SURGEONS, AND ALL OTHER DENTAL SPECIALISTS, AS WELL AS DENTAL HYGIENISTS. IF LESS THAN ONE MONTH, CIRCLE CODE '1' AND RECORD '00'.	NEVER ..... 000 (SKIP TO C111) ← MONTHS ..... 1 [ ][ ] YEARS ..... 2 [ ][ ] DON'T KNOW 998	NEVER ..... 000 (SKIP TO C111) ← MONTHS ..... 1 [ ][ ] YEARS ..... 2 [ ][ ] DON'T KNOW 998	NEVER ..... 000 (SKIP TO C111) ← MONTHS ..... 1 [ ][ ] YEARS ..... 2 [ ][ ] DON'T KNOW 998	NEVER ..... 000 (SKIP TO C111) ← MONTHS ..... 1 [ ][ ] YEARS ..... 2 [ ][ ] DON'T KNOW 998
C109	In the last year, has a dentist said that (NAME) has one or more cavities or dental caries?	YES ..... 1 NO ..... 2 (SKIP TO C111) ←	YES ..... 1 NO ..... 2 (SKIP TO C111) ←	YES ..... 1 NO ..... 2 (SKIP TO C111) ←	YES ..... 1 NO ..... 2 (SKIP TO C111) ←
C110	Were these cavities or dental caries treated?	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2	YES ..... 1 NO 2
C111	Does (NAME) clean his teeth? IF 'NO' CIRCLE '5'. IF YES, ASK: How often does (NAME) clean his/her teeth?	AT LEAST ONCE A DAY ..... 1 A FEW TIMES A WEEK ..... 2 WEEKLY ..... 3 MONTHLY ..... 4 RARELY/NEVER ..... 5 (SKIP TO C115) ←	AT LEAST ONCE A DAY ..... 1 A FEW TIMES A WEEK ..... 2 WEEKLY ..... 3 MONTHLY ..... 4 RARELY/NEVER ..... 5 (SKIP TO C115) ←	AT LEAST ONCE A DAY ..... 1 A FEW TIMES A WEEK ..... 2 WEEKLY ..... 3 MONTHLY ..... 4 RARELY/NEVER ..... 5 (SKIP TO C115) ←	AT LEAST ONCE A DAY ..... 1 A FEW TIMES A WEEK ..... 2 WEEKLY ..... 3 MONTHLY ..... 4 RARELY/NEVER ..... 5 (SKIP TO C115) ←
C112	What does (NAME) use to clean his/her teeth? RECORD ALL MENTIONED.	STICK ..... A POWDER/PASTE ..... B BRUSH ..... C RINSING WITH FINGER ..... D MOUTHWASH ..... E OTHER_____X (SPECIFY)	STICK ..... A POWDER/PASTE ..... B BRUSH ..... C RINSING WITH FINGER ..... D MOUTHWASH ..... E OTHER_____X (SPECIFY)	STICK ..... A POWDER/PASTE ..... B BRUSH ..... C RINSING WITH FINGER ..... D MOUTHWASH ..... E OTHER_____X (SPECIFY)	STICK ..... A POWDER/PASTE ..... B BRUSH ..... C RINSING WITH FINGER ..... D MOUTHWASH ..... E OTHER_____X (SPECIFY)

		YOUNGEST CHILD NAME _____	SECOND-YOUNGEST CHILD NAME _____	THIRD-YOUNGEST CHILD NAME _____	FOURTH-YOUNGEST CHILD NAME _____
C113	CHECK C112:	CODE 'B' AND/OR CODE 'E' CIRCLED ☐ SKIP TO C115) OTHER ☐	CODE 'B' AND/OR CODE 'E' CIRCLED ☐ SKIP TO C115) OTHER ☐	CODE 'B' AND/OR CODE 'E' CIRCLED ☐ SKIP TO C115) OTHER ☐	CODE 'B' AND/OR CODE 'E' CIRCLED ☐ SKIP TO C115) OTHER ☐
C114	Does the powder, paste or mouthwash that (NAME) uses to clean his/her teeth contain fluoride?	YES ..... 1 NO ..... 2 DK 8	YES ..... 1 NO ..... 2 DK 8	YES ..... 1 NO ..... 2 DK 8	YES ..... 1 NO ..... 2 DK 8
C115		GO BACK TO C3 IN NEXT COLUMN; OR IF NO MORE BIRTHS, GO TO D1			GO BACK TO C3 IN FIRST COLUMN OF NEW QUESTIONNAIRE; OR IF NO MORE BIRTHS, GO TO D1

SECTION D. NUTRITION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
D1	Now I'd like to talk about you and certain aspects about your health. These next questions are about the foods you eat. During the last six months, have you gone without eating food for one day or more?	YES .....1 NO .....2 → D3	
D2	What were the reasons for not eating food for one day or more? RECORD ALL MENTIONED.	DID NOT HAVE ENOUGH MONEY TO BUY FOOD ..... A DID NOT HAVE FOOD AT HOME ..... B HAD A MEDICAL PROBLEM ..... C RELIGIOUS FAST ..... D OTHER _____ X (SPECIFY)	
D3	Now I'm going to ask some questions about the foods that you ate in the last seven days. In the past week, on how many days did you consume: a. cheese, yoghurt, kefir, ice cream, milk or other milk products? b. eggs? c. red meats? d. fish or poultry? e. beans, peas, or legumes? f. Nuts or seeds? g. roots and tubers such as white potatoes, turnips, radishes, or beet root? h. dark green leafy vegetables or condiments such as parsley, dill, spinach, rahon, cilantro, basil, mint? Do not include lettuce or cabbage. i. Other fresh vegetables including vegetables in stews, soups, and salads? j. foods prepared with tomato paste? k. pickled or canned vegetables? l. fresh fruits? m. dried fruits? n. canned fruits? o. bread, rice, pasta, cereal, cookies, biscuits or similar products made with wheat or white flour? p. sugary foods, confectionery, pastry, cakes, chocolates, or sweets? IF NONE, RECORD '0'.	a..... ☐ b..... ☐ c..... ☐ d..... ☐ e..... ☐ f..... ☐ g..... ☐ h..... ☐ i..... ☐ j..... ☐ k..... ☐ l..... ☐ m..... ☐ n..... ☐ o..... ☐ p..... ☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
D4	How many days in the past week have you eaten foods prepared as follows: a. Fried b. Boiled c. Stewed d. Baked e. Grilled IF NONE, RECORD '0'.	a..... ☐ b..... ☐ c..... ☐ d..... ☐ e..... ☐	
D5	While eating, do you ever add salt to your cooked food? I'm not asking about salt used in cooking the food.	YES .....1 NO 2	→ D7
D6	Do you add salt, all of the time, most of the time, or only occasionally?	ALL THE TIME .....1 MOST OF THE TIME .....2 OCCASIONALLY 3	
D7	Before eating, do you ever add fat, oil, butter or cream to cooked foods, breads or salads? I'm not asking about fat, oil, butter or cream used in preparing the food.	YES .....1 NO 2	→ D9
D8	Do you add fat, oil, butter or cream all of the time, most of the time or only occasionally?	ALL THE TIME .....1 MOST OF THE TIME .....2 OCCASIONALLY 3	
D9	In the past 12 months, have you unintentionally lost weight without going on any diet or food restriction?	YES .....1 NO .....2 DON'T KNOW 8	→ E1
D10	How many kilos did you lose?	LESS THAN 1 KG .....1 1-3 KG .....2 MORE THAN 3 KG .....3 DON'T KNOW 8	

SECTION E. PHYSICAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
E1	I am going to ask you about the time you spent being physically active in the last 7 days. Please answer each question even if you do not consider yourself to be a physically active person. Think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport. Now, think about all the vigorous activities which take hard physical effort that you did in the last 7 days. Vigorous activities make you breathe much harder than normal and may include heavy lifting, digging, jogging, or fast bicycling. Think about only those physical activities that you did for at least 10 minutes at a time. During the past 7 days, on how many days did you do vigorous physical activities? INCLUDE ALL ACTIVITIES AND JOBS.	DAYS..... ☐ NONE .....0 DON'T KNOW 8	 → E3 → E3
E2	How much time in total did you (usually spend on one of those days/spend on that day) doing vigorous physical activities? PROBE: Think about only those physical activities that you did for at least 10 minutes at a time. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: The last day you did vigorous physical activities, what is the total amount of time you spent?	HOURS..... ☐☐ **AND** MINUTES PER DAY..... ☐☐	
E3	Now think about other activities which take moderate physical effort that you did in the last 7 days. Moderate physical activities make you breathe somewhat harder than normal and may include carrying light loads and bicycling at a regular pace. Do not include walking. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate physical activities? INCLUDE ALL ACTIVITIES AND JOBS.	DAYS..... ☐ NONE .....0 DON'T KNOW 8	 → E5 → E5
E4	How much time in total did you (usually spend on one of those days/spend on that day) doing moderate physical activities? PROBE: Think about only those physical activities that you did for at least 10 minutes at a time. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: The last day you did moderate physical activities, what is the total amount of time you spent?	HOURS..... ☐☐ **AND** MINUTES PER DAY..... ☐☐	
E5	Now think about the time you spent walking in the last 7 days. This includes walking at work and at home, walking to travel from place to place, and any other walking that you did solely for recreation, sport, exercise or leisure. During the last 7 days, on how many days did you walk for at least 10 minutes at a time? INCLUDE ALL ACTIVITIES AND JOBS.	DAYS..... ☐ NONE .....0 DON'T KNOW 8	 → E7 → E7

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
E6	How much time in total did you (usually) spend walking on (one of those days/that day)? PROBE: Think only about walking that you did for at least 10 minutes at a time. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: The last day you were walking, what is the total amount of time you spent?	HOURS..... [ ][ ] **AND** MINUTES PER DAY..... [ ][ ]	
E7	Now think about the time you spent sitting on weekdays during the last 7 days. Include time spent at work, at home, while doing coursework and during leisure time. This may include time spent sitting at a desk, visiting friends, traveling on a bus, or lying down to watch television. During the last 7 days, how much time in total did you usually spend sitting on a weekday? INCLUDE TIME SPENT LYING DOWN (AWAKE) AS WELL AS SITTING. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE PATTERN OF TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: What is the total amount of time you spent sitting last Wednesday?	HOURS..... [ ][ ] **AND** MINUTES PER DAY..... [ ][ ]	

SECTION F. HEALTH CARE ACCESS AND UTILIZATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F1	The next questions are about hospitalization in any hospital or clinic except rehabilitation clinics and sanatoria. During the past 12 months, have you been in a hospital as an inpatient, that is overnight or longer (including hospitalizations for giving birth)?	YES ..... 1 NO 2	→ F11
F2	How many separate stays in hospitals as an inpatient have you had in the past 12 months? COUNT ALL THE STAYS THAT ENDED IN THIS PERIOD.	NUMBER OF STAYS ..... [ ][ ]	
F3	How many nights in total did you spend in hospitals during this/these inpatient stay(s)?	NUMBER OF NIGHTS ..... [ ][ ]	
F4	Thinking of the (last) time you stayed in the hospital as an inpatient, who referred you?	DOCTOR ..... 1 FELDSHER ..... 2 AMBULANCE ..... 5 OTHER _____ 6 (SPECIFY) SELF 7	
F5	Thinking of the (last) time you stayed in the hospital as an inpatient, why were you in the hospital?	ACCIDENT/INJURY ..... 01 ILLNESS/HEALTH COMPLAINT ..... 02 CHECK UP ..... 03 MEDICAL EXAMINATION ..... 04 DIAGNOSTIC TEST/OBSERVATION .... 05 RENEWAL OF PERSCRIPTION ..... 06 OPERATION ..... 07 PREGNANCY/BIRTH RELATED ..... 08 ABORTION ..... 09 OTHER _____ 96 (SPECIFY)	 → F7 → F7
F6	Did you undergo an operation?	YES ..... 1 NO 2	
F7	CHECK F2: MORE THAN ONE STAY [ ] ↓ ONE STAY [ ] → F9		
F8	How many nights were you in the hospital during your last stay?	NUMBER OF NIGHTS ..... [ ][ ]	
F9	In what kind of hospital did you stay: was this a government, private, workplace, or some other kind of facility? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT FACILITY.	*PUBLIC SECTOR* INSTITUTE HOSPITAL ..... 11 OBLAST HOSPITAL ..... 12 CITY HOSPITAL ..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC. ..... 15 WORKPLACE ..... 16 SVP ..... 17 SPECIALIZED HOSP/DISPENS. .... 18 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER_____ 96 (SPECIFY) DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F11	During the past 12 months, have you been admitted to a health care facility as a day patient; that is, admitted to a health care facility bed, but you did not remain overnight?	YES .....1 NO 2	→ F16
F12	How many times have you been admitted as a day patient in the past 12 months?	NUMBER OF TIMES ..... [ ][ ]	
F13	Thinking of the (last) time you stayed in a health care facility as a day patient, why were you in the health care facility?	ACCIDENT/INJURY .....01 ILLNESS/HEALTH COMPLAINT .....02 CHECK UP.....03 MEDICAL EXAMINATION.....04 DIAGNOSTIC TEST/OBSERVATION ....05 RENEWAL OF PERSCRIPTION.....06 OPERATION .....07 PREGNANCY/BIRTH RELATED .....08 ABORTION .....09 OTHER _____ 96 (SPECIFY)	→ F14 → F14
F13A	Did you undergo an operation?	YES .....1 NO 2	
F14	In what kind of health care facility did you stay: was this a government, private, workplace, or some other kind of facility? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT PROVIDER.	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....11 OBLAST HOSPITAL.....12 CITY HOSPITAL.....13 RAYON HOSPTIAL .....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP.....17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
F16	During the past 4 weeks, did you consult a health care provider or a specialist for your own health needs, that is, not while accompanying a family member or someone else for their health needs.	YES .....1 NO 2	→ F22
F16A	How many times did you consult a health care provider/specialist for your own health needs?	NUMBER OF TIMES ..... [ ][ ]	
F17	Thinking about the (last) time you consulted a health care provider/specialist what was the main reason for the consultation?	ACCIDENT/INJURY .....01 ILLNESS/HEALTH COMPLAINT .....02 CHECK UP.....03 MEDICAL EXAMINATION .....04 DIAGNOSTIC TEST/OBSERVATION ....05 RENEWAL OF PERSCRIPTION .....06 OPERATION .....07 PREGNANCY/BIRTH RELATED .....08 ABORTION .....09 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F18	What kind of health care provider/specialist did you see?	DOCTOR....01 FELDSHER....02 NURSE....03 TRADITIONAL HEALER....04 INFECTIOUS DISEASE DOCTOR....11 CARDIOLOGIST....12 GERONTOLOGIST....13 ONCOLOGIST....14 RHEUMATOLOGIST....15 DERMATOLOGIST/VENEROLOGIST....16 ENDOCRINOLOGIST....17 EAR, NOSE AND THROAT SPEC./ ALLERGIST....18 EYE SPECIALIST....19 GENERAL SURGEON....20 GASTRO-ENTEROLOGIST....21 GYNAECOLOGIST....22 LUNG SPECIALIST....23 NEUROLOGIST....24 ORTHOPAEDIC SPECIALIST....25 PSYCHIATRIST....26 UROLOGIST....27 OTHER _____ 96 (SPECIFY) DON'T KNOW....98	
F19	Did the consultation with the health care provider/specialist take place in a facility, at your own home, by telephone, or somewhere else?	AT FACILITY....1 AT HOME....2 BY TELEPHONE....3 OTHER _____ 6 (SPECIFY)	
F20	Was this a government, private, or workplace health care provider/specialist? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT PROVIDER.	*PUBLIC SECTOR* INSTITUTE HOSPITAL....11 OBLAST HOSPITAL....12 CITY HOSPITAL....13 RAYON HOSPTIAL....14 POLYCLINIC....15 WORKPLACE....16 SVP....17 SPECIALIZED HOSP/DISPENS....18 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL....31 PRIVATE CLINIC....32 PRIVATE DOCTOR....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW....98	
F22	During the past 4 weeks, did you, for your own health needs, consult a doctor in an accident or emergency center or casualty department of a hospital?	YES....1 NO....2	→ G1
F22A	How many times did you consult a doctor in an accident or emergency center or casualty department?	NUMBER OF TIMES.... [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F23	Thinking of the (last) time you consulted a doctor in an accident or emergency center or casualty department, was this a government, private, or workplace health care facility? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT PROVIDER.	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....11 OBLAST HOSPITAL.....12 CITY HOSPITAL.....13 RAYON HOSPTIAL .....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP.....17 SPECIALIZED HOSP/DISPENS. ....18 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
F24	What was the main reason for the consultation?	ACCIDENT/INJURY ..... 01 ILLNESS/HEALTH COMPLAINT ..... 02 CHECK UP..... 03 MEDICAL EXAMINATION ..... 04 DIAGNOSTIC TEST/OBSERVATION .... 05 RENEWAL OF PERSCRIPTION ..... 06 OPERATION ..... 07 PREGNANCY/BIRTH RELATED ..... 08 ABORTION ..... 09 OTHER _____ 96 (SPECIFY)	

SECTION G. BLOOD PRESSURE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
G1	These next questions are about blood pressure. Has your blood pressure ever been checked by a doctor or other health professional?	YES .....1 NO 2	→ G8
G1A	Who took your blood pressure?	DOCTOR.....1 FELDSHER .....2 NURSE.....3 TRADITIONAL HEALER .....4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
G2	When was the last time you had your blood pressure checked by a doctor or other health professional?	LESS THAN 6 MONTHS AGO.....1 6 - 11 MONTHS AGO.....2 1 - 5 YEARS AGO.....3 MORE THAN 5 YEARS AGO.....4 DON'T KNOW 8	
G3	Have you ever been told by a doctor or other health professional that you had hypertension or high blood pressure?	YES .....1 NO .....2 DON'T KNOW 8	→ G8
G4	Were you told on 2 or more different visits that you had hypertension or high blood pressure?	YES .....1 NO .....2 DON'T KNOW 8	
G5	Did a doctor or other health professional tell you what to do about your hypertension or high blood pressure?	YES .....1 NO 2	→ G8
G6	Who told you this?	DOCTOR.....1 FELDSHER .....2 NURSE.....3 TRADITIONAL HEALER .....4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
G6A	Did the doctor or the other health professional tell you to: a. take prescribed medicine?..... b. control your weight or lose weight?..... c. cut down on salt in your diet?..... d. exercise more? ..... e. cut down on alcohol? ..... f. stop smoking? g. do other things? PROBE: What other things?	YES NO TAKE MEDICINE ..... 1 2 CONTROL WEIGHT ..... 1 2 CUT DOWN SALT..... 1 2 EXERCISE ..... 1 2 CUT DOWN ALCOHOL ..... 1 2 STOP SMOKING..... 1 2 DO OTHER THINGS..... 1 2 ↓ _____ (SPECIFY)	
G7	To lower your hypertension or high blood pressure, are you now: a. taking prescribed medicine? ..... b. controlling your weight or losing weight? ..... c. cutting down on salt in your diet?..... d. exercising?..... e. cutting down on alcohol consumption?..... f. stopping smoking?	YES NO N/A TAKE MEDICINE ..... 1 2 3 CONTROL WEIGHT ..... 1 2 3 CUT DOWN SALT..... 1 2 3 EXERCISE ..... 1 2 3 CUT DOWN ALCOHOL .... 1 2 3 STOP SMOKING..... 1 2 3	
G8	Have you ever had your blood cholesterol checked?	YES .....1 NO .....2 DON'T KNOW 6	→ G12

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
G9	When was the last time you had your blood cholesterol checked?	LESS THAN 6 MONTHS AGO.....1 6 - 11 MONTHS AGO.....2 1 - 5 YEARS AGO.....3 MORE THAN 5 YEARS AGO.....4 DON'T KNOW 8	
G10	Have you ever been told by a doctor or other health professional that your blood cholesterol level was high?	YES .....1 NO 2	→ G12
G11	Who told you this?	DOCTOR.....1 FELDSHER .....2 NURSE.....3 TRADITIONAL HEALER .....4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

G12	Before proceeding further with the questionnaire, please let me measure your blood pressure and pulse. MEASURE BLOOD PRESSURE AND PULSE ON RIGHT ARM AND RECORD RESULTS.	BLOOD PRESSURE SYSTOLIC..... [ ][ ][ ] DIASTOLIC..... [ ][ ][ ] BLOOD PRESSURE NOT MEASURED .....995 PULSE (30 SECONDS)..... [ ][ ][ ] PULSE NOT MEASURED 995	

SECTION H. RESPIRATORY AND ALLERGY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
H1	These next questions are about breathing and allergies. In the past 12 months, have you had a cough on most days for 3 consecutive months or more?	YES .....1 NO 2	→ H3
H2	For how many years have you had this cough?	YES ..... [ ][ ] LESS THAN ONE YEAR.....00 DON'T KNOW 98	
H3	In the past 12 months, have you brought up phlegm on most days for 3 consecutive months or more?	YES .....1 NO 2	→ H5
H4	For how many years have you had trouble with phlegm?	YES ..... [ ][ ] LESS THAN ONE YEAR.....00 DON'T KNOW 98	
H5	Are you troubled by shortness of breath when hurrying on level ground or walking up a slight hill?	YES .....1 NO 2	
H6	In the past 12 months, have you had wheezing or whistling in your chest at any time?	YES .....1 NO 2	→ J3
H7	How many episodes of wheezing or whistling have you had in the past 12 months?	CONTINUOUS .....95 EPISODES ..... [ ][ ] DON'T KNOW 98	
H7A	In the past 12 months, have you gone to a health facility for one of these episodes of wheezing or whistling?	YES .....1 NO 2	→ J3
H8	In the past 12 months, how many times were you hospitalized overnight or longer for these episodes of wheezing or whistling? IF NONE, RECORD '00'.	TIMES ..... [ ][ ] DON'T KNOW 98	
H9	In the past 12 months, how many times have you gone to a health facility, without being hospitalized overnight, for one of these episodes of wheezing or whistling? IF NONE, RECORD '00'.	TIMES ..... [ ][ ] DON'T KNOW 98	
H10	Who referred you to this/these health facility/facilities? IF MORE THAN ONE PERSON, ASK: Who referred you most recently?	DOCTOR.....1 FELDSHER .....2 NURSE.....3 TRADITIONAL HEALER .....4 AMBULANCE .....5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

SECTION J. TUBERCULOSIS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
J3	Have you ever heard of an illness called tuberculosis?	YES ..... 1 NO 2	→ K10
J4	Did you know that tuberculosis can be completely cured with proper medication?	YES ..... 1 NO 2	
J5	What signs or symptoms would lead you think that a person has tuberculosis? Any others? RECORD ALL MENTIONED.	COUGHING ..... A COUGHING WITH SPUTUM ..... B COUGHING FOR SEVERAL WEEKS .... C FEVER ..... D BLOOD IN SPUTUM ..... E LOSS OF APPETITE ..... F NIGHTSWEATING ..... G PAIN IN CHEST ..... H TIREDNESS/FATIGUE ..... I WEIGHT LOSS ..... J LETHARGY ..... K OTHER _____ X (SPECIFY) DON'T KNOW ..... Y	→ J8
J6	What are the symptoms of tuberculosis that would convince you to seek medical assistance? Any others? RECORD ALL MENTIONED.	COUGHING ..... A COUGHING WITH SPUTUM ..... B COUGHING FOR SEVERAL WEEKS .... C FEVER ..... D BLOOD IN SPUTUM ..... E LOSS OF APPETITE ..... F NIGHTSWEATING ..... G PAIN IN CHEST ..... H TIREDNESS/FATIGUE ..... I WEIGHT LOSS ..... J LETHARGY ..... K OTHER _____ X (SPECIFY) DON'T KNOW ..... Y	
J8	How does tuberculosis spread from one person to another?	THROUGH THE AIR WHEN COUGHING ..... 1 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
J10	If a family member of yours had tuberculosis and that person completed the hospital treatment for tuberculosis, would you be willing to take care of him or her at home during further treatment?	YES ..... 1 NO ..... 2 DON'T KNOW/DEPENDS 8	
J12	Have you ever been told by a doctor or other health professional that you had tuberculosis?	YES ..... 1 NO 2	→ K10
J13	About how long has it been since a doctor or other health professional last told you that you have tuberculosis?	LESS THAN 6 MONTHS ..... 1 6 – 11 MONTHS ..... 2 1 – 5 YEARS ..... 3 MORE THAN 5 YEARS ..... 4 DON'T KNOW 8	
J13A	Who told you?	DOCTOR ..... 1 FELDSHER ..... 2 NURSE ..... 3 TRADITIONAL HEALER ..... 4 SPECIALIST ..... 5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
J14	Were you ever hospitalized because of your tuberculosis?	YES ..... 1 NO 2	

SECTION K. SMOKING

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
K10	Now I'd like to ask you about tobacco use. Have you smoked at least 100 cigarettes during your entire life?	YES ..... 1 NO 2	→ K27
K11	How old were you when you first started smoking cigarettes fairly regularly?	AGE ..... ☐☐ NEVER SMOKED REGULARLY ..... 00 DON'T KNOW 98	
K12	Do you smoke cigarettes now?	YES ..... 1 NO 2	→ K19
K16	About how many cigarettes do you smoke per day? IF ANSWER GIVEN IN PACKS, PROBE TO DETERMINE NUMBER OF CIGARETTES PER PACK AND CONVERT TO NUMBER OF CIGARETTES PER DAY.	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... ☐☐ VARIES 66	
K17	For approximately how many years have you smoked this amount? IF LESS THAN ONE YEAR, RECORD '00'.	YEARS ..... ☐☐	
K18	Was there ever a period of a year or more when you smoked more than (NUMBER IN K16) cigarettes per day?	YES ..... 1 NO 2	→ K21
K19	During the period when you were smoking the most, about how many cigarettes per day did you usually smoke? IF ANSWER GIVEN IN PACKS, PROBE TO DETERMINE NUMBER OF CIGARETTES PER PACK AND CONVERT TO NUMBER OF CIGARETTES PER DAY.	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... ☐☐ VARIES 66	
K20	For how many years did you smoke that amount? IF LESS THAN ONE YEAR, RECORD '00'.	YEARS ..... ☐☐	
K21	Have you ever quit smoking for a period of one year or longer?	YES ..... 1 NO 2	→ K27
K22	Did you quit smoking because you had a health problem that was either caused or made worse by smoking?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
K23	Since you first started smoking, how many years altogether have you stayed off cigarettes? IF LESS THAN ONE YEAR, RECORD '00'.	YEARS ..... ☐☐	
K24	CHECK K12: YES, SMOKES NOW ☐ NO ☐		→ K27
K25	About how old were you when you last smoked cigarettes fairly regularly? PROBE: How old were you when you quit smoking cigarettes?	AGE ..... ☐☐ NEVER SMOKED REGULARLY ..... 00 DON'T KNOW 98	→ K27
K26	About how many cigarettes per day did you usually smoke at that time? IF ANSWER GIVEN IN PACKS, PROBE TO DETERMINE NUMBER OF CIGARETTES PER PACK AND CONVERT TO NUMBER OF CIGARETTES PER DAY.	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... ☐☐ VARIED 66	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
K27	Have you ever used nas?	YES ..... 1 NO 2	→ K53
K28	At what age did you first start using nas fairly regularly?	AGE ..... [ ][ ] NEVER USED REGULARLY ..... 00 DON'T KNOW 98	
K29	Do you use nas now?	YES ..... 1 NO 2	→ K33
K30	How many times do you use nas per day or per week?	NAS TIMES PER DAY ..... 1 [ ][ ] PER WEEK..... 2 [ ][ ] VARIES 666	→ K53
K33	About how old were you when you last used nas fairly regularly?	AGE ..... [ ][ ] NEVER USED REGULARLY ..... 00 DON'T KNOW 98	
K44	Did you quit using nas because you had a problem that was caused or made worse because you used it?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
K53	Have you smoked at least 20 cigars or 20 pipes of tobacco in your entire life?	YES ..... 1 NO 2	

SECTION L. ALCOHOL CONSUMPTION AND NARCOTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
L1	Now I would like to ask you about alcohol. Have you ever drunk an alcohol-containing beverage?	YES ..... 1 NO 2	→ L10
L2	Have you drunk alcohol during the last 12 months?	YES ..... 1 NO 2	→ L10
L5	Do you sometimes take a drink in the morning when you first get up?	YES ..... 1 NO 2	
L6	During the past year, has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?	YES ..... 1 NO 2	
L7	During the past year, have you had a feeling of guilt or remorse after drinking?	YES ..... 1 NO 2	
L8	During the past year, have you failed to do what was normally expected of you because of drinking?	YES ..... 1 NO 2	
L9	During the past year, have you lost friends because of your drinking?	YES ..... 1 NO 2	
L10	In your opinion, how serious a problem is narcotics in the country? Is it a very serious problem, a somewhat serious problem, a moderate problem, a minor problem, or not a problem?	VERY SERIOUS ..... 1 SOMEWHAT SERIOUS ..... 2 MODERATE PROBLEM ..... 3 MINOR PROBLEM ..... 4 NOT A PROBLEM 5	
L11	Do you know anyone personally who uses narcotics on a regular basis?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

SECTION M. DENTAL

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
M1	How would you describe the condition of your natural teeth: excellent, very good, good, fair or poor?	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR ..... 5 HAS NO NATURAL TEETH 6	
M10	During the past 3 years, have you been to the dentist for routine check-ups?	YES ..... 1 NO 2	→ M12
M11	During the past 3 years, how often have you gone to the dentist for routine check-ups?	2 OR MORE TIMES A YEAR ..... 1 ONCE A YEAR ..... 2 LESS THAN ONCE A YEAR ..... 3 DON'T KNOW 8	
M12	In the past 12 months, have you had any dental problem?	YES ..... 1 NO 2	→ M15
M13	Did you consult anyone about this problem?	YES ..... 1 NO 2	→ M15
M14	Whom did you consult? PROBE: Anyone else? RECORD ALL MENTIONED.	DENTIST ..... A STOMATOLOGIST ..... B SVP ..... C TABIB/FAITH HEALER ..... D HOME/SELF-TREATMENT/ RELATIVES ..... E OTHER _____ X (SPECIFY)	
M15	Do you need any type of dental care now?	YES ..... 1 NO 2	→ N1
M16	What type of dental care do you need now? PROBE: Any other dental care needs? RECORD ALL MENTIONED.	CHECK-UP ..... A CLEANING B TEETH FILLED OR REPLACED (FOR EXAMPLE, FILLINGS, CROWNS AND/OR BRIDGES) ..... C TEETH PULLED ..... D GUM TREATMENT ..... E DENTURE WORK ..... F RELIEF OF PAIN ..... G WORK TO IMPROVE APPEARANCE (FOR EXAMPLE, BRACES OR BONDING) ..... H OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	

SECTION N. INJURY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
N1	Now I'd like to ask you about any **injuries or poisonings** that happened during the **past 3 months.** In the past three months, were you injured seriously enough that you could not perform routine work for at least half a day?	YES .....1 NO 2	
N2	In the past three months, were you poisoned to the extent that you could not perform routine work for at least half a day?	YES .....1 NO 2	
N3	CHECK N1 & N2: AT LEAST ONE 'YES' ☐ ↓ NOT A SINGLE 'YES' ☐ →		N16
N4	In the past three months, did you seek medical attention because you were (injured/poisoned)?	YES .....1 NO .....2 →	N7
N5	How many times during the past three months did you seek medical advice because you were (injured/poisoned)?	NUMBER..... ☐☐	
N6	I'd like to ask you some questions about your (most recent) injury/poisoning incident. Where did you receive medical advice or treatment for this incident?	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....11 OBLAST HOSPITAL.....12 CITY HOSPITAL.....13 RAYON HOSPTIAL .....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP.....17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
N7	When did the (most recent) injury/poisoning incident happen?	DAYS AGO..... 1 ☐☐ WEEKS AGO..... 2 ☐☐	
N8	Was this incident work-related?	YES .....1 NO 2	
N9	Where did the incident occur?	HOME/RESIDENCE.....01 FARM/RANCH.....02 STREET/HIGHWAY .....03 TRADE/SERVICE AREA.....04 INDUSTRIAL /CONSTRUCTION AREA .05 OTHER WORKSITE/OFFICE.....06 SCHOOL .....07 OTHER PUBLIC BUILDING.....08 SPORTS/ATHLETIC AREA.....09 OTHER _____ 96 (SPECIFY)	
N10	What type of activity were you doing at the time of the incident? VITAL ACTIVITIES INCLUDE EATING, SLEEPING, AND PERSONAL GROOMING.	SPORTS..... A LEISURE ..... B TRAVELING ..... C PAID WORK..... D UNPAID WORK..... E EDUCATIONAL ACTIVITY..... F VITAL ACTIVITY .....G OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
N11	Did this incident result from an unintentional event or an intentional act?	UNINTENTIONAL.....1 INTENTIONAL ACT.....2	→ N12
N11 A	Who caused this incident?	SELF.....11 **FAMILY** HUSBAND.....21 MOTHER-IN-LAW.....22 FATHER IN-LAW.....23 OTHER IN-LAW.....24 MOTHER.....25 FATHER.....26 OTHER FAMILY.....27 **NON-FAMILY** FRIEND/ACQUAINTANCE.....31 NEIGHBOR.....32 CLASSMATE.....33 TEACHER.....34 EMPLOYER.....35 COLLEAGUE.....36 TEAMMATE/COMPETITOR.....37 STRANGER.....38 ANIMAL.....39 OTHER _____ 96 (SPECIFY)	
N12	What was the cause of the injury?	**TRANSPORTATION-BASED** MOTOR VEHICLE.....11 PEDESTRIAN-VEHICLE CRASH.....12 MOTORCYCLE.....13 BICYCLE.....14 TRACTOR.....15 OTHER TRANSPORTATION.....16 _____ (SPECIFY) **NON-TRANSPORTATION BASED** FALL (LESS THAN 1 METER).....21 FALL (1 METER OR MORE).....22 STRUCK OR CRUSHED.....23 GUNSHOT.....24 AGRICULTURAL STAB/CUT.....25 OTHER STAB/CUT.....26 FIRE/BURN.....27 ELECTROCUTION.....28 SMOKE INHALATION.....29 POISONING.....30 SCALD.....31 SEXUAL VIOLENCE.....32 OTHER PHYSICAL ASSAULT.....33 NEAR-DROWNING.....34 ANIMAL RELATED.....35 OTHER _____ 96 (SPECIFY)	→ N14
N13	Were you injured as the driver of a vehicle, a passenger in a vehicle, a bicycle rider, or as a pedestrian?	DRIVER OF A VEHICLE.....1 PASSENGER IN A VEHICLE.....2 BICYCLE RIDER.....3 PEDESTRIAN.....4	
N14	As a result of this incident, did you miss any days of work or school?	YES.....1 NO.....2	→ N16

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
N15	How many days?	DAYS OF WORK..... 1 [ ][ ] DAYS OF SCHOOL..... 2 [ ][ ]	

N16	Before proceeding further with the questionnaire, let me again measure your blood pressure and pulse. MEASURE BLOOD PRESSURE AND PULSE ON RIGHT ARM AND RECORD RESULTS.	BLOOD PRESSURE SYSTOLIC..... [ ][ ][ ] DIASTOLIC..... [ ][ ][ ] BLOOD PRESSURE NOT MEASURED .....995 PULSE (30 SECONDS)..... [ ][ ][ ] PULSE NOT MEASURED 995	

SECTION P. MENTAL HEALTH

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES				SKIP
P1	I'm going to read some statements that describe how people sometimes feel. Please tell me how many days last week you felt this way, if any.	LESS THAN 1 DAY (RARELY OR NONE OF THE TIME)	1-2 DAYS (SOME OR A LITTLE OF THE TIME)	3-4 DAYS (OCCASIONALLY OR A MODERATE AMOUNT OF TIME)	5-7 DAYS (MOST OR ALL OF THE TIME)	
	a. I was bothered by things that usually don't bother me.	1	2	3	4	
	b. I did not feel like eating; my appetite was poor.	1	2	3	4	
	c. I felt that I could not shake off the blues.	1	2	3	4	
	d. I felt that I was just as good as other people.	1	2	3	4	
	e. I had trouble keeping my mind on what I was doing.	1	2	3	4	
	f. I felt depressed.	1	2	3	4	
	g. I felt that everything I did was an effort.	1	2	3	4	
	h. I felt hopeful about the future.	1	2	3	4	
	i. I thought my life had been a failure.	1	2	3	4	
	j. I felt fearful.	1	2	3	4	
	k. My sleep was restless.	1	2	3	4	
	l. I was happy.	1	2	3	4	
	m. I talked less than usual.	1	2	3	4	
	n. I felt lonely.	1	2	3	4	
	o. People were unfriendly.	1	2	3	4	
	p. I enjoyed life.	1	2	3	4	
	q. I had crying spells.	1	2	3	4	
	r. I felt sad.	1	2	3	4	
	s. I felt that people disliked me.	1	2	3	4	
	t. I could not get going.	1	2	3	4	

SECTION Q. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q1	Are you currently married or living with a man?	YES, CURRENTLY MARRIED ..... 1 YES, LIVING WITH A MAN ..... 2 NO, NOT IN UNION 3	→ Q5
Q2	Have you ever been married or lived with a man?	YES, FORMERLY MARRIED ..... 1 YES, LIVED WITH A MAN ..... 2 NO 3	→ Q10 → Q14
Q4	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED ..... 1 DIVORCED ..... 2 SEPARATED 3	→ Q10
Q5	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER ..... 1 STAYING ELSEWHERE 2	
Q6	RECORD THE HUSBAND/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NUMBER ..... [ ][ ]	
Q10	Have you been married or lived with a man only once, or more than once?	ONCE ..... 1 MORE THAN ONCE 2	
Q11	CHECK Q10: MARRIED/LIVED WITH A MAN ONLY ONCE [ ] → In what month and year did you start living with your husband/partner? MARRIED/LIVED WITH A MAN MORE THAN ONCE [ ] → Now we will talk about your first husband/partner. In what month and year did you start living with him?	MONTH ..... [ ][ ] DON'T KNOW MONTH ..... 98 YEAR ..... [ ][ ][ ][ ] DON'T KNOW YEAR 9998	→ Q14
Q12	How old were you when you started living with him?	AGE ..... [ ][ ]	
Q14	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues. How old were you when you first had sexual intercourse (if ever)?	NEVER ..... 00 AGE IN YEARS ..... [ ][ ] FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER ... 95	→ Q24
Q15	When was the last time you had sexual intercourse? RECORD 'YEARS AGO' ONLY IF LAST INTERCOURSE WAS ONE OR MORE YEARS AGO. IF 12 MONTHS OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO ..... 1 [ ][ ] WEEKS AGO ..... 2 [ ][ ] MONTHS AGO ..... 3 [ ][ ] YEARS AGO ..... 4 [ ][ ]	→ Q24
Q16	The last time you had sexual intercourse, was a condom used?	YES ..... 1 NO 2	
Q17	What is your relationship to the man with whom you last had sex? IF MAN IS "BOYFRIEND" OR "FIANCÉ", ASK: Was your boyfriend/fiancé living with you when you last had sex? IF YES, CIRCLE '01'. IF NO, CIRCLE '02'.	SPOUSE/COHABITING PARTNER ..... 01 MAN IS BOYFRIEND/FIANCÉ ..... 02 OTHER FRIEND ..... 03 CASUAL ACQUAINTANCE ..... 04 RELATIVE ..... 05 COMMERCIAL SEX CLIENT ..... 06 OTHER _____ 96 (SPECIFY)	→ Q19

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q18	For how long have you had a sexual relationship with this man?	DAYS .....1 [ ][ ] WEEKS .....2 [ ][ ] MONTHS .....3 [ ][ ] YEARS .....4 [ ][ ]	
Q19	Have you had sex with any other man in the last 12 months?	YES ..... 1 NO 2	 → Q24
Q20	The last time you had sexual intercourse with another man, was a condom used?	YES ..... 1 NO 2	
Q21	What is your relationship to this other man? IF MAN IS "BOYFRIEND" OR "FIANCÉ", ASK: Was your boyfriend/fiancé living with you when you last had sex? IF YES, CIRCLE '01'. IF NO, CIRCLE '02'.	SPOUSE/COHABITING PARTNER ..... 01 MAN IS BOYFRIEND/FIANCÉ ..... 02 OTHER FRIEND ..... 03 CASUAL ACQUAINTANCE ..... 04 RELATIVE ..... 05 COMMERCIAL SEX CLIENT ..... 06 OTHER _____ 96 (SPECIFY)	→ Q23
Q22	For how long have you had sexual relations with this man?	DAYS .....1 [ ][ ] WEEKS .....2 [ ][ ] MONTHS .....3 [ ][ ] YEARS .....4 [ ][ ]	
Q23	In total, with how many different men have you had sex in the last 12 months?	NUMBER OF PARTNERS ..... [ ][ ]	
Q24	Do you know of a place where a person can get condoms?	YES ..... 1 NO 2	 → R1
Q25	Where is that? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) Any other place? RECORD ALL SOURCES MENTIONED.	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....A OBLAST HOSPITAL.....B CITY HOSPTIAL..... C RAYON HOSPTIAL ..... D LOCAL OUTPATIENT CLINIC. .....E WORKPLACE.....F SVP ..... G GOVT HEALTH CENTER ..... H FAMILY PLANNING CLINIC .....I OTHER PUBLIC _____ J (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....K PRIVATE CLINIC .....L PRIVATE DOCTOR .....M FAMILY PLANNING CLINIC ..... N OTHER PRIVATE MEDICAL _____ O (SPECIFY) OTHER SOURCE PHARMACY .....P SHOP/MARKETPLACE ..... Q FRIEND/RELATIVE ..... R OTHER _____ X (SPECIFY) DON'T KNOW .....Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q26	If you wanted to, could you yourself get a condom?	YES ..... 1 NO ..... 2 DON'T KNOW/UNSURE 8	

SECTION R. HIV/AIDS AND OTHER STIs

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
R1	Now I have to talk to you about something else. Have you ever heard of an illness called AIDS?	YES ..... 1 NO 2	→ R24
R2	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ R9
R3	What can a person do? Anything else? RECORD ALL WAYS MENTIONED.	ABSTAIN FROM SEX ..... A USE CONDOMS ..... B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER ..... C LIMIT NUMBER OF SEXUAL PARTNERS ..... D AVOID SEX WITH PROSTITUTES ..... E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS ..... F AVOID SEX WITH HOMOSEXUALS ..... G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY ... H AVOID BLOOD TRANSFUSIONS ..... I AVOID INJECTIONS ..... J AVOID SHARING RAZORS/BLADES ..... K AVOID KISSING ..... L AVOID MOSQUITO BITES ..... M SEEK PROTECTION FROM TRADITIONAL HEALER ..... N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	
R4	Can people reduce their chances of getting the AIDS virus by having just one uninfected sex partner who has no other partners?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
R5	Can a person get the AIDS virus from mosquito bites?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
R6	Can people reduce their chances of getting the AIDS virus by using a condom every time they have sex?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
R7	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
R8	Can people get the AIDS virus by getting injections with a needle that was already used by someone else?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
R9	Is it possible for a healthy-looking person to have the AIDS virus?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
R10	Can the virus that causes AIDS be transmitted from a mother to a child?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ R13

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
R11	When can the virus that causes AIDS be transmitted from a mother to a child? During pregnancy? During delivery? By breastfeeding?	YES NO DK DURING PREG ..... 1 2 8 DURING DELIVERY..... 1 2 8 BREASTFEEDING 1 2 8	
R13	CHECK Q1: CURRENTLY MARRIED/ LIVING WITH A MAN ☐ ↓ NOT CURRENTLY MARRIED/NOT LIVING WITH A MAN ☐ →		R15
R14	Have you ever talked about ways to prevent getting the virus that causes AIDS with (your husband/the man you are living with)?	YES .....1 NO 2	
R15	In your opinion, is it acceptable or unacceptable for AIDS to be discussed: on the radio? on the TV? in newspapers?	ACCEPT-ABLE / NOT ACCEPT-ABLE ON THE RADIO..... 1 2 ON THE TV ..... 1 2 IN NEWSPAPERS..... 1 2	
R16	If a member of your family got infected with the virus that causes AIDS, would you want it to remain a secret or not?	YES .....1 NO .....2 DK/NOT SURE 8	
R19	Should children age 12-14 years be taught about using a condom to avoid AIDS?	YES .....1 NO .....2 DK/NOT SURE/DEPENDS.....8	
R20	Have you ever been tested to see if you have the AIDS virus?	YES .....1 NO .....2 DON'T KNOW 8	R24
R21	Would you want to be tested for the AIDS virus?	YES .....1 NO .....2 DK/NOT SURE/DEPENDS.....8	
R22	Do you know a place where you could go to get an AIDS test?	YES .....1 NO 2	
R24	(Apart from AIDS,) have you heard about (other) infections that can be transmitted through sexual contact?	YES .....1 NO 2	R33
R31	CHECK Q14 HAS HAD SEXUAL INTERCOURSE ☐ ↓ HAS NOT HAD SEXUAL INTERCOURSE ☐ →		S7
R32	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a sexually transmitted disease?	YES .....1 NO .....2 DK.....8	
R33	Sometimes, a woman experiences an abnormal genital discharge. During the last 12 months, have you had an abnormal genital discharge?	YES .....1 NO .....2 DK.....8	
R34	Sometimes women have a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES .....1 NO .....2 DK.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
R35	CHECK R32-R34: HAS HAD AN INFECTION ☐ ↓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW ☐ →		S7
R36	The last time you had (PROBLEM FROM R32/R33/R34), did you seek any advice or treatment?	YES ..... 1 NO ..... 2 →	R38
R37	The last time you had (PROBLEM FROM R32/R33/R34), did you do any of the following? Did you…	YES NO	
	Go to a clinic, hospital or private doctor?	CLINIC/HOSPITAL 1 2	
	Consult a traditional healer?	TRADITIONAL HEALER 1 2	
	Seek advice from or buy medicines in a shop or pharmacy?	SHOP/PHARMACY 1 2	
	Ask for advice from friends or relatives?	FRIENDS/RELATIVES 1 2	
R38	When you had (PROBLEM FROM R32/R33/R34), did you inform the person with whom you were having sex?	YES ..... 1 NO ..... 2 SOME/NOT ALL ..... 3 DID NOT HAVE PARTNER ..... 4 →	S7
R39	When you had (PROBLEM FROM R32/R33/R34), did you do anything to avoid infecting your partners(s)?	YES ..... 1 NO ..... 2 PARTNER ALREADY INFECTED ..... 3 →	S7
R40	What did you do to avoid infecting your partner(s)? Did you…	YES NO	
	Use medicine?	USE MEDICINE 1 2	
	Stop having sex?	STOP SEX 1 2	
	Use a condom while having sex?	USE CONDOM 1 2	

SECTION S. WOMEN'S WORK AND OTHER TOPICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
S7	Aside from your own housework, are you currently working?	YES ..... 1 NO 2	→S10
S8	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES ..... 1 NO 2	→S10
S9	Have you done any work in the last 12 months?	YES ..... 1 NO 2	→S19
S10	What is your usual occupation, that is, what kind of work do you mainly do?	☐☐ _____ _____ _____	
S11	CHECK S10: WORKS IN AGRICULTURE ☐ ↓ DOES NOT WORK IN AGRICULTURE ☐		→S13
S12	Do you work mainly on your own land or on family land, or do you work on land that you rent from someone else, do you work on someone else's land, or do you work on a kolkhoz?	OWN LAND ..... 1 FAMILY LAND ..... 2 RENTED LAND ..... 3 SOMEONE ELSE'S LAND ..... 4 KOLKHOZ 5	
S13	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER ..... 1 FOR SOMEONE ELSE ..... 2 SELF-EMPLOYED 3	
S14	Do you usually work at home or away from home?	HOME ..... 1 AWAY 2	
S15	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR ..... 1 SEASONALLY/PART OF THE YEAR ..... 2 ONCE IN A WHILE 3	
S16	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY ..... 1 CASH AND KIND ..... 2 IN KIND ONLY ..... 3 NOT PAID 4	→S19
S17	Who mainly decides how the money you earn will be used?	RESPONDENT ..... 1 HUSBAND/PARTNER ..... 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY ..... 3 MOTHER-IN-LAW ..... 4 SOMEONE ELSE ..... 5 RESPONDENT AND SOMEONE ELSE JOINTLY 6	
S18	On average, how much of your household's expenditures do your earnings pay for: almost none, less than half, about half, more than half, or all?	ALMOST NONE ..... 1 LESS THAN HALF ..... 2 ABOUT HALF ..... 3 MORE THAN HALF ..... 4 ALL ..... 5 NONE, HER INCOME IS ALL SAVED. 6	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
S19	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING OR NOT PRESENT)	PRES/ LISTEN. / PRES/ NOT LISTEN. / NOT PRS CHILDREN <10: 1 / 2 / 8 HUSBAND: 1 / 2 / 8 OTHER MALES: 1 / 2 / 8 OTHER FEMALES: 1 / 2 / 8	
S20	CHECK Q1 AND Q2: EVER MARRIED ☐ ↓ NEVER MARRIED ☐ →		S28
S22	I would now like to ask some questions about your (current/last) (husband/partner). How long did you know your (current/last) (husband/partner) before you (married him/started living together)?	MET ON THE WEDDING DAY .....1 LESS THAN ONE MONTH .....2 1 MONTH TO LESS THAN 1 YEAR .....3 1 YEAR OR MORE 4	
S23	Before you (got married/started living with your partner), was he related to you in any way?	YES .....1 NO .....2 →	S25
S24	What type of relationship was it?	FIRST COUSIN ON FATHER'S SIDE.....1 FIRST COUSIN ON MOTHER'S SIDE .....2 SECOND COUSIN .....3 UNCLE .....4 OTHER BLOOD RELATIVE.....5 BROTHER-IN-LAW .....6 OTHER NON-BLOOD RELATIVE.....7	
S25	Who chose your (current/last) husband/partner?	RESPONDENT CHOSE.....1 RESPONDENT AND HUSBAND/ PARTNER CHOSE EACH OTHER.....2 RESPONDENT WITH SOMEONE ELSE CHOSE .....3 RESPONDENT'S FAMILY CHOSE .....4 HUSBAND/PARTNER OR HIS FAMILY CHOSE RESPONDENT .....5 SOMEONE ELSE CHOSE 6	
S26	Do any of your husband's/partner's relatives usually live in this house with you? IF YES: Which of your husband's/partner's relatives usually live with you? RECORD ALL MENTIONED.	MOTHER.....A FATHER.....B BROTHER(S).....C SISTER(S).....D WIFE(WIVES) OF BROTHER(S).....E HUSBAND(S) OF SISTER(S) .....F OTHER _____ X (SPECIFY) NO/NONE.....Y	
S27	Now I would like to ask you some questions about financial matters. I ask these questions only to understand more about the financial position of women. Please tell me if you alone, or jointly with your husband or someone else own....	DOES NOT OWN / OWNS JOINTLY / OWNS ALONE If you ever need to, can you sell (ASSET) without anyone else's permission? YES / NO / DK	
	Any land?	1 / 2 / 3→ / 1 / 2 / 8	
	The house/dwelling you live in?	1 / 2 / 3→ / 1 / 2 / 8	
	Any other house, apartment, or dwelling?	1 / 2 / 3→ / 1 / 2 / 8	
	A car?	1 / 2 / 3→ / 1 / 2 / 8	
	Jewelry or gems?	1 / 2 / 3→ / 1 / 2 / 8	
	Livestock such as (GIVE LOCAL EXAMPLES)?	1 / 2 / 3→ / 1 / 2 / 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES							SKIP
S28	Do you yourself control the money needed to buy the following things?		YES	NO	SOME	DOES NOT BUY			
	Vegetables or fruits?	VEG/FRUIT	1	2	3	4			
	Clothes for yourself?	CLOTHES	1	2	3	4			
	Any kind of medicine for yourself?	MEDICINE.....	1	2	3	4			
	Toiletries for yourself like (GIVE LOCAL EXAMPLES)?	TOILETRIES ..	1	2	3	4			
S29	Who in your family usually has the final say on the following decisions:	RESPONDENT =1 HUSBAND/PARTNER =2 RESPONDENT & HUSBAND/PARTNER JOINTLY=3 MOTHER-IN-LAW=4 SOMEONE ELSE =5 RESPONDENT & SOMEONE ELSE JOINTLY=6 DECISION NOT MADE /NOT APPLICABLE=7							
	Your own health care?	HEALTH CARE	1	2	3	4	5	6	7
	Making large household purchases?	LARGE PURCHASE	1	2	3	4	5	6	7
	Making household purchases for daily needs?	DAILY PURCHASE	1	2	3	4	5	6	7
	Visits to family or relatives?	VISITS-FAMILY	1	2	3	4	5	6	7
	Visits to your own friends in the neighborhood?	VISITS-FRIENDS	1	2	3	4	5	6	7
	What food should be cooked each day?	FOOD	1	2	3	4	5	6	7
	Whether or not you should work to earn money?	WORK	1	2	3	4	5	6	7
	Whether or not to use contraception?	CONTRACEPTION	1	2	3	4	5	6	7
S30	Are you usually permitted to go to the following places on your own, only if someone accompanies you, or not at all?		ALONE	NOT ALONE	NOT AT ALL				
	To the local market to buy things?	MARKET	1	2	3				
	To a local health center or doctor?	HEALTH CENTER	1	2	3				
	To homes of friends in the neighborhood?	FRIENDS	1	2	3				
S31	Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband when:		YES	NO	DK				
	She knows her husband has a sexually transmitted disease?	HAS STD	1	2	8				
	She knows her husband has sex with other women?	OTHER WOMEN	1	2	8				
	She has recently given birth?	RECENT BIRTH	1	2	8				
	She is tired or not in the mood?	TIRED/MOOD	1	2	8				
S32	Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations:		YES	NO	DK				
	If she goes out without telling him?	GOES OUT	1	2	8				
	If she neglects the children?	NEGL. CHILDREN	1	2	8				
	If she argues with him?	ARGUES	1	2	8				
	If she refuses to have sex with him?	REFUSES SEX	1	2	8				
	If she burns the food?	BURNS FOOD	1	2	8				
S33	With the end of Soviet rule, many persons lost their job. Did you lose your job at any time during the past 10 years?	YES .....1 NO 2							
S34	CHECK S7 – S8: NO CODE '1' ; NOT EMPLOYED ☐ ↓ ANY CODE '1'; EMPLOYED ☐ → S36								
S35	You are currently not working. Is that because you do not wish to work, or because you have been unable to find work?	DOES NOT WISH TO WORK.....1 UNABLE TO FIND WORK .....2 OTHER _____ 6 (SPECIFY)							

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

S36

AVERAGE THE DIASTOLIC AND AVERAGE THE SYSTOLIC BLOOD PRESSURE FROM THE TWO BLOOD PRESSURE MEASUREMENTS. COMPLETE THE BLOOD PRESSURE REPORTING FORM AND GIVE IT TO THE RESPONDENT ACCORDING TO THE BLOOD PRESSURE TRAINING PROTOCOL. USE THE TABLE BELOW TO MAKE THE CORRECT REFERRAL.

Adult Blood Pressure Value Box

	DIASTOLIC					
	<84	85-89	90-99	100-109	110-119	≥120
SYSTOLIC						
<129	1	2	3	4	5	6
130-139	2	2	3	4	5	6
140-159	3	3	3	4	5	6
160-179	4	4	4	4	5	6
180-209	5	5	5	5	5	6
≥210	6	6	6	6	6	6

S36 A	The Ministry of Health wants to thank you for participating in this survey. If the Ministry desires to obtain more information about the health of your family, may an interviewer return to your house and ask additional questions?	YES .....1 NO 2	
S37	RECORD THE TIME	HOUR ..... [ ][ ] MINUTES ..... [ ][ ]	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR:_____DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR:_____DATE: _____

2002 UZBEKISTAN HEALTH EXAMINATION SURVEY
MEN'S INDIVIDUAL QUESTIONNAIRE

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER .....

HOUSEHOLD NUMBER .....

OBLAST .....

RAYON .....

MAHALLAH/SSG .....

URBAN/RURAL (URBAN=1, RURAL=2) .....

LARGE CITY/SMALL CITY/TOWN/COUNTRYSIDE .....
(LARGE CITY=1, SMALL CITY=2, TOWN=3, COUNTRYSIDE=4)

NAME AND LINE NUMBER OF RESPONDENT _____

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY ☐☐ MONTH ☐☐ YEAR 2 0 0 2
INTERVIEWER'S NAME	_____	_____	_____	NAME ☐☐
RESULT*	_____	_____	_____	RESULT ☐
NEXT VISIT: DATE	_____	_____		TOTAL NO. OF VISITS ☐
TIME	_____	_____		

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

	UZBEK	RUSSIAN	OTHER
4. LANGUAGE OF INTERVIEW	1	2	3
5. NATIVE LANGUAGE OF RESPONDENT	1	2	3
	YES	NO	
6. WHETHER TRANSLATOR USED	1	2	

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ ☐☐	NAME _____ ☐☐	☐☐	☐☐
DATE _____	DATE _____		

SECTION A: RESPONDENT'S BACKGROUND AND GENERAL HEALTH

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with the Ministry of Health. We are conducting a national survey about the health of women, men and children. We would very much appreciate your participation in this survey. I would like to ask you about your health. This information will help the government to plan health services. The survey usually takes between 45 minutes and 1 hour to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

Later, during the interview I would like to measure your blood pressure and pulse. This will be done two times during the interview. This is a harmless procedure. The results of this blood pressure and pulse measurement will be given to you after the interview and an explanation of the meaning of your blood pressure and pulse numbers. Elevated blood pressure or pulse is dangerous to your health, and it is important to know your numbers. We will give you the results of this test but we will not be able to provide you with any further testing of treatment. A brochure has been given to you explaining the physical examination part of the survey. Please read it before the health technician comes to collect specimens and sign it on the back if you agree to participate.

At this time, do you want to ask me anything about the survey? May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED ..... 1 ↓ RESPONDENT DOESN'T AGREE TO BE INTERVIEWED .....2 ► END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
A1	RECORD THE TIME.	HOUR ..... [ ][ ] MINUTES ..... [ ][ ]	
A2	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in the countryside?	CITY .....1 TOWN.....2 COUNTRYSIDE 3	
A3	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS ..... [ ][ ] ALWAYS.....95 VISITOR 96	 ► A4A ► A4B
A4	Just before you moved here, did you live in a city, in a town, or in the countryside?	CITY .....1 TOWN.....2 COUNTRYSIDE 3	
A4A	In the last 12 months, have you ever traveled away from your home community and slept away?	YES .....1 NO 2	 ► A5
A4B	In the last 12 months, on how many separate occasions have you traveled away from your home community and slept away?	NUMBER OF TRIPS AWAY..... [ ][ ]	
A4C	In the last 12 months, have you been away from your home community for more than 1 month at a time?	YES .....1 NO 2	
A5	In what month and year were you born?	MONTH ..... [ ][ ] DON'T KNOW MONTH .....98 YEAR..... [ ][ ][ ][ ] DON'T KNOW YEAR.....9998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
A6	How old were you at your last birthday? COMPARE AND CORRECT A5 AND/OR A6 IF INCONSISTENT.	AGE IN COMPLETED YEARS... [ ][ ]	
A7	Have you ever attended school?	YES ..... 1 NO 2	→ A10
A8	What is the highest level of school you attended? PROBE: Was it primary, secondary, PTU/SPTU, tekhnikum or higher?	SCHOOL, GYMNASIUM ..... 1 PTU/SPTU, LICEE ..... 2 TEKNIKUM, COLLEGE ..... 3 UNIVERSITY/INSTITUTE 4	
A9	What is the highest (grade/form/year) you completed at that level?	GRADE..... [ ][ ]	
A10	Are you currently working?	YES ..... 1 NO 2	→ A10C
A10 A	Have you done any work in the last 12 months?	YES ..... 1 NO 2	→ A10C
A10 B	What have you been doing for most of the time over the last 12 months?	GOING TO SCHOOL/STUDYING..... 1 LOOKING FOR WORK ..... 2 INACTIVE ..... 3 COULD NOT WORK/HANDICAPPED ..... 4 OTHER _____ 6 (SPECIFY)	→ A17
A10 C	What is your occupation, that is, what kind of work do you mainly do?	[ ][ ] _____ _____ _____	
A11	CHECK A10C: WORKS IN AGRICULTURE [ ] ↓ DOES NOT WORK IN AGRICULTURE [ ]		→ A13
A12	Do you work mainly on your own land or on family land, or do you work on land that you rent from someone else, do you work on someone else's land, or do you work on a kolkhoz?	OWN LAND ..... 1 FAMILY LAND ..... 2 RENTED LAND ..... 3 SOMEONE ELSE'S LAND ..... 4 KOLKHOZ 5	
A13	During the last 12 months, how many months did you work?	NUMBER OF MONTHS ..... [ ][ ]	
A14	Are you paid in cash or kind for this work, or are you not paid at all?	CASH ONLY..... 1 CASH AND KIND ..... 2 IN KIND ONLY..... 3 NOT PAID..... 4	→ A17
A15	On average, how much of your household's expenditures do your earnings pay for: almost none, less than half, about half, more than half, or all?	ALMOST NONE ..... 1 LESS THAN HALF ..... 2 ABOUT HALF ..... 3 MORE THAN HALF ..... 4 ALL ..... 5 NONE, HIS INCOME IS ALL SAVED..... 6	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
A17	What is your religion? PROBE: Are you Muslim, Christian, another religion, or do you not practice any religion?	MUSLIM .....1 CHRISTIAN .....2 NO RELIGION .....3 OTHER _____ 6 (SPECIFY)	
A18	What is your nationality? PROBE: Are you Uzbek, Russian, Karakalpak, Tajik, or another nationality?	UZBEK .....1 RUSSIAN .....2 KARAKALPAK .....3 TAJIK .....4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
A29	In general, would you say your health is: excellent, very good, good, fair, or poor?	EXCELLENT .....1 VERY GOOD .....2 GOOD .....3 FAIR .....4 POOR 5	
A30	Think about the two weeks ending yesterday, have you cut down on any of the things you usually do about the house, at work or in your free time because you were sick or injured?	YES .....1 NO .....2 →	A33
A31	How many days did you cut down your activities during these two weeks, including Saturdays and Sundays?	DAYS..... [ ][ ]	
A32	On how many of these days were you in bed for all or most of the day?	DAYS..... [ ][ ]	

A33	Now I am going to ask you some questions about long-standing illnesses. ASK A33A –F (FIRST COLUMN). IF 'YES' ASK A34-A36. IF 'NO' OR 'DK' FOLLOW SKIP PATTERN. Have you ever, at any time in your life had:		A34 Was the (CONDITION) diagnosed by a doctor?	A35 Have you had (CONDITION) in the past 12 months?	A36 For the (CONDITION), did you take drugs or have you been under treatment in the past 12 months?
A	Asthma?	YES..... 1 NO ..... 2 DK..... 8 (SKIP TO A33B)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
B	Diabetes?	YES..... 1 NO ..... 2 DK..... 8 (SKIP TO A33C)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
C	Chronic bronchitis or emphysema?	YES..... 1 NO ..... 2 DK..... 8 (SKIP TO A33D)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
D	Chronic depression?	YES..... 1 NO ..... 2 DK..... 8 (SKIP TO A33E)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2
E	Goiter?	YES..... 1 NO ..... 2 DK..... 8 (SKIP TO A33F)	YES .....1 NO 2	YES ..... 1 NO 2	YES .....1 NO 2

A33	Now I am going to ask you some questions about long-standing illnesses. ASK A33A –F (FIRST COLUMN). IF 'YES' ASK A34-A36. IF 'NO' OR 'DK' FOLLOW SKIP PATTERN. Have you ever, at any time in your life had:		A34 Was the (CONDITION) diagnosed by a doctor?	A35 Have you had (CONDITION) in the past 12 months?	A36 For the (CONDITION), did you take drugs or have you been under treatment in the past 12 months?
F	Any other illnesses or condition that lasted longer than 3 months? IF YES, ASK: Which illnesses or condition? (MAXIMUM 3 ILLNESSES)	YES..... 1 _____ (SPECIFY) _____ (SPECIFY) _____ (SPECIFY) NO ..... 2 (SKIP TO D1) ←	YES .....1 NO .....2 YES .....1 NO .....2 YES .....1 NO 2	YES .....1 NO .....2 YES .....1 NO .....2 YES .....1 NO 2	YES ..... 1 NO ..... 2 YES ..... 1 NO ..... 2 YES ..... 1 NO 2

SECTION D. NUTRITION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
D1	Now I'd like to talk about you and certain aspects about your health. These next questions are about the foods you eat. During the last six months, have you gone without eating food for one day or more?	YES ..... 1 NO ..... 2 →	D3
D2	What were the reasons for not eating food for one day or more? RECORD ALL MENTIONED.	DID NOT HAVE ENOUGH MONEY TO BUY FOOD ..... A DID NOT HAVE FOOD AT HOME ..... B HAD A MEDICAL PROBLEM ..... C RELIGIOUS FAST ..... D OTHER _____ X (SPECIFY)	
D3	Now I'm going to ask some questions about the foods that you ate in the last seven days. In the past week, on how many days did you consume: q. cheese, yoghurt, kefir, ice cream, milk or other milk products? r. eggs? s. red meats? t. fish or poultry? u. beans, peas, or legumes? v. Nuts or seeds? w. roots and tubers such as white potatoes, turnips, radishes, or beet root? x. dark green leafy vegetables or condiments such as parsley, dill, spinach, rahon, cilantro, basil, mint? Do not include lettuce or cabbage. y. Other fresh vegetables including vegetables in stews, soups, and salads? z. foods prepared with tomato paste? aa. pickled or canned vegetables? bb. fresh fruits? cc. dried fruits? dd. canned fruits? ee. bread, rice, pasta, cereal, cookies, biscuits or similar products made with wheat or white flour? ff. sugary foods, confectionery, pastry, cakes, chocolates, or sweets? IF NONE, RECORD '0'.	a..... ☐ b..... ☐ c..... ☐ d..... ☐ e..... ☐ f..... ☐ g..... ☐ h..... ☐ i..... ☐ j..... ☐ k..... ☐ l..... ☐ m..... ☐ n..... ☐ o..... ☐ p..... ☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
D4	How many days in the past week have you eaten foods prepared as follows: a. Fried b. Boiled c. Stewed d. Baked e. Grilled IF NONE, RECORD '0'.	a.....☐ b.....☐ c.....☐ d.....☐ e.....☐	
D5	While eating, do you ever add salt to your cooked food? I'm not asking about salt used in cooking the food.	YES .....1 NO 2	→ D7
D6	Do you add salt, all of the time, most of the time, or only occasionally?	ALL THE TIME .....1 MOST OF THE TIME .....2 OCCASIONALLY 3	
D7	Before eating, do you ever add fat, oil, butter or cream to cooked foods, breads or salads? I'm not asking about fat, oil, butter or cream used in preparing the food.	YES .....1 NO 2	→ D9
D8	Do you add fat, oil, butter or cream all of the time, most of the time or only occasionally?	ALL THE TIME .....1 MOST OF THE TIME .....2 OCCASIONALLY 3	
D9	In the past 12 months, have you unintentionally lost weight without going on any diet or food restriction?	YES .....1 NO .....2 DON'T KNOW 8	→ E1
D10	How many kilos did you lose?	LESS THAN 1 KG .....1 1-3 KG .....2 MORE THAN 3 KG .....3 DON'T KNOW 8	

SECTION E. PHYSICAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
E1	I am going to ask you about the time you spent being physically active in the last 7 days. Please answer each question even if you do not consider yourself to be a physically active person. Think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport. Now, think about all the vigorous activities which take hard physical effort that you did in the last 7 days. Vigorous activities make you breathe much harder than normal and may include heavy lifting, digging, jogging, or fast bicycling. Think about only those physical activities that you did for at least 10 minutes at a time. During the past 7 days, on how many days did you do vigorous physical activities? INCLUDE ALL ACTIVITIES AND JOBS.	DAYS ..... [ ] NONE .....0 DON'T KNOW 8	 → E3 → E3
E2	How much time in total did you (usually spend on one of those days/spend on that day) doing vigorous physical activities? PROBE: Think about only those physical activities that you did for at least 10 minutes at a time. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: The last day you did vigorous physical activities, what is the total amount of time you spent?	HOURS..... [ ][ ] **AND** MINUTES PER DAY..... [ ][ ]	
E3	Now think about other activities which take moderate physical effort that you did in the last 7 days. Moderate physical activities make you breathe somewhat harder than normal and may include carrying light loads and bicycling at a regular pace. Do not include walking. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate physical activities? INCLUDE ALL ACTIVITIES AND JOBS.	DAYS ..... [ ] NONE .....0 DON'T KNOW 8	 → E5 → E5
E4	How much time in total did you (usually spend on one of those days/spend on that day) doing moderate physical activities? PROBE: Think about only those physical activities that you did for at least 10 minutes at a time. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: The last day you did moderate physical activities, what is the total amount of time you spent?	HOURS..... [ ][ ] **AND** MINUTES PER DAY..... [ ][ ]	
E5	Now think about the time you spent walking in the last 7 days. This includes walking at work and at home, walking to travel from place to place, and any other walking that you did solely for recreation, sport, exercise or leisure. During the last 7 days, on how many days did you walk for at least 10 minutes at a time? INCLUDE ALL ACTIVITIES AND JOBS.	DAYS ..... [ ] NONE .....0 DON'T KNOW 8	 → E7 → E7

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
E6	How much time in total did you (usually) spend walking on (one of those days/that day)? IF THE RESPONDENT CAN'T ANSWER BECAUSE THE TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: The last day you were walking, what is the total amount of time you spent?	HOURS..... ☐☐ **AND** MINUTES PER DAY..... ☐☐	
E7	Now think about the time you spent sitting on weekdays during the last 7 days. Include time spent at work, at home, while doing coursework and during leisure time. This may include time spent sitting at a desk, visiting friends, traveling on a bus, or lying down to watch television. During the last 7 days, how much time in total did you usually spend sitting on a weekday? INCLUDE TIME SPENT LYING DOWN (AWAKE) AS WELL AS SITTING. IF THE RESPONDENT CAN'T ANSWER BECAUSE THE PATTERN OF TIME SPENT VARIES WIDELY FROM DAY TO DAY, ASK: What is the total amount of time you spent sitting last Wednesday?	HOURS PER DAY..... ☐☐ **AND** MINUTES PER DAY..... ☐☐	

SECTION F. HEALTH CARE ACCESS AND UTILIZATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F1	The next questions are about hospitalization in any hospital or clinic except rehabilitation clinics and sanatoria. During the past 12 months, have you been in a hospital as an inpatient, that is overnight or longer?	YES .....1 NO 2	→ F11
F2	How many separate stays in hospitals as an inpatient have you had in the past 12 months? COUNT ALL THE STAYS THAT ENDED IN THIS PERIOD.	NUMBER OF STAYS ..... ☐☐	
F3	How many nights in total did you spend in hospitals during this/these inpatient stay(s)?	NUMBER OF NIGHTS ..... ☐☐	
F4	Thinking of the (last) time you stayed in the hospital as an inpatient, who referred you?	SVP .....1 OTHER GOVERNMENT DOCTOR.....2 PRIVATE DOCTOR.....3 RURAL CLINIC.....4 OTHER DOCTOR _____ 6 (SPECIFY) SELF.....7	
F5	Thinking of the (last) time you stayed in the hospital as an inpatient, why were you in the hospital?	ACCIDENT/INJURY .....01 ILLNESS/HEALTH COMPLAINT.....02 CHECK UP .....03 MEDICAL EXAMINATION.....04 DIAGNOSTIC TEST/OBSERVATION ....05 RENEWAL OF PERSCRIPTION.....06 OPERATION .....07 OTHER _____ 96 (SPECIFY)	→ F7
F6	Did you undergo an operation?	YES .....1 NO 2	
F7	CHECK F2: MORE THAN ONE STAY ☐ ↓ ONE STAY ☐ →		→ F9
F8	How many nights were you in the hospital during your last stay?	NUMBER OF NIGHTS ..... ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F9	In what kind of hospital did you stay: was this a government, private, workplace, or some other kind of facility? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT FACILITY.	*PUBLIC SECTOR* INSTITUTE HOSPITAL..... 11 OBLAST HOSPITAL..... 12 CITY HOSPITAL..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC..... 15 WORKPLACE..... 16 SVP..... 17 SPECIALIZED HOSP/DISPENS..... 18 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
F11	During the past 12 months, have you been admitted to a health care facility as a day patient; that is, admitted to a health care facility bed, but you did not remain overnight?	YES .....1 NO 2	→ F16
F12	How many times have you been admitted as a day patient in the past 12 months?	NUMBER OF TIMES ..... [ ][ ]	
F13	Thinking of the (last) time you stayed in a health care facility as a day patient, why were you in the health care facility?	ACCIDENT/INJURY .....01 ILLNESS/HEALTH COMPLAINT.....02 CHECK UP.....03 MEDICAL EXAMINATION.....04 DIAGNOSTIC TEST/OBSERVATION ....05 RENEWAL OF PERSCRIPTION.....06 OPERATION .....07 OTHER _____ 96 (SPECIFY)	→ F14
F13B	Did you undergo an operation?	YES .....1 NO 2	
F14	In what kind of health care facility did you stay: was this a government, private, workplace, or some other kind of facility? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT PROVIDER.	*PUBLIC SECTOR* INSTITUTE HOSPITAL..... 11 OBLAST HOSPITAL..... 12 CITY HOSPITAL..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC..... 15 WORKPLACE..... 16 SVP..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F16	During the past 4 weeks, did you consult a health care provider or a specialist for your own health needs, that is, not while accompanying a family member or someone else for their health needs.	YES .....1 NO 2	→ F22
F16A	How many times did you consult a health care provider/specialist for your own health needs?	NUMBER OF TIMES ..... [ ][ ]	
F17	Thinking about the (last) time you consulted a health care provider/specialist, what was the main reason for the consultation?	ACCIDENT/INJURY .....01 ILLNESS/HEALTH COMPLAINT .....02 CHECK UP.....03 MEDICAL EXAMINATION.....04 DIAGNOSTIC TEST/OBSERVATION ....05 RENEWAL OF PERSCRIPTION.....06 OPERATION .....07 OTHER _____ 96 (SPECIFY)	
F18	What kind of provider/specialist did you see?	DOCTOR.....01 FELDSHER .....02 NURSE.....03 TRADITIONAL HEALER .....04 INFECTIOUS DISEASE DOCTOR .....11 CARDIOLOGIST .....12 GERONTOLOGIST .....13 ONCOLOGIST .....14 RHEUMATOLOGIST .....15 DERMATOLOGIST/VENEROLOGIST ...16 ENDOCRINOLOGIST .....17 EAR, NOSE AND THROAT SPEC./ ALLERGIST .....18 EYE SPECIALIST .....19 GENERAL SURGEON .....20 GASTRO-ENTEROLOGIST.....21 GYNAECOLOGIST .....22 LUNG SPECIALIST.....23 NEUROLOGIST .....24 ORTHOPAEDIC SPECIALIST .....25 PSYCHIATRIST .....26 UROLOGIST .....27 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
F19	Did the consultation with the health care provider/specialist take place in a facility, at your own home, by telephone, or somewhere else?	AT FACILITY .....1 AT HOME.....2 BY TELEPHONE.....3 OTHER _____ 6 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
F20	Was this a government, private, or workplace health care provider/specialist? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT PROVIDER.	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....11 OBLAST HOSPITAL.....12 CITY HOSPITAL.....13 RAYON HOSPTIAL .....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP.....17 SPECIALIZED HOSP/DISPENS. ....18 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
F22	During the past 4 weeks, did you, for your own health needs, consult a doctor in an accident or emergency center or casualty department of a hospital?	YES .....1 NO 2	→ F26
F22A	How many times did you consult a doctor in an accident or emergency center or casualty department?	NUMBER OF TIMES..... [ ][ ]	
F23	Thinking of the (last) time you consulted a doctor in an accident or emergency center or casualty department, was this a government, private, or workplace health care facility? IF GOVERNMENT, PROBE TO DISCOVER WHAT KIND OF GOVERNMENT PROVIDER.	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....11 OBLAST HOSPITAL.....12 CITY HOSPITAL.....13 RAYON HOSPTIAL .....14 POLYCLINIC. .....15 WORKPLACE.....16 SVP.....17 SPECIALIZED HOSP/DISPENS. ....18 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....31 PRIVATE CLINIC .....32 PRIVATE DOCTOR .....33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
F24	What was the main reason for the consultation?	ACCIDENT/INJURY .....01 ILLNESS/HEALTH COMPLAINT .....02 CHECK UP.....03 MEDICAL EXAMINATION.....04 DIAGNOSTIC TEST/OBSERVATION ....05 RENEWAL OF PERSCRIPTION.....06 OPERATION .....07 OTHER _____ 96 (SPECIFY)	

SECTION G. BLOOD PRESSURE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
G1	These next questions are about blood pressure. Has your blood pressure ever been checked by a doctor or other health professional?	YES .....1 NO 2	→ G8
G1A	Who took your blood pressure?	SVP .....1 OTHER DOCTOR .....2 OTHER NURSE .....3 FELDSHER .....4 OTHER _____ 6 (SPECIFY)	
G2	When was the last time you had your blood pressure checked by a doctor or other health professional?	LESS THAN 6 MONTHS AGO.....1 6 - 11 MONTHS AGO.....2 1 - 5 YEARS AGO .....3 MORE THAN 5 YEARS AGO.....4 DON'T KNOW 8	
G3	Have you ever been told by a doctor or other health professional that you had hypertension or high blood pressure?	YES .....1 NO .....2 DON'T KNOW 8	→ G8
G4	Were you told on 2 or more different visits that you had hypertension or high blood pressure?	YES .....1 NO .....2 DON'T KNOW 8	
G5	Did a doctor or other health professional tell you what to do about your hypertension or high blood pressure?	YES .....1 NO 2	→ G8
G6	Who told you this?	SVP .....1 OTHER DOCTOR .....2 OTHER NURSE .....3 FELDSHER .....4 OTHER _____ 6 (SPECIFY)	
G6A	Did the doctor or the other health professional tell you to: a. take prescribed medicine? ..... b. control your weight or lose weight?..... c. cut down on salt in your diet?..... d. exercise more? ..... e. cut down on alcohol? ..... f. stop smoking? g. do other things? PROBE: What other things?	YES NO TAKE MEDICINE ..... 1 2 CONTROL WEIGHT ..... 1 2 CUT DOWN SALT..... 1 2 EXERCISE ..... 1 2 CUT DOWN ALCOHOL ..... 1 2 STOP SMOKING..... 1 2 DO OTHER THINGS..... 1 2 _____ (SPECIFY)	
G7	To lower your hypertension or high blood pressure, are you now: a. taking prescribed medicine? ..... b. controlling your weight or losing weight? ..... c. cutting down on salt in your diet?..... d. exercising?..... e. cutting down on alcohol consumption?..... f. stopping smoking?.....	YES NO N/A TAKE MEDICINE ..... 1 2 3 CONTROL WEIGHT ..... 1 2 3 CUT DOWN SALT..... 1 2 3 EXERCISE ..... 1 2 3 CUT DOWN ALCOHOL .... 1 2 3 STOP SMOKING..... 1 2 3	
G8	Have you ever had your blood cholesterol checked?	YES .....1 NO .....2 DON'T KNOW 6	→ G12

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
G9	When was the last time you had your blood cholesterol checked?	LESS THAN 6 MONTHS AGO.....1 6 - 11 MONTHS AGO.....2 1 - 5 YEARS AGO.....3 MORE THAN 5 YEARS AGO.....4 DON'T KNOW 8	
G10	Have you ever been told by a doctor or other health professional that your blood cholesterol level was high?	YES .....1 NO .....2 →	G12
G11	Who told you this?	SVP .....1 OTHER DOCTOR .....2 OTHER NURSE .....3 FELDSHER .....4 OTHER _____ 6 (SPECIFY)	

G12	Before proceeding further with the questionnaire, please let me measure your blood pressure and pulse. MEASURE BLOOD PRESSURE AND PULSE ON RIGHT ARM AND RECORD RESULTS.	BLOOD PRESSURE SYSTOLIC..... [ ][ ][ ] DIASTOLIC..... [ ][ ][ ] BLOOD PRESSURE NOT MEASURED .....995 PULSE..... [ ][ ][ ] PULSE NOT MEASURED 995	

SECTION H. RESPIRATORY AND ALLERGY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
H1	These next questions are about breathing and allergies. In the past 12 months, have you had a cough on most days for 3 consecutive months or more?	YES .....1 NO 2	→ H3
H2	For how many years have you had this cough?	YEARS ..... [ ][ ] LESS THAN ONE YEAR.....00 DON'T KNOW 98	
H3	In the past 12 months, have you brought up phlegm on most days for 3 consecutive months or more?	YES .....1 NO 2	→ H5
H4	For how many years have you had trouble with phlegm?	YEARS ..... [ ][ ] LESS THAN ONE YEAR.....00 DON'T KNOW 98	
H5	Are you troubled by shortness of breath when hurrying on level ground or walking up a slight hill?	YES .....1 NO 2	
H6	In the past 12 months, have you had wheezing or whistling in your chest at any time?	YES .....1 NO 2	→ J3
H7	How many episodes of wheezing or whistling have you had in the past 12 months?	CONTINUOUS .....95 EPISODES ..... [ ][ ] DON'T KNOW 98	
H7A	In the past 12 months, have you gone to a health facility for one of these episodes of wheezing or whistling?	YES .....1 NO 2	→ J3
H8	In the past 12 months, how many times were you hospitalized overnight or longer for these episodes of wheezing or whistling? IF NONE, RECORD '00'.	TIMES..... [ ][ ] DON'T KNOW 98	
H9	In the past 12 months, how many times have you gone to a health facility, without being hospitalized overnight, for one of these episodes of wheezing or whistling? IF NONE, RECORD '00'.	TIMES..... [ ][ ] DON'T KNOW 98	
H10	Who referred you to this/these health facility/facilities? IF MORE THAN ONE PERSON, ASK: Who referred you most recently?	SVP .....1 OTHER DOCTOR .....2 OTHER NURSE .....3 FELDSHER .....4 SELF.....5 OTHER _____ 6 (SPECIFY)	

SECTION J. TUBERCULOSIS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
J3	Have you ever heard of an illness called tuberculosis?	YES .....1 NO 2	→ K10
J4	Did you know that tuberculosis can be completely cured with proper medication?	YES .....1 NO 2	
J5	What signs or symptoms would lead you think that a person has tuberculosis? Any others? RECORD ALL MENTIONED.	COUGHING ..... A COUGHING WITH SPUTUM ..... B COUGHING FOR SEVERAL WEEKS .... C FEVER ..... D BLOOD IN SPUTUM ..... E LOSS OF APPETITE .....F NIGHTSWEATING .....G PAIN IN CHEST ..... H TIREDNESS/FATIGUE .....I WEIGHT LOSS .....J LETHARGY ..... K OTHER _____ X (SPECIFY) DON'T KNOW ..... Y	→ J8
J6	What are the symptoms of tuberculosis that would convince you to seek medical assistance? Any others? RECORD ALL MENTIONED.	COUGHING ..... A COUGHING WITH SPUTUM ..... B COUGHING FOR SEVERAL WEEKS ....C FEVER .....D BLOOD IN SPUTUM ..... E LOSS OF APPETITE ..... F NIGHTSWEATING .....G PAIN IN CHEST .....H TIREDNESS/FATIGUE .....I WEIGHT LOSS .....J LETHARGY ..... K OTHER _____ X (SPECIFY) DON'T KNOW ..... Y	
J8	How does tuberculosis spread from one person to another?	THROUGH THE AIR WHEN COUGHING.....1 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
J10	If a family member of yours had tuberculosis and that person completed the hospital treatment for tuberculosis, would you be willing to take care of him or her at home during further treatment?	YES .....1 NO .....2 DON'T KNOW/DEPENDS 8	
J12	Have you ever been told by a doctor or other health professional that you had tuberculosis?	YES .....1 NO 2	→ K10
J13	About how long has it been since a doctor or other health professional last told you that you have tuberculosis?	LESS THAN 6 MONTHS .....1 6 – 11 MONTHS .....2 1 – 5 YEARS .....3 MORE THAN 5 YEARS.....4 DON'T KNOW 8	
J13A	Who told you?	DOCTOR..... 1 FELDSHER ..... 2 NURSE..... 3 TRADITIONAL HEALER ..... 4 SPECIALIST..... 5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
J14	Were you ever hospitalized because of your tuberculosis?	YES .....1 NO 2	

SECTION K. SMOKING

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
K10	Now I'd like to ask you about tobacco use. There are many forms of tobacco about which I will ask. Have you smoked at least 100 cigarettes during your entire life?	YES ..... 1 NO 2	→ K27
K11	How old were you when you first started smoking cigarettes fairly regularly?	AGE ..... [ ][ ] NEVER SMOKED REGULARLY ..... 00 DON'T KNOW 98	
K12	Do you smoke cigarettes now?	YES ..... 1 NO 2	→ K19
K16	About how many cigarettes do you smoke per day?	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... [ ][ ] VARIES 66	
K17	For approximately how many years have you smoked this amount? IF LESS THAN ONE YEAR, RECORD '00'.	YEARS ..... [ ][ ]	
K18	Was there ever a period of a year or more when you smoked more than (NUMBER IN K16) cigarettes/packs per day?	YES ..... 1 NO 2	→ K21
K19	During the period when you were smoking the most, about how many cigarettes per day did you usually smoke?	LESS THAN 1 PER DAY ..... 00 CIGARETTES PER DAY ..... [ ][ ] VARIES 66	
K20	For how many years did you smoke that amount? IF LESS THAN ONE YEAR, RECORD '00'.	YEARS ..... [ ][ ]	
K21	Have you ever quit smoking for a period of one year or longer?	YES ..... 1 NO 2	→ K27
K22	Did you quit smoking because you had a health problem that was either caused or made worse by smoking?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
K23	Since you first started smoking, how many years altogether have you stayed off cigarettes? IF LESS THAN ONE YEAR, RECORD '00'.	YEARS ..... [ ][ ]	
K24	CHECK K12: YES, SMOKES NOW [ ] NO [ ]		→ K27
K25	About how old were you when you last smoked cigarettes fairly regularly? PROBE: How old were you when you quit smoking cigarettes?	AGE ..... [ ][ ] NEVER SMOKED REGULARLY ..... 00 DON'T KNOW 98	→ K27

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
K26	About how many cigarettes per day did you usually smoke at that time?	LESS THAN 1 PER DAY .....00 CIGARETTES PER DAY ..... [ ][ ] VARIES 66	
K27	Have you ever used nas?	YES .....1 NO 2	→ K53
K28	At what age did you first start using nas fairly regularly?	AGE ..... [ ][ ] NEVER USED REGULARLY .....00 DON'T KNOW 98	
K29	Do you use nas now?	YES .....1 NO 2	→ K33
K30	How many times do you use nas per day or per week?	NAS TIMES PER DAY ..... 1 [ ][ ] PER WEEK..... 2 [ ][ ] VARIES 666	→ K53
K33	About how old were you when you last used nas fairly regularly?	AGE ..... [ ][ ] NEVER USED REGULARLY .....00 DON'T KNOW 98	
K44	Did you quit using nas because you had a problem that was caused or made worse because you used it?	YES .....1 NO .....2 DON'T KNOW 8	
K53	Have you smoked at least 20 cigars or 20 pipes of tobacco in your entire life?	YES .....1 NO 2	

SECTION L. ALCOHOL CONSUMPTION AND NARCOTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
L1	Now I would like to ask you about alcohol. Have you ever drunk an alcohol-containing beverage?	YES .....1 NO 2	→ L10
L2	Have you drunk alcohol in the last 12 months?	YES .....1 NO 2	→ L10
L5	Do you sometimes take a drink in the morning when you first get up?	YES .....1 NO 2	
L6	During the past year, has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?	YES .....1 NO 2	
L7	During the past year, have you had a feeling of guilt or remorse after drinking?	YES .....1 NO 2	
L8	During the past year, have you failed to do what was normally expected of you because of drinking?	YES .....1 NO 2	
L9	During the past year, have you lost friends because of your drinking?	YES .....1 NO 2	
L10	In your opinion, how serious a problem is narcotics in the country? Is it a very serious problem, a somewhat serious problem, a moderate problem, a minor problem, or not a problem?	VERY SERIOUS .....1 SOMEWHAT SERIOUS .....2 MODERATE PROBLEM .....3 MINOR PROBLEM .....4 NOT A PROBLEM 5	
L11	Do you know anyone personally who uses narcotics on a regular basis?	YES .....1 NO .....2 DON'T KNOW 8	

SECTION M. DENTAL

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
M1	How would you describe the condition of your natural teeth: excellent, very good, good, fair or poor?	EXCELLENT ..... 1 VERY GOOD ..... 2 GOOD ..... 3 FAIR ..... 4 POOR ..... 5 HAS NO NATURAL TEETH 6	
M10	During the past 3 years, have you been to the dentist for routine check-ups?	YES ..... 1 NO 2	→ M12
M11	During the past 3 years, how often have you gone to the dentist for routine check-ups?	2 OR MORE TIMES A YEAR ..... 1 ONCE A YEAR ..... 2 LESS THAN ONCE A YEAR ..... 3 DON'T KNOW 8	
M12	In the past 12 months, have you had any dental problem?	YES ..... 1 NO 2	→ M15
M13	Did you consult anyone about this problem?	YES ..... 1 NO 2	→ M15
M14	Whom did you consult? PROBE: Anyone else? RECORD ALL MENTIONED.	DENTIST ..... A STOMATOLOGIST ..... B SVP ..... C TABIB/FAITH HEALER ..... D HOME/SELF-TREATMENT/ RELATIVES ..... E OTHER _____ X (SPECIFY)	
M15	Do you need any type of dental care now?	YES ..... 1 NO 2	→ N1
M16	What type of dental care do you need now? PROBE: Any other dental care needs? RECORD ALL MENTIONED.	CHECK-UP ..... A CLEANING B TEETH FILLED OR REPLACED (FOR EXAMPLE, FILLINGS, CROWNS AND/OR BRIDGES) ..... C TEETH PULLED ..... D GUM TREATMENT ..... E DENTURE WORK ..... F RELIEF OF PAIN ..... G WORK TO IMPROVE APPEARANCE (FOR EXAMPLE, BRACES OR BONDING) ..... H OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	

SECTION N. INJURY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
N1	Now I'd like to ask you about any **injuries or poisonings** that happened during the **past 3 months.** In the past three months, were you injured seriously enough that you could not perform routine work for at least half a day?	YES .....1 NO 2	
N2	In the past three months, were you poisoned to the extent that you could not perform routine work for at least half a day?	YES .....1 NO 2	
N3	CHECK N1 & N2: AT LEAST ONE 'YES' ☐ ↓ NOT A SINGLE 'YES' ☐ →		N16
N4	In the past three months, did you seek medical attention because you were (injured/poisoned)?	YES .....1 NO .....2 →	N7
N5	How many times during the past three months did you seek medical advice because you were (injured/poisoned)?	NUMBER ..... ☐☐	
N6	I'd like to ask you some questions about your (most recent) injury/poisoning incident. Where did you receive medical advice or treatment for this incident?	*PUBLIC SECTOR* INSTITUTE HOSPITAL..... 11 OBLAST HOSPITAL ..... 12 CITY HOSPITAL ..... 13 RAYON HOSPTIAL ..... 14 POLYCLINIC..... 15 WORKPLACE ..... 16 SVP ..... 17 OTHER PUBLIC _____ 26 (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL ..... 31 PRIVATE CLINIC ..... 32 PRIVATE DOCTOR ..... 33 OTHER PRIVATE MEDICAL _____36 (SPECIFY) OTHER_____96 (SPECIFY) DON'T KNOW 98	
N7	When did the (most recent) injury/poisoning incident happen?	DAYS AGO ..... 1 ☐☐ WEEKS AGO..... 2 ☐☐	
N8	Was this incident work-related?	YES .....1 NO 2	
N9	Where did the incident occur?	HOME/RESIDENCE.....01 FARM/RANCH.....02 STREET/HIGHWAY .....03 TRADE/SERVICE AREA.....04 INDUSTRIAL /CONSTRUCTION AREA .05 OTHER WORKSITE/OFFICE.....06 SCHOOL .....07 OTHER PUBLIC BUILDING.....08 SPORTS/ATHLETIC AREA.....09 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
N10	What type of activity were you doing at the time of the incident? VITAL ACTIVITIES INCLUDE EATING, SLEEPING, AND PERSONAL GROOMING.	SPORTS .....01 LEISURE .....02 TRAVELING .....03 PAID WORK .....04 UNPAID WORK .....05 EDUCATIONAL ACTIVITY .....06 VITAL ACTIVITY .....07 OTHER _____ 96 (SPECIFY)	
N11	Did this incident result from an unintentional event or an intentional act?	UNINTENTIONAL .....1 INTENTIONAL ACT 2	
N11 A	Who caused this incident?	SELF .....11 **FAMILY** WIFE .....21 MOTHER-IN-LAW .....22 FATHER IN-LAW .....23 OTHER IN-LAW .....24 MOTHER .....25 FATHER .....26 OTHER FAMILY .....27 **NON-FAMILY** FRIEND/ACQUAINTANCE .....31 NEIGHBOR .....32 CLASSMATE .....33 TEACHER .....34 EMPLOYER .....35 COLLEAGUE .....36 TEAMMATE/COMPETITOR .....37 STRANGER .....38 ANIMAL .....39 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
N12	What was the cause of the injury?	**TRANSPORTATION-BASED** MOTOR VEHICLE.....11 PEDESTRIAN-VEHICLE CRASH .....12 MOTORCYCLE.....13 BICYCLE.....14 TRACTOR.....15 OTHER TRANSPORTATION.....16 _____ (SPECIFY) **NON-TRANSPORTATION BASED** FALL (LESS THAN 1 METER).....21 FALL (1 METER OR MORE).....22 STRUCK OR CRUSHED .....23 GUNSHOT .....24 AGRICULTURAL STAB/CUT.....25 OTHER STAB/CUT.....26 FIRE/BURN.....27 ELECTROCUTION.....28 SMOKE INHALATION.....29 POISONING.....30 SCALD .....31 SEXUAL VIOLENCE.....32 OTHER PHYSICAL ASSAULT.....33 NEAR-DROWNING.....34 ANIMAL RELATED .....35 OTHER _____ 96 (SPECIFY)	→ N14
N13	Were you injured as the driver of a vehicle, a passenger in a vehicle, a bicycle rider, or as a pedestrian?	DRIVER OF A VEHICLE .....1 PASSENGER IN A VEHICLE.....2 BICYCLE RIDER.....3 PEDESTRIAN.....4	
N14	As a result of this incident, did you miss any days of work or school?	YES .....1 NO 2	→ N16
N15	How many days?	DAYS OF WORK..... 1 [ ][ ] DAYS OF SCHOOL..... 2 [ ][ ]	

N16	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse. MEASURE BLOOD PRESSURE AND PULSE ON RIGHT ARM AND RECORD RESULTS.	BLOOD PRESSURE SYSTOLIC..... [ ][ ][ ] DIASTOLIC..... [ ][ ][ ] BLOOD PRESSURE NOT MEASURED .....995 PULSE..... [ ][ ][ ] PULSE NOT MEASURED 995	

SECTION P. MENTAL HEALTH

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES				SKIP
P1	I'm going to read some statements that describe how people sometimes feel. Please tell me how many days last week you felt this way, if any.	LESS THAN 1 DAY (RARELY OR NONE OF THE TIME)	1-2 DAYS (SOME OR A LITTLE OF THE TIME)	3-4 DAYS (OCCASIONALLY OR A MODERATE AMOUNT OF TIME)	5-7 DAYS MOST OR ALL OF THE TIME	
	a. I was bothered by things that usually don't bother me.	1	2	3	4	
	b. I did not feel like eating; my appetite was poor.	1	2	3	4	
	c. I felt that I could not shake off the blues.	1	2	3	4	
	d. I felt that I was just as good as other people.	1	2	3	4	
	e. I had trouble keeping my mind on what I was doing.	1	2	3	4	
	f. I felt depressed.	1	2	3	4	
	g. I felt that everything I did was an effort.	1	2	3	4	
	h. I felt hopeful about the future.	1	2	3	4	
	i. I thought my life had been a failure.	1	2	3	4	
	j. I felt fearful.	1	2	3	4	
	k. My sleep was restless.	1	2	3	4	
	l. I was happy.	1	2	3	4	
	m. I talked less than usual.	1	2	3	4	
	n. I felt lonely.	1	2	3	4	
	o. People were unfriendly.	1	2	3	4	
	p. I enjoyed life.	1	2	3	4	
	q. I had crying spells.	1	2	3	4	
	r. I felt sad.	1	2	3	4	
	s. I felt that people disliked me.	1	2	3	4	
	t. I could not get going.	1	2	3	4	

SECTION Q. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q1	Are you currently married or living with a woman?	YES, CURRENTLY MARRIED ..... 1 YES, LIVING WITH A WOMAN ..... 2 NO, NOT IN UNION 3	→Q8A
Q6	Do you currently have a regular sexual partner, an occasional sexual partner, or no sexual partners?	REGULAR PARTNER(S) ONLY ..... 1 OCCASIONAL PARTNER(S) ONLY ..... 2 REGULAR AND OCCASIONAL PARTNERS ..... 3 NO SEXUAL PARTNER 4	
Q7	Have you ever been married or lived with a woman?	YES, FORMERLY MARRIED .....1 YES, LIVED WITH A WOMAN .....2 NO 3	→Q9 →Q16
Q8	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED .....1 DIVORCED .....2 SEPARATED 3	→Q9
Q8A	RECORD THE WIFE/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF SHE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NUMBER..... [ ][ ]	
Q9	Have you been married or lived with a woman only once, or more than once?	ONCE .....1 MORE THAN ONCE 2	
Q10	CHECK Q9: MARRIED/LIVED WITH A WOMAN ONLY ONCE: In what month and year did you start living with your wife/partner? MARRIED/LIVED WITH A WOMAN MORE THAN ONCE: Now we will talk about your first wife/partner. In what month and year did you start living with her?	MONTH ..... [ ][ ] DON'T KNOW MONTH .....98 YEAR ..... [ ][ ][ ][ ] DON'T KNOW YEAR 9998	→Q16
Q11	How old were you when you started living with her?	AGE..... [ ][ ]	
Q16	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues. How old were you when you first had sexual intercourse with a woman (if ever)?	NEVER .....00 AGE IN YEARS..... [ ][ ] FIRST TIME WHEN STARTED LIVING WITH (FIRST) WIFE/PARTNER.....95	→Q48
Q17	When was the last time you had sexual intercourse with a woman? RECORD 'YEARS AGO' ONLY IF LAST INTERCOURSE WAS ONE OR MORE YEARS AGO. IF 12 MONTHS OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO ..... 1 [ ][ ] WEEKS AGO ..... 2 [ ][ ] MONTHS AGO..... 3 [ ][ ] YEARS AGO ..... 4 [ ][ ]	→Q48
Q18	The last time you had sexual intercourse with a woman, was a condom used?	YES .....1 NO 2	→Q24

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q19	What was the main reason you used a condom on that occasion?	RESPONDENT WANTED TO PREVENT STD/HIV ....01 RESPONDENT WANTED TO PREVENT PREGNANCY ....02 RESPONDENT WANTED TO PREVENT BOTH STD/HIV AND PREGNANCY ....03 DID NOT TRUST PARTNER/FELT PARTNER HAD OTHER PARTNERS ....04 PARTNER REQUESTED/INSISTED ....05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
Q24	What is your relationship to the woman with whom you last had sex? IF WOMAN IS "GIRLFRIEND" OR "FIANCÉE", ASK: Was your girlfriend/fiancée living with you when you last had sex with her? IF YES, CIRCLE '01'. IF NO, CIRCLE '02'.	SPOUSE/COHABITING PARTNER ....01 WOMAN IS GIRLFRIEND/FIANCÉE ....02 OTHER FRIEND ....03 CASUAL ACQUAINTANCE ....04 RELATIVE ....05 COMMERCIAL SEX WORKER ....06 OTHER _____ 96 (SPECIFY)	→ Q26
Q25	For how long have you had sexual relations with this woman?	DAYS .... 1 [ ][ ] WEEKS .... 2 [ ][ ] MONTHS .... 3 [ ][ ] YEARS .... 4 [ ][ ]	
Q26	Have you had sex with any other woman in the last 12 months?	YES ....1 NO 2	→ Q45
Q27	The last time you had sexual intercourse with another woman, was a condom used?	YES ....1 NO 2	→ Q33
Q28	What was the main reason you used a condom on that occasion?	RESPONDENT WANTED TO PREVENT STD/HIV ....01 RESPONDENT WANTED TO PREVENT PREGNANCY ....02 RESPONDENT WANTED TO PREVENT BOTH STD/HIV AND PREGNANCY ....03 DID NOT TRUST PARTNER/FELT PARTNER HAD OTHER PARTNERS ....04 PARTNER REQUESTED/INSISTED ....05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
Q33	What is your relationship to this woman? IF WOMAN IS "GIRLFRIEND" OR "FIANCÉE", ASK: Was your girlfriend/fiancée living with you when you last had sex with her? IF YES, CIRCLE '01' IF NO, CIRCLE '02'	SPOUSE/COHABITING PARTNER ....01 WOMAN IS GIRLFRIEND/FIANCÉE ....02 OTHER FRIEND ....03 CASUAL ACQUAINTANCE ....04 RELATIVE ....05 COMMERCIAL SEX WORKER ....06 OTHER _____ 96 (SPECIFY)	→ Q35
Q34	For how long have you had sexual relations with this woman?	DAYS .... 1 [ ][ ] WEEKS .... 2 [ ][ ] MONTHS .... 3 [ ][ ] YEARS .... 4 [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q35	Other than these two women, have you had sex with any other woman in the last 12 months?	YES .....1 NO 2	→ Q45
Q36	The last time you had sexual intercourse with this third woman, was a condom used?	YES .....1 NO 2	→ Q42
Q37	What was the main reason you used a condom on that occasion?	RESPONDENT WANTED TO PREVENT STD/HIV ..... 01 RESPONDENT WANTED TO PREVENT A PREGNANCY .....02 RESPONDENT WANTED TO PREVENT BOTH STD/HIV AND PREGNANCY .....03 DID NOT TRUST PARTNER/FELT PARTNER HAD OTHER PARTNERS.....04 PARTNER REQUESTED/INSISTED .....05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
Q42	What is your relationship to this woman? IF WOMAN IS "GIRLFRIEND" OR "FIANCÉE", ASK: Was your girlfriend/fiancée living with you when you last had sex with her? IF YES, CIRCLE '01' IF NO, CIRCLE '02'	SPOUSE/COHABITING PARTNER.....01 WOMAN IS GIRLFRIEND/FIANCÉE .....02 OTHER FRIEND .....03 CASUAL ACQUAINTANCE .....04 RELATIVE.....05 COMMERCIAL SEX WORKER .....06 OTHER _____ 96 (SPECIFY)	→ Q44
Q43	For how long have you had sexual relations with this woman?	DAYS ..... 1 [ ][ ] WEEKS ..... 2 [ ][ ] MONTHS ..... 3 [ ][ ] YEARS ..... 4 [ ][ ]	
Q44	In total, with how many different women have you had sex in the last 12 months?	NUMBER OF PARTNERS ..... [ ][ ]	
Q45	Have you ever paid for sex?	YES .....1 NO 2	→ Q48
Q46	How long ago was the last time you paid for sex? RECORD 'YEARS AGO' ONLY IF LAST PAID SEX WAS ONE OR MORE YEARS AGO. IF 12 MONTHS OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO ..... 1 [ ][ ] WEEKS AGO ..... 2 [ ][ ] MONTHS AGO..... 3 [ ][ ] YEARS AGO ..... 4 [ ][ ]	→ Q48
Q47	The last time that you paid for sex, was a condom used on that occasion?	YES .....1 NO 2	
Q48	Do you know of a place where a person can get condoms?	YES .....1 NO 2	→ Q52

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q50	Where is that? IF SOURCE IS HOSPITAL, HEALTH CENTER OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) PROBE: Any other place? RECORD ALL PLACES MENTIONED.	*PUBLIC SECTOR* INSTITUTE HOSPITAL .....A OBLAST HOSPITAL.....B CITY HOSPTIAL..... C RAYON HOSPTIAL ..... D LOCAL OUTPATIENT CLINIC. .....E WORKPLACE.....F SVP ..... G GOVT HEALTH CENTER ..... H FAMILY PLANNING CLINIC .....I OTHER PUBLIC _____ J (SPECIFY) *PRIVATE MEDICAL SECTOR* PRIVATE HOSPITAL .....K PRIVATE CLINIC .....L PRIVATE DOCTOR .....M FAMILY PLANNING CLINIC ..... N OTHER PRIVATE MEDICAL _____O (SPECIFY) OTHER SOURCE PHARMACY .....P SHOP/MARKETPLACE .....Q FRIEND/RELATIVE .....R OTHER _____ X (SPECIFY) DON'T KNOW .....Z	
Q51	If you wanted to, could you yourself get a condom?	YES .....1 NO .....2 DON'T KNOW/UNSURE.....8	
Q52	Have you been circumcised?	YES .....1 NO 2	

SECTION R. HIV/AIDS AND OTHER STIs

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
R1	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES.....1 NO 2	→ R24
R2	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES.....1 NO .....2 DON'T KNOW.....8	→ R9
R3	What can a person do? Anything else? RECORD ALL WAYS MENTIONED.	ABSTAIN FROM SEX..... A USE CONDOMS..... B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER..... C LIMIT NUMBER OF SEXUAL PARTNERS .. D AVOID SEX WITH PROSTITUTES..... E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS .....F AVOID SEX WITH HOMOSEXUALS ..... G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY..... H AVOID BLOOD TRANSFUSIONS.....I AVOID INJECTIONS .....J AVOID SHARING RAZORS/NEEDLES ..... K AVOID KISSING.....L AVOID MOSQUITO BITES.....M SEEK PROTECTION FROM TRADITIONAL PRACTITIONER ..... N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW.....Z	
R4	Can people reduce their chances of getting the AIDS virus by having just one uninfected sex partner who has no other partners?	YES.....1 NO .....2 DON'T KNOW.....8	
R5	Can a person get the AIDS virus from mosquito bites?	YES.....1 NO .....2 DON'T KNOW.....8	
R6	Can people reduce their chances of getting the AIDS virus by using a condom every time they have sex?	YES.....1 NO .....2 DON'T KNOW.....8	
R7	Can a person get the AIDS virus by sharing food with a person who has AIDS?	YES.....1 NO .....2 DON'T KNOW.....8	
R8	Can a person get the AIDS virus by getting injections with a needle that was already used by someone else?	YES.....1 NO .....2 DON'T KNOW.....8	
R9	Is it possible for a healthy-looking person to have the AIDS virus?	YES.....1 NO .....2 DON'T KNOW.....8	
R10	Can the virus that causes AIDS be transmitted from a mother to a child?	YES.....1 NO .....2 DON'T KNOW.....8	→ R13
R11	When can the virus that causes AIDS be transmitted from a mother to a child?	YES NO DK	
	During pregnancy?	DURING PREG 1 2 8	
	During delivery?	DURING DELIVERY..... 1 2 8	
	By breastfeeding?	BREASTFEEDING 1 2 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
R13	CHECK Q1: YES, CURRENTLY MARRIED/LIVING WITH A WOMAN ☐ NO, NOT IN UNION ☐		→ R15
R14	Have you ever talked with (your wife/the woman you are living with) about ways to prevent getting the virus that causes AIDS?	YES.....1 NO 2	
R15	In your opinion, is it acceptable or unacceptable for AIDS to be discussed: on the radio? on the TV? in newspapers?	ACCEPT-ABLE / NOT ACCEPT-ABLE ON THE RADIO..... 1 2 ON THE TV..... 1 2 IN NEWSPAPERS..... 1 2	
R16	If a member of your family got infected with the virus that causes AIDS, would you want it to remain a secret or not?	YES.....1 NO .....2 DON'T KNOW/UNSURE 8	
R19	Should children age 12-14 years be taught about using a condom to avoid AIDS?	YES.....1 NO .....2 DON'T KNOW/UNSURE/DEPENDS.....8	
R20	Have you ever been tested to see if you have the AIDS virus?	YES.....1 NO .....2 DON'T KNOW.....8	→ R24
R21	Would you want to be tested for the AIDS virus?	YES.....1 NO .....2 DK/NOT SURE/DEPENDS.....8	
R22	Do you know a place where you could go to get an AIDS test?	YES.....1 NO 2	
R24	(Apart from AIDS,) have you heard about (other) infections that can be transmitted through sexual contact?	YES.....1 NO 2	→ R33
R31	CHECK Q16: HAS HAD SEXUAL INTERCOURSE ☐ HAS NOT HAD SEXUAL INTERCOURSE ☐		→ U1
R32	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a sexually-transmitted disease?	YES.....1 NO .....2 DON'T KNOW.....8	
R33	Sometimes, men experience a discharge from their penis. During the last 12 months, have you had a discharge from your penis?	YES.....1 NO .....2 DON'T KNOW.....8	
R34	Sometimes men have a sore or ulcer on or near their penis. During the last 12 months, have you had a sore or ulcer on or near your penis?	YES.....1 NO .....2 DON'T KNOW.....8	
R35	CHECK R32-R34: HAS HAD AN INFECTION ☐ HAS NOT HAD AN INFECTION OR DOES NOT KNOW ☐		→ U1
R36	The last time you had (PROBLEM(S) FROM R32/R33/R34), did you seek any kind of advice or treatment?	YES.....1 NO 2	→ R38

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
R37	The last time you had (PROBLEM(S) FROM R32/R33/R34), did you do any of the following? Did you....	YES NO	
	Go to a clinic, hospital or private doctor?	CLINIC/HOSPITAL 1 2	
	Consult a traditional healer?	TRADITIONAL HEALER.....1 2	
	Seek advice or buy medicines in a shop or pharmacy?	SHOP/PHARMACY 1 2	
	Ask for advice from friends or relatives?	FRIENDS/RELATIVES 1 2	
R38	When you had (PROBLEM(S) FROM R32/R33/R34), did you inform the person(s) with whom you were having sex?	YES.....1 NO .....2 SOME/ NOT ALL .....3 DID NOT HAVE A PARTNER.....4	→ U1
R39	When you had (PROBLEM(S) FROM R32/R33/R34), did you do anything to avoid infecting your sexual partner(s)?	YES.....1 NO .....2 PARTNER(S) ALREADY INFECTED.....3	→ U1
R40	What did you do to avoid infecting your partner(s)? Did you....	YES NO	
	Use medicine?	USE MEDICINE.....1 2	
	Stop having sex?	STOP SEX..... 1 2	
	Use a condom when having sex?	USE CONDOM.....1 2	

SECTION U. ATTITUDES TOWARD WOMEN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES					SKIP
U1	In a couple, who do you think should have the greater say in each of the following decisions: the husband, the wife or both equally:		HUSBAND	WIFE	BOTH	DON'T KNOW/ DEPENDS	
	a) making large household purchases?	a.	1	2	3	8	
	b) making small daily household purchases?	b.	1	2	3	8	
	c) deciding when to visit family, friends or relatives?	c.	1	2	3	8	
	d) deciding what to do with the money she earns for her work?	d.	1	2	3	8	
	e) deciding how many children to have and when to have them?	e.	1	2	3	8	
U2	Sometimes a husband is annoyed or angered by things that his wife/partner does. In your opinion, is a husband justified in hitting or beating his wife in the following situations...			YES	NO	DON'T KNOW/ DEPENDS	
	a) If she goes out without telling him?	1.			1	2	
	b) If she neglects the children?			8			
	c) If she argues with him?	2.			1	2	
				8			
	d) If she refuses to have sex with him?	3.			1	2	
	e) If she burns the food?			8			
		4.			1	2	
				8			
		5.			1	2	
				8			
U3	Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband if...			YES	NO	DON'T KNOW/ DEPENDS	
	a) She is tired and not in the mood?	a.		1	2	8	
	b) She has recently given birth?	b.		1	2	8	
	c) She knows her husband has sex with other women?	c.		1	2	8	
	d) She knows her husband has a sexually transmitted disease?	d.		1	2	8	
U4	Do you think that if a woman refuses to have sex with her husband when he wants her to, he has the right to...			YES	NO	DON'T KNOW/ DEPENDS	
	a) Get angry and reprimand her?	a.		1	2	8	
	b) Refuse to give her money or other means of financial support?	b.		1	2	8	
	c) Use force and have sex with her even if she doesn't want to?	c.		1	2	8	
	d) Go and have sex with another woman?	d.		1	2	8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

U5

AVERAGE THE DIASTOLIC AND AVERAGE THE SYSTOLIC BLOOD PRESSURE FROM THE TWO BLOOD PRESSURE MEASUREMENTS. COMPLETE THE BLOOD PRESSURE REPORTING FORM AND GIVE IT TO THE RESPONDENT ACCORDING TO THE BLOOD PRESSURE TRAINING PROTOCOL. USE THE TABLE BELOW TO MAKE THE CORRECT REFERRAL.

Adult Blood Pressure Value Box

	DIASTOLIC					
	<84	85-89	90-99	100-109	110-119	≥120
SYSTOLIC						
<129	1	2	3	4	5	6
130-139	2	2	3	4	5	6
140-159	3	3	3	4	5	6
160-179	4	4	4	4	5	6
180-209	5	5	5	5	5	6
≥210	6	6	6	6	6	6

THANK THE RESPONDENT FOR HIS COOPERATION AND REASSURE HIM ABOUT THE CONFIDENTIALITY OF HIS ANSWERS.

U6	RECORD THE TIME.	HOUR ..... [ ][ ] MINUTES ..... [ ][ ]	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR:_____DATE:

EDITOR'S OBSERVATIONS

NAME OF EDITOR:_____DATE:

CONSENT FORMS FOR BIODATA COLLECTION IN THE 2002 UHES

APPENDIX ***F***

1. Anemia Testing of Children – Total Sample
2. Venous Blood and Vaginal Swabs – Tashkent City
3. Venous Blood – Ferghana Oblast

1. CONSENT FORM FOR CHILDHOOD ANEMIA

CHILDHOOD ANEMIA

CONSENT PROCESS STATEMENT

UZBEKISTAN HEALTH EXAMINATION SURVEY

Sample No.

As part of this survey, we are studying anemia among children under five years of age. We request your cooperation in this regard. This will assist the Government of Uzbekistan to develop programs to prevent and treat anemia among children.

Anemia is a serious health problem in Uzbekistan. An important cause of anemia in Uzbekistan is poor nutrition. However, if a person is found to have anemia, the person can be given iron/folic tablets to cure the disease.

If you decide to have your child tested for anemia, we will request that you allow us to take a few drops of blood from your child's finger for the test. We will use disposable sterile instruments that are clean and completely safe. Your child will feel a slight pinch when the blood is drawn. There is essentially no risk to your child from this procedure. The result(s) of the test(s) will be given to you right after the blood is taken. The results of the tests will be kept confidential and will not be shown to other persons. Are there any questions about the blood testing that you would like to ask me now?

May I ask you now to give your consent to have the test(s) conducted on your child? If you decide not to have the test(s), it is your right, and we will respect your decision. Now please tell me whether you agree to allow me to test your child.

AFTER EXPLAINING THE ABOVE, IF THE RESPONDANT AGREES TO HAVE FINGERPRICK BLOOD DRAWN FOR ANEMIA TESTING HAVE THE RESPONDANT SIGN ON THE LINE 52 OF BIOMARKERS DATA COLLECTION FORM FOR EACH CHILD.

2. BROCHURE AND CONSENT FORM FOR VENOUS BLOOD AND VAGINAL SWABS TASHKENT CITY ONLY

2002 Uzbekistan Health Examination Survey

Dear Survey Participant,

The Uzbekistan Health Examination Survey (UHES) is used to identify many of the health problems that affect our country. It combines a home interview with health tests. Through continued research, health promotion, and disease prevention, health problems such as heart disease may decline.

We will use the data gathered in the UHES to assess the number of people with certain health problems. This information will be used to track the progress in combating disease throughout Uzbekistan. Tracking our progress helps to prevent future disease.

It is the willingness of the people that makes this survey work. The important information collected during the 2002 Uzbekistan Health Examination Survey will be used to assess the health needs of the entire nation as we face the challenges of the 21st century. If you are selected for the UHES, I urge you to participate.

What tests will be conducted?	Who will be asked to participate?	What will be done?
Blood Pressure **(Risk Factor for Heart Disease and Stroke)**	**Women 15-49 years** **Men 15-59 years**	**Blood pressure reading**
Body Measurements	**Women 15-49 years** **Men 15-59 years** **Children 0-59 months**	**Measurements of** **and weight**
Chlamydia **(Sexually Transmitted Disease)**	**Women(ever married) 15-49 years**	**Vaginal swab**
Total Cholesterol **High Density Lipoproteins (HDL)** **Low Density Lipoproteins (LDL)** **Triglycerides** **(Risk Factors for Heart Disease)**	**Women 15-49 years** **Men 15-59 years**	**Blood from vein**
Hemoglobin (for anemia)	**Children 0-59 months**	**Blood from finger prick**
Hemoglobin A_{1C} (for diabetes)	**Women 15-49 years** **Men 15-59 years**	**Blood from vein**
Lead	**Children 0-59 months**	**Blood from finger prick**
Hepatitis B (surface antigen) **For chronic hepatitis and cirrhosis)**	**Women 15-49 years** **Men 15-59 years**	**Blood from vein**

Questions You May Have About the UHES

Are the tests I may be asked to take safe?

We care about your safety. During the administration of these tests, you will be examined by a doctor. The tests and measurements we conduct have been selected because they are safe. We would like to point out that as in any similar examination, there may be some slight discomfort or soreness resulting from the collection of a blood specimen.

Do I have to participate?

Participation in all portions of the study is completely voluntary. This means that you may decline to participate in all or part of the study. There is no penalty for refusing to participate. Of course, we hope that everyone will participate, because without your participation, our information on the health of the nation may not be accurate. The results of your examination will be used to add to the results of all others participating in this important study and will contribute to a better understanding of the health of all persons living in Uzbekistan.

What are the benefits of my participation?

You will receive the results of important health tests that will help you to understand your own health status. Although we will give you the results of this test, we will not be able to provide you with any further testing or treatment. In addition, you are given the opportunity to make an important contribution to the health of a nation by combining the results of your examination with those of thousand of other Uzbeks.

How can I receive the results of my tests?

The results of the anemia tests, the lead tests, the blood pressure and body measurements will be given to you immediately, with the exception of the chlamydia test as indicated below. If you so choose, the results of your tests can be mailed to your doctor.

Who else will find out about my results?

If you would like, we will also send a copy of your test results to your doctor. In order for us to give this information to your doctor, you must indicate this on the last page of this brochure. Other than you and, if you choose, your doctor, nobody will be given the results from your tests.

How can I receive the results of my chlamydia test?

To ensure maximum privacy, the results of your chlamydia exam will only be mailed directly to your doctor, and not to your home. If you do not wish your doctor to receive these results, you may decline to participate in this exam. If you wish, you may instead choose to take the examination and not have results sent to your physician.

What will happen to my specimens after they are tested?

They will be destroyed after analysis. Your confidentiality will always be strictly maintained, and no link will be made between your results and your identity.

SP Name:_____ ID#:_____

Your participation in this examination is completely voluntary. You may choose to participate in all, some, or none of the examinations. If you wish to decline to take an examination, you may do so by checking the appropriate box listed below. Please check the box next to any test that you wish to participate in.

I WISH TO TAKE THE FOLLOWING EXAMINATION(S):

- ☐ Cholesterol
- ☐ HDL and LDL
- ☐ Hemoglobin A1C
- ☐ Triglycerides
- ☐ Hepatitis B
- ☐ Lead
- ☐ Chlamydia

SAMPLE PERSON 18 YEARS AND OLDER:

I have read the attached brochure explaining the nature and purpose of the UHES and I voluntarily consent to participate in all portions of the examination, except for those portions which are noted above, and for information regarding me to be released only as described in this brochure.

_____

Signature of sample person if 18 years or older Date

PARENT OR GUARDIAN OF SAMPLE PERSON UNDER 18 YEARS OF AGE:

I have read the attached brochure explaining the nature and purpose of the UHES and give my voluntary permission for my child to participate in all portions of the examination, except for those portions which are noted above, and for information regarding my child to be released only as described in this brochure.

_____

Signature of parent or guardian Date

- For women age 15 – 49: to ensure privacy, chlamydia test results will only be mailed directly to your doctor. Would you like your chlamydia results sent to your doctor?

  ☐ NO, I would not like my chlamydia test result to be sent to my doctor.

  ☐ YES, I would like my chlamydia test result to be sent to my doctor.

  Name of Doctor: _____

  Address:_____
  _____

- Would you like your other test results to be mailed to your home?

  ☐ NO, I would not like my other examination results sent to my home.

  ☐ YES, I would like my other examination results sent to my home (except for chlamydia test for women; the result will be sent only to the respondent's doctor of choice).

  Address:_____
  _____

- If you wish, we will also provide a copy of your other test results to your doctor in addition to sending them to you at your home. If you wish us to send a copy of your results to your doctor, please put your doctor's name in the space provided.

  ☐ NO, I would not like my other examination results sent to my doctor.

  ☐ YES, I would like my other examination results sent to my doctor at the address given:

  NAME OF DOCTOR _____

  ADDRESS _____

Information contained on this form which would permit identification of any individual has been collected with a guarantee that it will be held in strict confidence, will be used only for purposes stated for this study, and will not be disclosed or released to others without the consent of the individual or establishment

3. CONSENT FORM FOR CHILDHOOD ANEMIA AND VITAMIN A TESTING IN FERGHANA OBLAST

CONSENT PROCESS STATEMENT
UZBEKISTAN HEALTH EXAMINATION SURVEY

Sample No. _____ ID#_____

As part of this survey, we are studying anemia and vitamin A among children under five years of age in the Ferghana Oblast. We request your cooperation in this regard. This will assist the Government of Uzbekistan to develop programs to prevent and treat anemia and Vitamin A deficiencies among children.

Anemia and vitamin A deficiency are a serious health problems caused by poor nutrition. If a person is found to have anemia, the person can be given iron folic tablets to cure the disease. Vitamin A deficiency can be treated with vitamin A supplements to the diet.

If you decide to have your child tested for anemia we will request that you allow us to take a few drops of blood from your child's finger. For vitamin A testing we will need an additional small vile from your child's vein. We will use disposable sterile instruments that are clean and completely safe. Your child will feel a slight pinch when the blood is drawn. There is essentially no risk to your child from this procedure. The result(s) of the anemia test(s) will be given to you right after the blood is taken. The result(s) of the vitamin A testing will be mailed to you in 2 or 3 months. We can also send the results of the vitamin A to your physician if you choose. All the results of the tests will be kept confidential and will not be shown to other persons. Are there any questions about the blood testing that you would like to ask me now?

May I ask you now to give your consent to have the test(s) conducted on your child? If you decide not to have the test(s), it is your right, and we will respect your decision. Will you sign an agreement to allow me to test your child.

I AGREE FOR _____ TO GIVE A (FEW) DROP(S) OF BLOOD FOR ANEMIA TESTING
(NAME OF RESPONDENT)

Signature of responsible person _____

I AGREE FOR _____ TO GIVE A VILE OF BLOOD FOR VITAMIN A TESTING
(NAME OF RESPONDENT)

Signature of responsible person _____

Address to which results should be sent _____

I would like results to be sent to my doctor: _____
Name of physician _____
Address of physician _____

Signature of Interviewer_____ Date:_____