The 2010 Armenia Demographic and Health Survey (2010 ADHS) is a nationally representative survey of 5,922 women and 1,584 men age 15-49. The 2010 ADHS is the third in a series of DHS surveys conducted in Armenia. The 2010 ADHS was undertaken to provide estimates for key population indicators and trends including fertility; abortion; nuptiality; awareness and use of family planning methods; sexual activity; infant and child mortality; childhood immunization levels; maternal and child health; infant and young children feeding practices; nutritional status of young children; and awareness and behavior regarding HIV/AIDS and other sexually transmitted infections. The 2010 ADHS also collected information on a number of health topics related to access and utilization of primary health care services; health care costs; and health insurance coverage for women and men age 15-49. Additionally, in all surveyed households the 2010 ADHS collected information about child labor for children age 5-17 and about child discipline for one randomly selected child age 2-14. Fieldwork for the 2010 ADHS was conducted from October to December 2010. Height and weight measurements were collected for children under age 5 in all households in the survey.

The 2010 ADHS was conducted by the National Statistical Service and the Ministry of Health (MOH) of the republic of Armenia. ICF International provided technical support for the survey through the USAID-sponsored MEASURE DHS Project. The U.S. Agency for International Development (USAID)/Armenia provided funding, and the United Nations Children’s Fund (UNICEF)/Armenia, the Joint United Nations Programme on HIV/AIDS (UNAIDS)/Armenia, and the UN Population Fund (UNFPA)/Armenia supported the survey through in-kind contributions.

CHARACTERISTICS OF RESPONDENTS

More than 60 percent of Armenians live in urban areas. Yerevan, the capital, accounts for more than one-third of all respondents. All households in Armenia have electricity and the vast majority of households have water piped into the dwelling/yard/plot, a flush toilet, a finished floor, and a color television. Household ownership of most durable goods has increased during the past five years; in particular, the ownership of computers and mobile phones has increased dramatically. Twenty-nine percent of households had computers in 2010 compared with 9 percent in 2005, and 87 percent of households used mobile phones in 2010 compared with 33 percent in 2005. The proportion of households using natural gas for cooking has nearly doubled during the past five years; eight in ten households relied on natural gas for cooking in 2010 compared with four in ten in 2005.

All but a handful of women and men age 15-49 in the sample have attended school. Approximately four in ten women and five in ten men have reached only secondary school, 28 percent of women and 19 percent of men have reached secondary-special school, and 30 percent each of women and men have attended university. Yerevan residents have a clear educational advantage over the rest of the country: nearly half of women and men in Yerevan have some university education. Thirty-five percent of women and 74 percent of men were employed in the 12 months prior to the survey.

FERTILITY

Fertility rates. A useful index of the level of fertility in a country is the total fertility rate (TFR), which indicates the number of children a woman would have if she passed through the childbearing years at the current age-specific fertility rates. The TFR was 1.7 children per woman for the three years preceding the 2010 ADHS. This is below replacement level.

The TFR is only slightly lower in urban areas (1.6 children per woman) than in rural areas (1.8 children per woman).

Time trends. The total fertility rate of 1.7 is identical to the TFR measured in the 2000 ADHS and the 2005 ADHS for the three years preceding that survey, indicating no recent change has occurred in overall fertility levels.
Age at first birth. Research has shown that childbearing in the teenage years is associated with increased social and health problems for both mother and child. The survey found that only 4 percent of women age 15-19 had given birth. Almost all births to teenage women occurred at ages 18 and 19. The median age at first birth among women age 25-49 is 22.5 years, slightly higher than 22.1 years in 2005 and 21.8 years in 2000; moreover, it seems to be increasing among younger women age 25-29 (24.1 years for this age group in 2010 compared with 22.5 years in 2005 and 21.4 years in 2000).

Birth intervals. Research has shown that children born soon after a previous birth, especially those born within two years of the previous birth, have an increased risk of morbidity and mortality. In Armenia, 28 percent of second and higher order births occur after a birth interval of less than two years. The proportion of closely spaced births declines as education of the mother increases.

Fertility preferences. Among currently married women in the 2010 ADHS, 58 percent reported that they either wanted no more children or were sterilized compared with 71 percent in the 2005 ADHS. Another 25 percent wanted another child, 8 percent were infecund (unable to conceive), and 9 percent were undecided about having another child.

CONTRACEPTION

Knowledge. Knowledge of contraception is widespread in Armenia. Among married women and men, knowledge of at least one method is universal (100 percent). On average, married women reported knowing eight and married men reported knowing seven methods of contraception.

Current use. Over half (55 percent) of married women reported that they were currently using a contraceptive method: 27 percent were using modern methods, and 28 percent were using traditional methods. The most widely used method among currently married women is, by far, withdrawal (25 percent), followed by the male condom (15 percent) and the IUD (10 percent).

The difference in the overall use of contraception among married women in urban and rural areas is not large (58 percent and 51 percent, respectively). Nevertheless, urban women and women with more education show distinctive behavior patterns by relying more on modern methods (in particular, the condom) and less on traditional methods (in particular, withdrawal). There is considerable variation in contraceptive use by region. Yerevan and Lori have the highest rates of use of modern methods (42 percent and 36 percent, respectively) compared with 10 to 11 percent in Tavush and Vayots Dzor.

As expected, contraceptive use, especially the use of modern methods, increases with educational attainment. Women with higher levels of education are twice as likely to use a modern method as women with only secondary or basic education (39 percent compared with 20 to 21 percent). This difference is mainly due to the increased use of the IUD and male condom. Wealth also correlates positively with women’s contraceptive use; modern contraceptive use increases markedly as household wealth increases, from 21 percent among married women in the lowest wealth quintile to 38 percent among those in the highest wealth quintile.

Trends in current use. There has been a slight decrease in the use of any method of contraception by currently married women since the 2000 ADHS, when 61 percent of currently married women reported using a contraceptive method compared with 55 percent in 2010. Use of modern contraceptive methods has increased from 22 percent in 2000 to 27 percent in 2010. In particular, the percentage of women using male condoms has increased from 7 percent in 2000 to 15 percent in 2010. The use of traditional methods has decreased over the past 10 years (from 38 percent in 2000 down to 28 percent in 2010). This is particularly true of the use of withdrawal (32 percent in 2000 to 25 percent in 2010).

Method failure. A key concern for the family planning program is the rate at which users discontinue use of contraception and their reasons for stopping. Overall, 23 percent of all women who started using a contraceptive method in the past five years discontinued use within 12 months of adopting the method; 3 percent switched to another method. The first-year discontinuation rate is lowest among users of the IUD (4 percent) and highest among users of withdrawal (28 percent). Approximately 15 percent of users of condoms discontinued using the method during the first year of use. With regard
to the reasons for stopping use, users were more likely to discontinue during the first year of use because of method failure, i.e., becoming pregnant while using a method.

**Reasons for using traditional methods.** As mentioned earlier, traditional methods account for about half of all contraceptive use and have high failure rates. The most common reason, given by 60 percent of women, was that the traditional method is the husband’s or partner’s choice, the same percentage as reported in 2005 (59 percent). However, in 2010, 31 percent say that fear of or experience with side effects was a concern, and 20 percent say that the cost of modern methods was a factor in their choice. Fewer women cite these reasons than in 2005 when 47 and 37 percent of women reported fear of side effects or cost, respectively. Similarly, fewer women in 2010 feel that they lack knowledge about modern methods (10 percent) or that they are difficult to find or are not readily available (11 percent), than in 2005 when 20 and 26 percent, respectively, gave these reasons for using a traditional method.

**Future use.** Among married women who were not using contraception, 23 percent reported that they intended use in the future, a decrease from 29 percent in the 2005 ADHS and 36 percent in the 2000 ADHS.

**Source of supply.** Most modern method users obtained their methods from the private sector (61 percent), primarily pharmacies (59 percent). Only one-third of users in 2010 (37 percent) received their method from the public sector compared with 53 percent in 2005. However, the public sector is still the primary source for almost all users of the IUD (96 percent), the second most common modern method after the male condom. Among condom and pill users, the vast majority reported obtaining their most recent supply from a pharmacy (96 and 94 percent, respectively).

### INDUCED ABORTION

In Armenia, as in all of the former Soviet Union, induced abortion has been a primary means of fertility control for many years.

**Abortion rates.** The use of abortion can be measured by the total abortion rate (TAR), which indicates the number of abortions a woman would have in her lifetime if she passed through her childbearing years at the current age-specific abortion rates. The survey estimate of the TAR indicates that a woman in Armenia will have an average of 0.8 abortions during her lifetime. This rate is considerably lower than the comparable rates of 1.8 in the 2005 ADHS and 2.6 in the 2000 ADHS. The proportion of pregnancies ending in induced abortion has declined over the past ten years, from 55 percent in 2000 to 45 percent in 2005 and to 29 percent in 2010.

**Abortion differentials.** In 2010, the TAR for rural women was almost the same as that for urban women (0.9 versus 0.8), while in 2005, the rates were 2.2 and 1.5, respectively.

**Contraceptive failure and abortion.** When formulating policies designed to improve the reproductive health of women, it is useful to know the contraceptive behavior of women who resort to abortion as a means of fertility control. Almost half (48 percent) of all abortions are to women who use contraception but experience method failure, a large proportion of whom are using withdrawal. Greater access to and use of more reliable methods would reduce the incidence of abortion.

### CHILDHOOD MORTALITY

**Trends in childhood mortality.** Data from the 2010 ADHS indicate that childhood mortality has declined over the past ten years. For example, infant mortality has declined from 24 deaths for the period 2001-2005 to 13 deaths for the period 2006-2010. There has been a similar decline in under-5 mortality, from 27 deaths to 16 deaths per 1,000 births. However, the data show that there was very little change in infant and under-5 mortality rates during the 10-15-year period prior to the survey.

**Differentials in infant mortality.** The survey found levels of infant mortality to be higher in rural areas than in urban areas. Infant mortality levels are also higher among children of women with lower levels of education than among children of women with higher than secondary-special education.

### MATERNAL AND CHILD HEALTH AND NUTRITION

**Antenatal care.** Armenia has a well-developed health care system with an extensive infrastructure of facilities that provide maternal
care services. Overall, the levels of antenatal care and delivery assistance are high. Ninety-nine percent of mothers receive antenatal care from professional health providers, mostly gynecologists. There is very little urban-rural distinction in antenatal care received from doctors. Ninety-three percent of pregnant women make four or more antenatal care visits, which is a much higher percentage than that recorded in the 2005 ADHS (71 percent) and in the 2000 ADHS (65 percent). Although there is some urban-rural differential in the percentage of women making four or more ANC visits in 2010 (96 and 89 percent, respectively), the gap is much smaller than that reported in the 2005 ADHS (82 and 53 percent, respectively) and in the 2000 ADHS (82 and 45 percent, respectively).

In terms of content of care, all women (100 percent) said they were weighed, had their blood pressure tested, and gave blood and urine specimens. Two-thirds of women had their blood taken for HIV testing (67 percent). However, the provision of information about danger signs that women may experience during pregnancy is lagging (57 percent).

Delivery care. All births are delivered under the supervision of a trained medical professional, and 99 percent of births occur at health facilities. Home deliveries are somewhat more common in Gegharkunik region (2 percent).

Childhood vaccinations. The health cards maintained at the health facilities are the primary source of vaccination data. Almost all children age 18-29 months have received vaccinations for BCG, DPT1, and polio 1. Coverage is also high for the second and third doses of both DPT and polio. Overall, 92 percent of children age 18-29 months have received all basic WHO-recommended vaccinations (BCG, measles, and three doses each of DPT and polio). The results of the 2010 ADHS indicate that, in the past five years, there has been a substantial increase in vaccination coverage with all basic WHO-recommended vaccinations. The increase is notable among children age 18-29 months, who were only 78 percent fully immunized by the date of the interview in 2005 but 92 percent immunized by 2010. The same is true for vaccinations recommended by the Ministry of Health (MOH) (all basic vaccinations and three doses of the hepatitis B vaccine): although 74 percent of those age 18-29 months were fully vaccinated by the date of the interview in 2005, this compares with 87 percent in 2010.

Treatment of diarrhea. The 2010 ADHS asked about the treatment of children who suffered from diarrhea during the two weeks preceding the survey. Overall, 90 percent of children under age 5 with diarrhea in the two weeks before the survey were given either oral rehydration salts or increased fluids (oral rehydration therapy). For only 4 percent of children with diarrhea, mothers reported that they engaged in the harmful practice of curtailing fluid intake. Food intake is curtailed more than fluid intake during episodes of diarrhea: 29 percent of children with diarrhea were given somewhat less food than usual, and 15 percent were given much less food than usual. The proportion of children with diarrhea who received more to drink than usual has increased substantially in the past five years, from 43 percent in the 2005 ADHS to 65 percent in the 2010 ADHS. Knowledge of ORS packets has increased, from 70 percent in the 2005 ADHS to 75 percent in 2010. The greatest increase is seen among rural mothers (64 percent of rural mothers knew of ORS in 2005, compared with 76 percent in 2010).

Breastfeeding. Ninety-seven percent of children born in the five years preceding the survey were breastfed at some time. Although the median duration of breastfeeding is 10.9 months, the durations of exclusive and predominant breastfeeding (breastfeeding plus plain water) are short (1.8 months and 4.2 months, respectively).

Nutritional status. In the 2010 ADHS, the height and weight of children under age 5 were measured. The data are used to determine the nutritional status of children, i.e., the percentage of children who are stunted (measured in terms of height-for-age), wasted (weight-for-height), or underweight (weight-for-age). Stunting is a sign of chronic, long-term undernutrition; wasting is a sign of acute, short-term undernutrition; and underweight is a composite measure that takes into account both chronic and acute undernutrition.

In a well-nourished population of children, it is expected that only slightly more than 2 percent of children will be stunted or wasted. In Armenia, however, 19 percent of children under age 5 are stunted, and 4 percent are wasted. Overall, 5 percent of children are underweight.
Conversely, 15 percent of children are overweight (weight-for-height above +2 SD), which is about seven times more than what one would expect in a normally distributed population.

Overall, there has been a slight increase in the percentage of children who are stunted and underweight since 2000. The percentage of children under 5 who are stunted has increased from 17 percent in 2000 to 18 percent in 2005 and then to 19 percent in 2010. The proportion of children under age 5 who are underweight has also increased; from 2 percent in 2000 to 5 percent in 2010. The proportion of children who are wasted went up to 5 percent in 2005 but has dropped, to 4 percent, in 2010. The proportion of children who are overweight has increased in the past five years, from 11 percent in 2005 to 15 percent in 2010.

**HIV/AIDS AND OTHER SEXUALLY TRANSMITTED INFECTIONS**

The currently low level of HIV infection in Armenia provides a unique window of opportunity for early targeted interventions to prevent further spread of the disease.

**Knowledge and attitudes.** Almost all respondents reported that they have heard of HIV/AIDS. Roughly 70 to 80 percent of women and 80 to 87 percent of men know about the three main ways to reduce its transmission: abstinence, being faithful to one uninfected partner, and using condoms. Nevertheless, only one in five women (20 percent) and one in six men (16 percent) have "comprehensive" knowledge about HIV, i.e., they know that using condoms consistently and having one faithful partner can reduce the chance of getting HIV, that a healthy-looking person can have the AIDS virus, and that HIV cannot be transmitted by mosquito bites or by kissing someone infected with the AIDS virus. Over the past five years, the percentage of women who have comprehensive knowledge about HIV/AIDS has decreased from 26 percent in 2005 to 20 percent in 2010, and the percentage among men has decreased from 24 to 16 percent over the same period.

Stigma surrounding AIDS is widespread in Armenia. Both women and men tend to express somewhat more accepting attitudes toward HIV-infected relatives than non-relatives. Fewer than three in ten women (29 percent) and 41 percent of men say that they would not want to keep secret a family member’s infection with the AIDS virus, and about half of respondents (49 percent of women and 54 percent of men) say they would be willing to care for a family member with the AIDS virus in their home. Only around one-fifth of respondents say that an HIV-positive teacher should be allowed to continue teaching and only 14 percent of women and 16 percent of men would buy fresh food from a shopkeeper with AIDS. The percentage expressing accepting attitudes on all four measures is low, 1 percent among women and less than 5 percent among men.

**Sexual behavior.** Only 15 percent of men and a negligible fraction of women reported having had more than one sexual partner in the 12 months before the survey. Among men who had multiple partners during the past 12 months, more than half (53 percent) had concurrent sexual partners during the same period. Sexually active men report having an average of 5.8 lifetime sexual partners, about five times the average number of lifetime sexual partners reported by sexually active women (1.0 partner).

**Condom use.** Seven in ten men who had more than one sexual partner in the 12 months preceding the survey reported using a condom at the most recent sexual encounter (72 percent). More than seven in ten young women (72 percent) and more than nine in ten young men (93 percent) know a place where a person can get condoms. The percentage of youth who know a condom source has increased slightly, from 69 to 72 percent among women and has increased substantially, from 62 to 93 percent, among men since 2005.

**OTHER HEALTH ISSUES AND PRIMARY HEALTH CARE**

**Primary doctor.** In the 2010 ADHS, all respondents age 15-49 were asked whether they have chosen a primary doctor. Overall, more than half of women (58 percent) and more than one-third of men (38 percent) have chosen a primary doctor. Among respondents who have a primary doctor, 70 percent of women and 60 percent of men said that their primary doctor

1 For comparison purposes, data from the 2000, 2005, and 2010 ADHS surveys were all re-calculated according to the new 2006 WHO Child Growth reference standards, but restricted to children born to women interviewed with the Woman’s Questionnaire and living with the mother.
specialized in internal and general medicine (a \textit{therapevt} in old Soviet terminology). Fifteen percent of women and 17 percent of men have chosen a family doctor as their primary doctor, with smaller percentages of both women and men choosing a pediatrician or other type of doctor. Nine in ten respondents who had a family doctor as their primary doctor stated that their family doctor worked at an outpatient health facility serving the population from their area of residence. In general, both women and men were satisfied with the services they have received from their family doctor during their most recent visit (97 percent and 99 percent, respectively).

**Visits to a polyclinic or an ambulatory facility.** All respondents age 15-49 were asked about their experiences utilizing primary health care services in the two months preceding the survey. Data show that 76 percent of female respondents and 85 percent of male respondents report that they had no perceived health need that required a visit to a polyclinic or an ambulatory facility in the two months preceding the survey. Only 14 percent of women and 10 percent of men had a perceived health need and went to a polyclinic or an ambulatory facility. The remaining 10 percent of women and 6 percent of men had a perceived health need, but did not go to these facilities. Fifty percent of women and 41 percent of men who had a perceived need but who did not seek care, said that the care was too expensive.

**Smoking.** The proportion of current cigarette smokers among women and men has not changed much in the past five years. For women, the proportion who are current cigarette smokers has remained at 2 percent since 2005. Among men, the proportion of current cigarette smokers is nearly the same as in 2005 (61 percent in 2005 and 63 percent in 2010) but lower than in 2000 (68 percent).

**Breast examinations.** Seventy-eight percent of Armenian women do not know about breast self-examinations (BSE) according to the current survey; this compares with 81 percent in 2005 and 85 percent in 2000. At the same time, only 3 percent of women in 2000 performed BSEs in the three months before the survey, compared with 10 percent in 2005 and 11 percent in 2010. One in six women age 15-49 (15 percent) reported that a health care provider had given them a breast examination (10 percent were given a manual breast examination, 4 percent received a mammogram, and 1 percent a sonogram).

**Pap smear testing.** Coverage is very low. Fewer than one in ten Armenian women age 15-49 (9 percent) ever had a Pap smear, and 7 percent had the test in the three months preceding the survey. These estimates are only slightly higher among women age 30-49 who are recommended under the MOH regulations to undertake a Pap smear test on a regular basis: 13 percent have ever had the test, and 9 percent had the test in the past three months.

**Child Protection**

In 2003, the government of Armenia adopted the National Plan of Action for Protection of Children’s Rights, which is an integral part of the country’s child welfare reforms. The 2010 ADHS Household Questionnaire asked a number of questions to obtain information about child discipline and the prevalence of child labor in Armenia.

**Child Discipline.** The manner in which parents and caretakers discipline children can have long-term consequences for their physical and psychological development and well-being. In an effort to identify the types of child discipline methods used in Armenia, the 2010 ADHS included questions on this topic. The questions on child discipline were asked about one randomly selected child age 2-14 in each household.

Data show that seven in ten children age 2-14 experienced some form of psychological or physical punishment during the 30 days preceding the survey. Approximately one-fifth of children (22 percent) experienced only non-violent discipline, and two-thirds of children (66 percent) experienced psychological aggression. Forty-two percent of children experienced any physical punishment and 4 percent experienced severe physical punishment. Despite the fact that physical punishment is common, overall, only 3 percent of Armenian mothers or the most knowledgeable caretakers interviewed in the ADHS believe that in order to bring up a child properly, the child needs to be physically punished.

**Child Labor.** The 2010 ADHS Household Questionnaire asked a set of questions to obtain information about the prevalence of child labor in Armenia. Child labor is defined as the involvement of children age 5-14 in labor activi-
ties: (1) children age 5-11 who during the past week did at least one hour of economic activity or at least 28 hours of domestic chores and (2) children age 12-14 who during the past week did at least 14 hours of economic activity or at least 28 hours of domestic chores. Overall, 4 percent of Armenian children age 5-14 are involved in child labor. Most of these children work in family businesses; overall, 3 percent of children age 5-14 worked for a family business during the week preceding the survey. Children living in Aragatsotn and Shirak were more likely to be involved in child labor during the reference period than children in any other region (8 and 7 percent, respectively).