

# FACT SHEET, MAHARASHTRA

## NATIONAL FAMILY HEALTH SURVEY, 1999

### Sample Size

Households.....	5,830
Ever-married women age 15–49 .....	5,391

### Characteristics of Households

Percent with electricity.....	82.1
Percent within 15 minutes of safe water supply <sup>1</sup> .....	67.0
Percent with flush toilet .....	41.8
Percent with no toilet facility .....	54.0
Percent using govt. health facilities for sickness .....	21.3
Percent using iodized salt (at least 15 ppm) .....	60.1

### Characteristics of Women<sup>2</sup>

Percent urban .....	41.3
Percent illiterate .....	44.6
Percent completed high school and above.....	17.7
Percent Hindu.....	80.1
Percent Muslim .....	9.8
Percent Buddhist/Neo-Buddhist.....	6.8
Percent regularly exposed to mass media.....	70.4
Percent working in the past 12 months.....	55.7

### Status of Women<sup>2</sup>

Percent involved in decisions about own health.....	49.9
Percent with control over some money .....	64.2

### Marriage

Percent never married among women age 15–19.....	70.4
Median age at marriage among women age 20–49 .....	16.7

### Fertility and Fertility Preferences

Total fertility rate (for the past 3 years).....	2.52
Mean number of children ever born to women 40–49 .....	3.77
Median age at first birth among women age 20–49 .....	19.2
Percent of births <sup>3</sup> of order 3 and above .....	39.1
Mean ideal number of children <sup>4</sup> .....	2.3
Percent of women with 2 living children wanting another child.....	15.8

### Current Contraceptive Use<sup>5</sup>

Any method.....	60.9
Any modern method.....	59.9
Pill.....	1.7
IUD .....	1.9
Condom.....	4.0
Female sterilization .....	48.5
Male sterilization.....	3.7
Any traditional method .....	1.0
Rhythm/safe period .....	0.7
Withdrawal.....	0.3
Other traditional or modern method.....	0.1

### Unmet Need for Family Planning<sup>5</sup>

Percent with unmet need for family planning .....	13.0
Percent with unmet need for spacing.....	8.1

<sup>1</sup>Water from pipes, hand pump, covered well, or tanker truck

<sup>2</sup>Ever-married women age 15–49

<sup>3</sup>For births in the past 3 years

<sup>4</sup>Excluding women giving non-numeric responses

<sup>5</sup>Among currently married women age 15–49

### Quality of Family Planning Services<sup>6</sup>

Percent told about side effects of method .....	21.5
Percent who received follow-up services.....	71.5

### Childhood Mortality

Infant mortality rate <sup>7</sup> .....	43.7
Under-five mortality rate <sup>7</sup> .....	58.1

### Safe Motherhood and Women's Reproductive Health

Percent of births <sup>8</sup> within 24 months of previous birth.....	30.7
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Percent of births<sup>3</sup> whose mothers received:

Antenatal check-up from a health professional .....	90.0
Antenatal check-up in first trimester .....	46.7
Two or more tetanus toxoid injections.....	74.9
Iron and folic acid tablets or syrup.....	84.8

Percent of births<sup>3</sup> whose mothers were assisted at delivery by a:

Doctor .....	46.9
ANM/nurse/midwife/LHV .....	12.6
Traditional birth attendant.....	19.8

Percent<sup>5</sup> reporting at least one reproductive health problem .....

40.0
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### Awareness of AIDS

Percent of women <sup>2</sup> who have heard of AIDS.....	61.1
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### Child Health

Percent of children age 0–3 months exclusively breastfed.....	38.5
Median duration of breastfeeding (months).....	23.8

Percent of children<sup>9</sup> who received vaccinations:

BCG .....	93.7
DPT (3 doses) .....	89.4
Polio (3 doses) .....	90.8
Measles .....	84.3
All vaccinations .....	78.4

Percent of children<sup>10</sup> with diarrhoea in the past

2 weeks who received oral rehydration salts (ORS) .....	33.2
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Percent of children<sup>10</sup> with acute respiratory infection in the past 2 weeks taken to a health facility or provider .....

84.6
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### Nutrition

Percent of women with anaemia <sup>11</sup> .....	48.5
Percent of women with moderate/severe anaemia <sup>11</sup> .....	17.0
Percent of children age 6–35 months with anaemia <sup>11</sup> .....	76.0
Percent of children age 6–35 months with moderate/severe anaemia <sup>11</sup> .....	51.9
Percent of children chronically undernourished (stunted) <sup>12</sup> .....	39.9
Percent of children acutely undernourished (wasted) <sup>12</sup> .....	21.2
Percent of children underweight <sup>12</sup> .....	49.6

<sup>6</sup>For current users of modern methods

<sup>7</sup>For the 5 years preceding the survey (1994–98)

<sup>8</sup>For births in the past 5 years (excluding first births)

<sup>9</sup>Children age 12–23 months

<sup>10</sup>Children under 3 years

<sup>11</sup>Anaemia—haemoglobin level < 11.0 grams/decilitre (g/dl) for children and pregnant women and < 12.0 g/dl for nonpregnant women. Moderate/severe anaemia—haemoglobin level < 10.0 g/dl.

<sup>12</sup>Stunting assessed by height-for-age, wasting assessed by weight-for-height, underweight assessed by weight-for-age

## SUMMARY OF FINDINGS

The second National Family Health Survey (NFHS-2), conducted in 1998–99, provides information on fertility, mortality, family planning, and important aspects of health, nutrition, and health care. The International Institute for Population Sciences (IIPS) coordinated the survey, which collected information from a nationally representative sample of more than 90,000 ever-married women age 15–49 from 26 states of India. These states comprise more than 99 percent of India's population.

IIPS also coordinated the first National Family Health Survey (NFHS-1) in 1992–93. Most of the types of information collected in NFHS-2 were also collected in the earlier survey, making it possible to identify trends over the period between the two surveys. In addition, the NFHS-2 questionnaire covered a number of new or expanded topics with important policy implications, such as reproductive health, women's autonomy, domestic violence, women's nutrition, anaemia, and salt iodization.

In Maharashtra, NFHS-2 field staff collected information from 5,830 households between 22 March 1999 and 20 June 1999 and interviewed 5,391 eligible women in these households. In addition, the survey collected information on 1,810 children born to eligible women in the three years preceding the survey. One health investigator on each survey team measured the height and weight of eligible women and young children and took blood samples to assess the prevalence of anaemia. The health investigators also measured lead levels in the blood of young children in Mumbai.

### **Background Characteristics of the Survey Population**

Fifty-seven percent of the population lives in rural areas. The age distribution is typical of populations in which fertility has fallen recently, with relatively low proportions of the population in the younger and older age groups. Thirty-four percent of the population is below 15 years of age, and only 5 percent is age 65 or older.

The sex ratio of the *de facto* population is 947 females per 1,000 males for Maharashtra as a whole, and is higher in rural areas (985) than in urban areas (898), suggesting that more men than women have migrated to urban areas. The sex ratio at birth for the seven-year period preceding NFHS-2 is 935, which is at the lower boundary of the range of normal biological sex ratios. This low sex ratio at birth could be due to the practice of sex-selective abortions and/or a greater undercount of female births than male births. During the seven-year period preceding NFHS-2, the sex ratio at birth declined from 960 during 1992–95 to 902 during 1996–98, suggesting a growing role of sex-selective abortions in the sex ratio imbalance in Maharashtra.

The survey provides information on a variety of demographic and socioeconomic background characteristics of sample households. In the state as a whole, 80 percent of household heads are Hindu, 10 percent are Muslim, and 7 percent are Buddhist/Neo-Buddhist. Hindus live disproportionately in rural areas, where they comprise 88 percent of household heads, whereas Muslims live disproportionately in urban areas where they comprise 18 percent of household heads. Thirteen percent of household heads belong to scheduled castes, 23 percent belong to other backward classes (OBCs), and 10 percent belong to scheduled tribes. More than half of household heads do not belong to any of these groups.

Questions about housing conditions and access to various amenities indicate some improvements since the time of NFHS-1. Eighty-two percent of households in Maharashtra have electricity, up from 74 percent in NFHS-1. Fifty-four percent of households do not have any toilet facility, compared with 59 percent in NFHS-1. The percentage of households using piped drinking water hardly changed between the two surveys (69 percent in NFHS-1 and 68 percent in NFHS-2). In Mumbai, almost all households have access to piped water, but 41 percent of households in slum areas get their water from a public tap, while 94 percent of households in non-slum areas have water piped into their residence/yard/plot. Similarly, 95 percent of households in slum areas and almost all households in non-slum areas have access to a flush toilet, but 80 percent of households in slum areas use a public flush toilet while the proportion of such households in non-slum areas is only 20 percent.

In Maharashtra more than four out of every five males (83 percent) and three out of every five females (61 percent) age six and above are literate, an increase of 4–5 percentage points from literacy rates at the time of NFHS-1. Eighty-nine percent of children age 6–14 currently attend school, a substantial increase from 82 percent in NFHS-1. The proportion of children attending school has increased for all age groups, particularly for girls, but girls still lag behind boys in school attendance at every age, and the differences become more pronounced with increasing age. At age 6–10, 93 percent of boys and 90 percent girls attend school, but by age 15–17, 65 percent of boys attend school, compared with only 54 percent of girls. In Mumbai, at age 6–10, 93 percent children from slums and 99 percent children from non-slum areas attend school, but by age 15–17 this gap widens (only 54 percent of children from slum areas attend school while in non-slum areas 87 percent attend school).

Age at marriage in Maharashtra is relatively low. The median age at marriage for women age 25–49 is 16 years, the same as the all-India average. Thirty percent of women age 15–19 are already married, the same as the national average. Three-fifths of women age 20–49 and nearly half (48 percent) of younger women age 20–24 in Maharashtra get married before reaching the legal minimum age of 18 years. On average, women are about five and half years younger than the men they marry.

As part of an increasing emphasis on gender issues in NFHS-2, the survey asked women about their participation in household decisionmaking. In Maharashtra, almost all women (93 percent) are involved in decisionmaking on at least one of four selected topics, but only half of women are involved in making decisions about their own health care. More than half of all women (56 percent) do work other than their own housework, and 65 percent of women who do work, work for cash. Nearly two-thirds (63 percent) of women who earn cash are involved in the decision on how the money that they earn should be used. Thirty-nine percent of working women report that their earnings constitute at least half of total family earnings, including 10 percent who report that the family is entirely dependent on their earnings. One-fifth of women from both slum and non-slum areas of Mumbai are engaged in work other than their own household work. Among working women in Mumbai, 91 percent (89 percent in slums and 92 percent in non-slum areas) work for cash. Almost two-thirds (62–63 percent) of women earning cash in both slum and non-slum areas contribute at least half of total family earnings, and about 20 percent in both slum and non-slum areas report that the family is entirely dependent on their earnings.

## **Fertility and Family Planning**

Fertility continues to decline in Maharashtra. At current fertility levels, women will have an average of 2.5 children each throughout their childbearing years. The total fertility rate is down from 2.9 children per woman at the time of NFHS-1, and is also much lower than the national total fertility rate of 2.9 children per women in NFHS-2. Two out of every five births (39 percent) in Maharashtra in the three years preceding the survey were of order three or higher.

Efforts to encourage the trend toward lower fertility might usefully focus on groups within the population that have higher fertility than average. In Maharashtra, illiterate women, women from households with a low standard of living, Muslim women, and women from scheduled tribes have much higher fertility than other women. Rural women and women from slum areas of Mumbai have on an average half a child more than urban women in the state as a whole. Under current fertility levels, women in non-slum areas of Mumbai will have on average only 1.4 children in their reproductive period. The median age at first childbirth is 19 years among women age 25–49. Early childbearing is still prevalent in Maharashtra, as can be seen from the survey finding that women age 15–19 account for 26 percent of total fertility. Studies in India and elsewhere have shown that health and mortality risks, both for women themselves and for their children, increase when women give birth at very young ages. Family planning programmes focusing on women in this age group could make a significant impact on maternal and child health and could also reduce overall fertility in the state.

The appropriate design of family planning programmes depends, to a large extent, on women's fertility preferences. Women may have large families because they want many children, or they may prefer small families but, for a variety of reasons, may have more children than they actually want. For 7 percent of births during the three years preceding NFHS-2, mothers report that they did not want the pregnancy at all, and for another 13 percent of births, mothers say that they would have preferred to delay the pregnancy. When asked about their preferred family size, 55 percent of women who already have three living children and 44 percent of women who have four or more living children said that they consider the two-child family to be ideal. This gap between women's actual fertility experience and what they want or would consider ideal suggests a need for expanded and improved family welfare services to help women achieve their fertility goals. A strong preference for sons is indicated by women in Maharashtra. More than one-quarter (27 percent) of women want more sons than daughters, but only a negligible proportion (2 percent) want more daughters than sons. Moreover, the average ideal number of sons (1.2 per woman) is higher than the average ideal number of daughters (0.9 per woman). Eighty-five percent of women want at least one son, compared with 79 percent who want at least one daughter.

If some women in Maharashtra are not using family planning, it is not due to lack of knowledge. Knowledge of contraception is nearly universal. More than 99 percent of women know about at least one of the modern methods, and 99 percent know about female sterilization. While knowledge of sterilization was virtually universal even at the time of NFHS-1, knowledge of each of the three modern spacing methods—the pill, IUD, and condom—has grown by 9–17 percentage points since NFHS-1. Knowledge of traditional methods, at 35 percent, is moderate in Maharashtra.

Sixty-one percent of married women are currently using some method of contraception, an increase from 54 percent at the time of NFHS-1, and much higher than the NFHS-2 national level of 48 percent. In all, 49 percent of currently married women are sterilized, up from 40 percent at the time of NFHS-1. By contrast, only 4 percent of women report that their husbands are sterilized, down from 6 percent in NFHS-1. Four percent of women report that their husbands use condoms, and 2 percent each use the IUD and the pill. Only 1 percent of women report that they are currently using traditional methods. Traditional method users are found to be using mostly the rhythm method (0.7 percent) rather than withdrawal (0.3 percent). Surprisingly, contraceptive prevalence is slightly higher in rural areas (63 percent) than in urban areas (59 percent). The method-mix used by urban and rural women is very different, however. Female sterilization is by far the most popular method in rural areas, used by 83 percent of current contraceptive users. In urban areas, female sterilization is also the most popular method used but it is used by only 75 percent of contraceptive users. Urban women are more than twice as likely (12 percent) to use a modern temporary method as rural women (5 percent), and they are also more likely to use a traditional method (2 percent) than rural women (0.4 percent).

Contraceptive use is slightly lower in Mumbai (57 percent) than in both rural areas of Maharashtra (63 percent) and urban areas of Maharashtra overall (59 percent). Within Mumbai, contraceptive use is much higher in non-slum areas (63 percent) than in slum areas (52 percent).

There are slight variations in contraceptive prevalence among socioeconomic groups. Contraceptive prevalence is considerably less than the state average among Muslim women (49 percent), Christian women (53 percent), women from households with a low standard of living (55 percent), women from slum households (52 percent), women who have completed only middle school (51 percent), and women belonging to scheduled tribes (54 percent). Use of modern spacing methods—pills, IUDs, and condoms—is relatively high among women who have completed at least high school (25 percent), women in non-slum areas of Mumbai (19 percent), and women from households with a high standard of living (17 percent). By contrast, use of modern spacing methods is very low among illiterate women and women living in households with a low standard of living (1 percent each). Surprisingly, in slum areas of Mumbai, use of modern spacing methods is considerable (11 percent)

Contraceptive use rises steadily with age, peaking at 81 percent for women age 30–34 and leveling out thereafter. Use also increases with the number of living children, to a maximum of 81–82 percent among women with three or more children. A strong preference for sons is evident for women at every parity. Women who have one or more sons are consistently more likely to use contraception than are women who have the same number of children but have only daughters. For example, 79 percent of women with two sons and no daughters use some method of contraception, compared with only 35 percent of women with two daughters and no sons. The adoption of sterilization increases even more sharply with the number of sons. For example, among women with three children, 92 percent with three sons have adopted female or male sterilization, compared with only 65 percent of women with one son and 23 percent with no sons.

In Maharashtra, 8 percent of currently married are not using contraception but say that they want to wait at least two years before having another child. Another 5 percent are not using contraception although they do not want any more children. These women are described as having an ‘unmet need’ for family planning. The level of unmet need in Maharashtra (13 percent) is somewhat lower than the level of unmet need for the country as a whole (16 percent).

Unmet need is highest for younger women and women with one or two living children or no living children, who have a strong interest in spacing their births. Muslim women and women in slum areas of Mumbai also have a relatively high unmet need (21–22 percent). These results underscore the need for strategies that provide spacing as well as terminal contraceptive methods in order to satisfy the fertility preferences of women in different socio-cultural groups and to meet the changing needs of women over their lifecycle.

For many years, the Government of India has been using electronic and other mass media to promote family planning. Exposure to media is moderately high in Maharashtra where 94 percent of rural respondents live in villages that are electrified. Among the different types of media, television has the broadest reach across all categories of women. Overall, 62 percent of ever-married women watch television at least once a week, and about one-third each are regularly exposed to the radio (36 percent) and to newspapers or magazines (32 percent). Nevertheless, about 30 percent of women are not regularly exposed to television, radio, or other types of media. Sixty-two percent saw or heard a family planning message in the media during the few months preceding the survey. Television (52 percent), followed by wall paintings or hoardings (38 percent), are the primary sources of these messages. Exposure to family planning messages is relatively low among disadvantaged socioeconomic groups, however. Family planning messages reach only 30 percent of women from households with a low standard of living, 36 percent of illiterate women, and 39 percent of women from scheduled tribes.

Three-fourths (75 percent) of women who use modern contraception obtained their method from a government hospital or other source in the public sector. Only 21 percent obtained their method from the private medical sector and 2 percent obtained their method from a shop. The private medical sector is the major source for pills, IUDs, and condoms, however. Even for IUD private hospitals and doctors account for 63 percent of total use. The private medical sector plays a larger role in urban areas (where it is the source of modern methods for 35 percent of users) than in rural areas (where it is the source of modern methods for 13 percent of users).

An important indication of the quality of family planning services is the information that women receive when they obtain contraception and the extent to which they receive follow-up services after accepting contraception. In Maharashtra, only one-fifth (19 percent) of users of modern contraceptives who were motivated by someone to use their method were told about any other method by that person. Moreover, at the time of adopting a method, only 22 percent of all users of modern methods were told by a health or family planning worker about possible side effects of the method they adopted. Seventy-two percent of users of modern contraceptive methods, however, received follow-up services after accepting the method.

From the information provided in NFHS-2, a picture emerges of good progress in Maharashtra on some aspects of demographic change, but not on others. Fertility in the state is low but still above the replacement level, most women are married before reaching the legal minimum age at marriage, and women have their first birth early (at around age 19). Contraceptive prevalence is high, but most women use contraception only when they have completed their childbearing. Son preference continues to have a very strong influence on women's contraceptive use, especially on their use of terminal methods.

## **Infant and Child Mortality**

NFHS-2 provides estimates of infant and child mortality and factors associated with the survival of young children. During the five years preceding the survey, the infant mortality rate was 44 deaths at age 0–11 months per 1,000 live births, the child mortality rate was 15 deaths at age 1–4 years per 1,000 children reaching age one, and the under-five mortality rate was 58 per 1,000 live births. These rates are all lower in NFHS-2 than in NFHS-1, indicating that infant and child mortality in Maharashtra has improved in the six years between the two surveys. Although the infant mortality rate in Maharashtra (44) is much lower than the all-India infant mortality rate of 68, Maharashtra continues to lag behind Kerala (with an IMR at 16) and Goa (with an IMR at 37) in terms of this important indicator of development and family welfare. Overall, 1 in every 23 children born during the five years before NFHS-2 died within the first year of life, and 1 in every 17 children died before reaching age five. Child-survival programmes might usefully focus on specific groups of children with particularly high infant and child mortality rates, such as children who live in rural areas, children whose mothers are illiterate, children from scheduled tribes, and children from households with a low standard of living. In Mumbai, the infant mortality rate is much lower than the state average even in slum areas (28 per 1,000), but in non-slum areas the infant mortality rate (16) is close to the infant mortality rate in Kerala. In Maharashtra, boys have slightly higher mortality risks than girls before reaching age one, but between age one and four girls have a higher mortality risk than boys.

Efforts to promote child survival also need to concentrate on very young mothers and mothers whose births are closely spaced. Infant mortality is 55 percent higher among children born to mothers under age 20 than to mothers age 20–29. Infant mortality is more than twice as high among children born less than 24 months after a previous birth as among children born after a gap of 24 months or more. Clearly, efforts to expand the use of temporary contraceptive methods for delaying and spacing births would help reduce infant mortality as well as fertility.

## **Health and Health Care**

Promotion of maternal and child health has been one of the most important components of the Reproductive and Child Health Programme of the Government of India. One goal is for each pregnant woman to receive at least three antenatal check-ups plus two tetanus toxoid injections and a full course of iron and folic acid supplementation. In Maharashtra, mothers of 90 percent of births in the three years preceding NFHS-2 received at least one antenatal check-up (much higher than the level of 65 percent for India as a whole), and mothers of 65 percent of births received at least three antenatal check-ups. Mothers received iron and folic acid supplementation during their pregnancies for 85 percent of births and the recommended number of tetanus toxoid vaccinations for 75 percent of births. The proportion of births for which women received the recommended tetanus toxoid vaccines as well as the percentage of women who received an antenatal check-up has increased somewhat from the level in NFHS-1. In addition, NFHS-2 shows that although each of the separate elements of antenatal care services is reaching a substantial proportion of women in Maharashtra, women received all of the recommended types of care in a timely fashion for only 31 percent of births. In this respect, Maharashtra ranks far below top-ranking states such as Goa and Kerala, where more than 60 percent of women receive all the recommended types of antenatal care for their births. In addition, women in disadvantaged socioeconomic groups (such as women from households with a low standard of living, those belonging to scheduled tribes, and illiterate women) are much less likely than other women to be

covered by each of the three recommended types of antenatal care. It is notable, however, that there is very little difference between slum and non-slum areas of Mumbai in coverage of antenatal services. Overall, the above results suggest that much more effort is needed to improve, expand, and sustain the reach of antenatal care programs in Maharashtra.

The Reproductive and Child Health Programme encourages women to deliver in a medical facility or, if at home, with assistance from a trained health professional and to receive at least three check-ups after delivery. During the three years preceding NFHS-2, only 53 percent of births in Maharashtra were delivered in a medical facility, up from 45 percent in NFHS-1. Twenty-five percent were delivered in the woman's own home and 21 percent in her parents' home. Sixty percent of deliveries were assisted by a trained health professional, up from 53 percent in the three years preceding NFHS-1. Half of the remaining deliveries were assisted by a *dai* (a traditional birth attendant). Only 10 percent of deliveries in a woman's own home and 19 percent in her parents' home were assisted by a health professional. Postpartum check-ups are not common for noninstitutional births in Maharashtra. Only 30 percent of births that took place outside a medical facility were followed by a postpartum check-up within two months of delivery. Overall, these results show that Maharashtra is doing much better than the national average on all indicators of maternal care and there have been modest improvements over time. However, professional health services during delivery and in the postpartum period are failing to reach a substantial proportion of women in Maharashtra.

The Government of India recommends that breastfeeding should begin immediately after childbirth and that infants should be exclusively breastfed for about the first four months of life. Although breastfeeding is nearly universal in Maharashtra, not all children begin breastfeeding immediately after birth. Seventy-one percent of children begin breastfeeding immediately after birth—23 percent in the first hour and 48 percent in the first day. Mothers of 66 percent of births squeeze the first milk (colostrum) from the breast before breastfeeding begins, thereby depriving the baby of the natural immunities against diseases that colostrum provides. Only 39 percent of children under four months of age are exclusively breastfed, as recommended at that age. The median duration of breastfeeding is 24 months, or two years, but the median duration of exclusive breastfeeding is only one month. At age 6–9 months, children should be receiving solid or mushy food in addition to breast milk. However, only 31 percent of children age 6–9 months receive the recommended combination of breast milk and solid/mushy foods.

NFHS-2 uses three internationally recognized standards to assess children's nutritional status—weight-for-age, height-for-age, and weight-for-height. Children who are more than two standard deviations below the median of an international reference population are considered underweight (measured in terms of weight-for-age), stunted (height-for-age), or wasted (weight-for-height). 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.

Based on these measures, 50 percent of children under age three years are underweight, 40 percent are stunted, and 21 percent are wasted. There has been only a very small improvement in the nutrition status of children since the time of NFHS-1, when 51 percent of children were underweight, 41 percent were stunted, and 23 percent were wasted. All of the measures of undernutrition are much higher in rural areas than in urban areas and they are particularly high among children from disadvantaged socioeconomic groups (such as children from households

with a low standard of living, children from scheduled tribes, and children of illiterate mothers). Girls are more likely to be underweight, stunted and wasted than boys, but the differences are not sharp. Children from slum areas of Mumbai are more than one and a half times more likely to be underweight and stunted than children from non-slum areas.

Seventy-six percent of children age 6–35 months are anaemic, including 47 percent who are moderately anaemic and 4 percent who are severely anaemic. Although there are some differentials in the prevalence of anaemia among groups, a large majority of children in every subgroup of the population is anaemic.

Child immunization is an important component of child-survival programmes in India, with efforts focussing on six serious but preventable diseases—tuberculosis, diphtheria, pertussis, tetanus, polio, and measles. The objective of the Universal Immunization Programme (UIP), launched in 1985–86, was to extend immunization coverage against these diseases to at least 85 percent of infants by 1990. In Maharashtra, 78 percent of children age 12–23 months are fully vaccinated, another 20 percent have received some but not all of the recommended vaccinations, and only 2 percent have not been vaccinated at all. Ninety-four percent of children age 12–23 months have been vaccinated against tuberculosis, 89 percent have received three doses of DPT vaccine, 91 percent have received three doses of polio vaccine, and 84 percent have received the measles vaccine. Despite the overall high rates of vaccinations in Maharashtra, children from disadvantaged groups are much less likely to be fully vaccinated. More than one out of three children of illiterate mothers and children belonging to the scheduled tribes are not fully vaccinated. Although girls are somewhat less likely than boys to be fully vaccinated, the percentage of girls who have not received any of the required vaccinations is almost the same (about 2 percent) as the percentage of such boys. In slum areas of Mumbai, 81 percent children are fully immunized, a slightly higher coverage rate than in either urban or rural areas overall.

Immunization coverage has improved substantially in Maharashtra since NFHS-1, when 8 percent of children had not received any vaccinations at all. The coverage of each vaccination has also improved. A large part of the expansion in the coverage of the three doses of polio is undoubtedly because of the introduction of the Pulse Polio Immunization Campaign in 1995. The coverage of Polio 0 rose slightly, from 6 percent in NFHS-1 to just 8 percent in NFHS-2. Dropout rates for the series of DPT and polio vaccinations have declined marginally since in NFHS-1, but they are still a problem. Overall, 6–7 percent of children who receive the first dose of either series do not receive the required third dose in the series. It is also recommended that children under age five years should receive oral doses of vitamin A every six months starting at age nine months. In Maharashtra, 65 percent of children age 12–35 months have received vitamin A supplementation, but only 37 percent received a dose of vitamin A in the six months preceding the survey.

NFHS-2 collected information on the prevalence and treatment of three health problems that cause considerable mortality in young children—fever, acute respiratory infection (ARI), and diarrhoea. In Maharashtra, 37 percent of children under age three years were ill with fever during the two weeks preceding the survey, 14 percent were ill with ARI, and 25 percent had diarrhoea. Eighty-five percent of the children who became ill with ARI and 77 percent of the children who had diarrhoea were taken to a health facility or health provider. Despite progress, knowledge of the appropriate treatment of diarrhoea is still not as widespread in Maharashtra as it needs to be. Only 65 percent of mothers of children age less than three years know about oral

rehydration salt (ORS) packets and 42 percent of mothers incorrectly believe that when children are sick with diarrhoea, they should be given less to drink than usual. Only 52 percent of children with diarrhoea received some form of oral rehydration therapy (ORT), including 33 percent who received ORS. The percentage of children with diarrhoea who received ORS has increased considerably since NFHS-1, however, when it was 20 percent.

Childhood lead poisoning is thought to be widespread in India. Lead is a toxicant which is harmful to the development of the brain and central nervous system of young children. In Mumbai, additional blood tests for lead in the blood was administered for children under age three and lead levels in the blood were estimated with the use of LeadCare Analyzers. In Mumbai, 50 percent of children under age three were found to have elevated lead levels in the blood ( $\geq 10.0$   $\mu\text{g/dL}$ ).

Based on a weight-for-height index (the body mass index), two-fifths of women in Maharashtra are undernourished. Nutritional deficiency is particularly serious for women in disadvantaged socioeconomic groups. Women who are undernourished themselves are also much more likely than other women to have children who are undernourished. Overall, 49 percent of women in Maharashtra have some degree of anaemia, and 17 percent are moderately to severely anaemic. Anaemia is a serious problem among women in every population group, with prevalence rates ranging from 37 to 64 percent. Pregnant women are much more likely than nonpregnant women to be moderately to severely anaemic.

In Maharashtra, 60 percent of households use cooking salt that is iodized at the recommended level of 15 parts per million. The proportion of households using adequately iodized cooking salt is, however, much lower in rural households (52 percent), scheduled-tribe households (44 percent), and households with a low standard of living (44 percent). These data suggest that iodine deficiency disorders are likely to be a problem in Maharashtra, especially in disadvantaged households.

Forty percent of currently married women in Maharashtra report some type of reproductive health problem, including abnormal vaginal discharge, symptoms of a urinary tract infection, and pain or bleeding associated with intercourse. Among these women, 53 percent have not sought any advice or treatment. These results suggest a need to expand reproductive health services, as well as information programmes, that encourage women to discuss their problems with a health-care provider.

In recent years, there has been growing concern about domestic violence in India. NFHS-2 found that in Maharashtra, three out of every four of ever-married women (74 percent) accept at least one of six reasons given in the survey questionnaire as a justification for a husband beating his wife, compared with 56 percent in India as a whole. Eighteen percent of ever-married women reported that they have experienced beatings or physical mistreatment since age 15 and 40 percent of these women reported that they experienced such violence in the 12 months preceding the survey. Most of the women that have ever been beaten or physically mistreated have been beaten by their husbands.

The survey collected information on the prevalence of tuberculosis, asthma, malaria, and jaundice among all household members. Disease prevalence based on reports from household heads must be interpreted with caution, however. The survey found that less than half a percent

of the population suffers from tuberculosis, 3 percent suffers from asthma, 4 percent suffered from malaria during the three months preceding the survey, and 2 percent suffered from jaundice during the 12 months preceding the survey. The prevalence of asthma and malaria is higher in rural areas than in urban areas, whereas tuberculosis and jaundice are more prevalent in urban areas.

A large majority of household respondents in Maharashtra (77 percent) said that household members usually go to private hospitals or private doctors for treatment when they get sick. Only 21 percent normally use the public medical sector. Even among households with a low standard of living, only 30 percent normally use the public medical sector when household members become ill. In Maharashtra, 23 percent women received at least one home visit from a health or family planning worker in the 12 months preceding the survey, but most women visited a health facility during that period. NFHS-2 asked women about the quality of care received during the most recent visit to a health facility. Most respondents are generally satisfied with the health care they receive. Almost all women received the service they went for on their last visit. On average, women had to wait about 15 minutes before being served. Almost all women (98 percent) said that the staff spent enough time with them and 85 percent said that the staff talked to them nicely. Eighty-three percent rated the facility as very clean. Ninety-four percent of those who said they needed privacy during the visit said that the staff respected their need for privacy. Ratings of the quality of services are consistently lower for public-sector facilities than for private-sector facilities.

NFHS-2 also collected information on selected lifestyle indicators for household members. According to household respondents, 13 percent of adult men currently smoke, 12 percent of adult men drink alcohol, and 35 percent of adult men chew *paan masala* or tobacco. Alcohol consumption and smoking by adult men is much less common in Maharashtra than in India as a whole, but chewing *paan masala* or tobacco is more common in Maharashtra than in India as a whole. Only negligible proportions of adult women in Maharashtra (less than 1 percent each) smoke or drink alcohol, but 19 percent of adult women chew *paan masala* or tobacco.

Although the spread of HIV/AIDS is a major concern in India, only 61 percent of women in Maharashtra have even heard of AIDS. Awareness of AIDS is particularly low among women from households with a low standard of living, women who are not regularly exposed to any media, women who are illiterate, and scheduled-tribe women. Among women who have heard of AIDS, 77 percent received information about the disease from television and 22 percent from the radio, suggesting that government efforts to promote AIDS awareness through the electronic mass media have achieved some success. However, since exposure to television and radio is not universal, AIDS programmes will have to find innovative ways of reaching women who are not exposed to mass media. Notably, about 17 percent women report received information about AIDS from posters and hoardings. Among women who have heard of AIDS, one-third do not know of any way to avoid infection. NFHS-2 results suggest that health personnel could play a much larger role in promoting AIDS awareness. In Maharashtra, only 7 percent of women who know about AIDS received information about the disease from a health worker.