This chapter presents estimates of levels, trends, and differentials of neonatal, postneonatal, infant, and childhood mortality in Uganda. The data used in the estimation of these mortality rates were collected in the birth history section of the UDHS questionnaire. The section begins with questions about the respondent's childbearing experience, i.e., the number of sons and daughters who live in the household, who live elsewhere, and who have died. Next, for each live birth, information on name, date of birth, sex, whether the birth was single or multiple, and survivorship status was recorded. For living children, information about his/her age and whether the child resided with his/her mother was obtained. For children who had died, the respondent was asked to provide the age at death.

The information presented in this chapter is important not only for the demographic assessment of the country's population, but also in the design and evaluation of health policies and programmes. The reduction of infant and child mortality and the incidence of high-risk pregnancies remain priority targets of the National Health Policy.

8.1 DEFINITIONS, METHODOLOGY AND ASSESSMENT OF DATA QUALITY

The childhood mortality measures presented in this chapter are defined as follows:

| Neonatal mortality: | the probability of dying within the first month of life |
|-------------------------|---|
| Postneonatal mortality: | the arithmetic difference between infant and neonatal mortality |
| Infant mortality: | the probability of dying between birth and the first birthday |
| Child mortality: | the probability of dying between exact age one and the fifth birthday |
| Under-five mortality: | 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 the first birthday.

A retrospective birth history, such as that included in the 2000-2001 UDHS, is susceptible to several possible data collection errors. First, only surviving women age 15-49 were interviewed; therefore, no data are available for children of women who had died. The resulting mortality estimates will be biased if the child mortality of surviving and nonsurviving women differs substantially.

Another possible error is underreporting of events; respondents are likely to forget events that occurred in the past. Omission of infant deaths may take place, especially in cases where deaths occur early in infancy. If such deaths are selectively omitted, the consequence will not only be a lower infant mortality rate (IMR) and neonatal mortality rate (NNMR), but also a low ratio of

neonatal deaths to infant deaths and deaths under seven days to neonatal deaths. On the other hand, misstatement of the date of birth and the age at death will result in distortion of the age pattern of death. This may affect the final indices obtained because of shifting ages above or below the borderline ages.

Seventy percent of all the neonatal births in the 20 years prior to the 2000-2001 UDHS were early neonatal births (Appendix Table C.5). This figure is within the expected range and is the same as was observed in the 1995 UDHS. Furthermore, differences in the reporting of neonatal deaths for the different periods are not considered significant. Thus, there is no evidence of selective underreporting of early neonatal deaths. Similarly, neonatal deaths constituted 41 percent of all infant deaths, which is considered plausible. The rates vary within a narrow range (40 to 43 percent) over the 20 years prior to the survey (see Appendix Table C.6). The proportion of early neonatal deaths ranges between 65 and 72 percent for the periods 15 to 19 and 0 to 4 years prior to the survey.

Another aspect that affects the childhood mortality estimates is the quality of reporting of age at death. In general, these problems are less serious for periods in the recent past than for those in the more distant past. If the ages are misreported, it will bias the estimates, especially if the net effect of the age misreporting results in transference of deaths from one age bracket to another. For example, a net transfer of deaths from under one month to over one month, will affect the estimates of neonatal and postneonatal mortality. To minimise errors in the reporting of age at death, the UDHS interviewers were instructed to record the age at death in days if the death took place within one month after birth, in months if the child died within 24 months, and in years if the child was two years or older. Table C.5 shows age heaping at ages seven and 14 days, which is a sign of approximation to one and two weeks, respectively. Although age heaping at 14 days may not bias any indicator, the heaping at seven days is likely to lead to a lower estimate of early neonatal mortality. Similarly, Table C.6 shows evidence of heaping at age 12 months (an approximation to one year), with the number of reported deaths at 12 months more than twice that at adjacent ages. If some of these deaths actually took place at less than 12 months of age, the transference to age 12 months or older will result in a lower estimate of infant mortality than the actual level. However, age heaping is higher for births in the 10 to 19 years prior to the survey than for the most recent births. Indeed, the reporting on deaths in the five years prior to the survey does not show any heaping. It is therefore not necessary to adjust the data before estimating the mortality levels.

8.2 EARLY CHILDHOOD MORTALITY RATES: LEVELS AND TRENDS

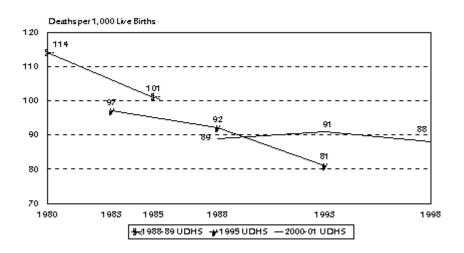
In Uganda, infant mortality rates have been typically computed using two approaches direct and indirect techniques. Direct estimates have been computed from the three UDHS surveys using information collected in the birth history table. On the other hand, lacking the necessary information for producing estimates using direct methods, the population censuses report indirect estimates based on the number of children ever born and children surviving. Although there is no conclusive agreement whether one estimate is better than the other, the underlying assumptions used in the indirect methods can introduce a potential bias in the estimate. Studies have found that for many sub-Saharan countries, even if an appropriate mortality model is applied in the indirect estimation method, the results of this method are consistently higher than those of the direct methods (Sullivan et al., 1994; Adetunji, 1996). In this report, only direct estimates are presented. Various early childhood mortality rates for the 15 years preceding the survey are presented by five-year periods in Table 8.1. For the most recent period (i.e., zero to four years before the survey, reflecting roughly 1996 to 2000), the infant mortality rate is 88 deaths per 1,000 live births. This means that one in every 11 babies born in Uganda do not live to the first birthday. Of those who survive to the first birthday, 69 out of 1,000 would die before reaching their fifth birthday. The overall under-five mortality is estimated at 152 deaths per 1,000 live births, which implies that one in every seven Ugandan babies does not survive to the fifth birthday.

| Neonatal, po | , stneonatal, i | od mortality rat | d under-five | mortality rate | es for five-year |
|----------------------------------|---|--|------------------------------|-----------------------------|--------------------------------------|
| Years preceding the survey | eding the su Neonatal mortality (NN) | rvey, Uganda 2 Postneonatal mortality (PNN) | Infant mortality (1q0) | Child mortality (4q1) | Under-five mortality $({}_{s}q_{0})$ |
| 0-4 5-9 10-14 | 33.2 36.7 36.1 | 55.2 53.9 52.8 | 88.4 90.5 89.0 | 69.2 79.6 81.9 | 151.5 162.9 163.6 |

During the first year of life, the first month is the hardest to survive. With the neonatal mortality rate of 33 deaths per 1,000 live births, nearly 40 percent of infant deaths occur during the first month of life. Although the postneonatal period represents a lower risk of death relative to the earlier period, it still indicates a poor mortality condition among Ugandan infants.

Data in Table 8.1 and Figure 8.1 also show that infant mortality in Uganda has been high and constant in the last 15 years. On the other hand, between the two most recent five-year periods preceding the survey, there has been a decline in child mortality of ten points after being constant for the previous two periods. This decline translates into a decline in under-five mortality.

Figure 8.1 Trends in Infant Mortality



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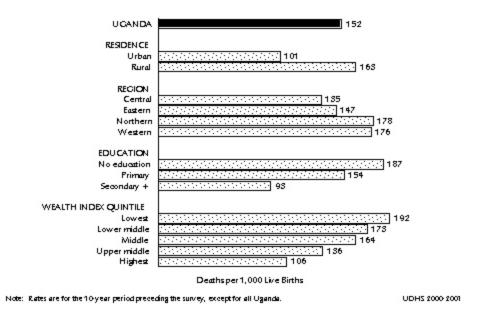
Another way of examining trends is by comparing the 2000-2001 UDHS figures with findings from other sources, such as the 1995 UDHS, which were collected using the same methodology and calculated with the same technique. Comparison of the mortality estimates from the two surveys shows that infant mortality in Uganda has increased by almost 10 percent in the last five years (from 81 to 88). This increase is mainly accounted for by an increase in neonatal mortality from 27 deaths per 1,000 births in the five years before the 1995 survey to 33 deaths per 1,000 for the 2000-2001 survey. Since the child mortality rate in 2000-2001 is similar to that in the 1995 UDHS, the under-five mortality rate in the 2000-2001 UDHS is slightly higher than that in the 1995 UDHS. These figures suggest that overall, childhood mortality in Uganda has remained at roughly the same level during the past ten years.

8.3 EARLY CHILDHOOD MORTALITY BY SOCIOECONOMIC CHARACTERISTICS

Table 8.2 and Figure 8.2 present the early childhood mortality rates in Uganda by socioeconomic characteristics. The rates given in this table refer to the ten-year period preceding the survey. Mortality levels in the urban areas are considerably and consistently lower than in the rural areas. For example, under-five mortality in the rural areas is 60 percent higher than in the urban areas. The urban-rural gap in childhood mortality is most notable for postneonatal mortality, where the probability of dying before the first birthday for rural infants is 80 percent higher than for urban infants.

| Table 8.2 Early childhood mortality by socioeconomic characteristics | | | | | | |
|--|--|--|---|--|--|--|
| Neonatal, postneonatal, infant, child, and under-five mortality rates for the ten-year period preceding the survey, by socioeconomic characteristics, Uganda 2000-2001 | | | | | | |
| Socioeconomic characteristic | Neonatal mortality (NN) | Post- neonatal mortality (PNN) | Infant mortality $(_1q_0)$ | Child mortality $(_4q_1)$ | Under-five mortality $({}_{5}q_{0})$ | |
| Residence Urban Rural | 22.5 36.3 | 32.0 57.4 | 54.5 93.7 | 48.7 77.0 | 100.6 163.4 | |
| Region Central Eastern Northern Western | 29.8 29.5 42.2 41.5 | 42.2 59.8 63.7 56.3 | 71.9 89.3 105.9 97.8 | 68.1 63.7 80.6 87.0 | 135.1 147.3 178.0 176.3 | |
| Education No education Primary Secondary+ | 38.7 34.9 24.5 | 67.8 53.5 28.1 | 106.5 88.4 52.6 | 89.6 72.1 42.7 | 186.5 154.1 93.0 | |
| Wealth index quintile Lowest Lower middle Middle Upper middle Highest Total | 40.1 32.7 38.3 34.6 26.2 34.8 | 65.6 65.6 56.3 46.4 34.0 54.6 | 105.7 98.3 94.5 81.0 60.2 89.4 | 96.3 82.9 76.2 60.0 49.2 73.7 | 191.8 173.0 163.5 136.2 106.4 156.5 | |

Figure 8.2 Under-five Mortality by Selected Background Characteristics



There are marked regional mortality differences in Uganda. The Central and Eastern regions have lower mortality rates than the Northern and Western regions. For under-five mortality, the rate in the Central Region is 135 deaths per 1,000 live births, compared with 178 deaths per 1,000 live births in the Northern Region.

As expected, a mother's education is inversely associated with her child's risk of dying. Children born to a mother with at least secondary education have by far the lowest mortality. Infants born to such women have half the mortality risk of infants whose mother had no education. Similarly, the IMR for children whose mothers had primary education is 17 percent lower than that of infants whose mothers had no education.

Data in Table 8.2 indicate that the effect of mother's education is far greater on postneonatal mortality than neonatal mortality. The neonatal mortality rate of infants whose mother had primary education is 10 percent lower than that of infants whose mother had no education. The corresponding figure for postneonatal mortality is more than 20 percent. The gap in neonatal mortality rates between infants whose mother had secondary or higher education and those with no education is 37 percent, compared with a nearly 60 percent gap in postneonatal mortality.

This pattern of mortality differentials is not unexpected and is undoubtedly due to the fact that causes of neonatal mortality are more biological and less amenable to socioeconomic interventions, whereas causes of postneonatal mortality are more connected to standard of living factors. This means that efforts to reduce infant mortality in Uganda would yield greater results if they were targeted at the mother's and household's behavioural factors. The last panel in Table 8.2 shows that wealth status is inversely associated with childhood mortality. For all measures, the children in the highest quintile have the lowest mortality rates, while those in the lowest quintile have the highest mortality rates.

8.4 EARLY CHILDHOOD MORTALITY BY DEMOGRAPHIC CHARACTERISTICS

The demographic characteristics of both the mother and child have been found to play an important role in the survival probability of children. Table 8.3 presents the demographic characteristics that were considered in the 2000-2001 UDHS, including sex of child, mother's age at birth, birth order, previous birth interval, and birth size.

In Uganda, mortality levels are consistently higher among male children than among their female counterparts. The difference ranges from 7 percent for postneonatal mortality to 14 percent for neonatal mortality.

Although the traditional hypothesis of "too early and too late increases child's mortality" is generally upheld, evidence from Table 8.3 suggests that in Uganda, too early childbearing is much more disadvantageous than too late. The safest age at which to have children is between 20 and 29. Having a child earlier than this increases the child's risk of dying before age one by 29 percent. In comparison, having a child later than this age bracket increases the child's risk of death before one year by about 10 percent.

| Table 8.3 Early childhood mo | rtality by dem | ographic cha | racteristics | | |
|--|-----------------------------------|---|---------------------------------|---|----------------------------------|
| Neonatal, postneonatal, infar preceding the survey, by demo | t, child, and graphic chara | under-five r acteristics, Ug | nortality rates anda 2000-20 | s for the ten 001 | -year period |
| Demographic characteristic | Neonatal mortality (NN) | Post- neonatal mortality (PNN) | Infant mortality (1q0) | $\begin{array}{c} Child \\ mortality \\ (_4 q_1) \end{array}$ | Under-five mortality $({}_5q_0)$ |
| Sex of child Male Female | 37.0 32.4 | 56.4 52.8 | 93.4 85.2 | 77.3 70.2 | 163.5 149.4 |
| Mother's age at birth < 20 20-29 30-39 40-49 | 42.4 29.8 38.4 40.1 | 63.0 52.1 52.7 49.6 | 105.4 81.9 91.1 89.7 | 81.8 71.9 68.8 81.9 | 178.6 147.9 153.6 164.2 |
| Birth order 1 2-3 4-6 7+ | 48.3 25.5 30.3 44.7 | 62.4 53.4 51.2 54.2 | 110.7 78.9 81.5 98.9 | 73.5 76.1 74.4 67.8 | 176.0 149.0 149.9 160.0 |
| Previous birth interval (years < 2 2 3 4+ |) 49.2 23.3 20.2 25.1 | 76.5 43.9 35.9 40.9 | 125.6 67.3 56.1 66.0 | 88.9 72.9 63.0 47.9 | 203.3 135.2 115.5 110.7 |
| Birth size Small or very small Average or large | 44.9 27.8 | 52.7 56.0 | 97.6 83.7 | na na | na na |
| na = Not applicable | | | | | |

The effect of birth order operates mostly during infancy. Second and third order births have the lowest risk of dying within the first year of life. First order births, on the other hand, are at the highest risk of dying; the risk is 40 percent higher than that of the second and third order risk. The risk of mortality among infants continues to increase until the seventh order births. However, the influence of birth order seems to wear off in the case of child mortality.

Short birth intervals are associated with increased risk of mortality. The interval with the highest risk is less than two years, while the most favourable is four or more years. Children born less than two years after a previous birth are almost twice as likely to die before reaching age five as those born after an interval of four years or longer. The 2000-2001 UDHS data therefore reinforce the need to promote child spacing mechanisms such as family planning and breastfeeding as ways of ensuring child survival.

Birth weight is a factor often associated with the child's survival, particularly during the first year. Since few women in Uganda give birth in a health facility, birth weight was not recorded for most children. As a measure of birth size, women were asked whether, in their judgement, their baby was very small, small, average, or larger than average at birth. As expected, babies who were reported as small or very small at birth have higher mortality rates than those who were reported as average or large at birth. Although 98 in 1,000 children who were reported as small at birth died before age one, the corresponding figure for children who were reported as average or large is 84 deaths per 1,000 births.

8.5 EARLY CHILDHOOD MORTALITY BY WOMEN'S STATUS

Although there is no direct association, women's status has been found to influence infant and child mortality levels through women's ability to control resources and make decisions. In the 2000-2001 UDHS, women were asked about their attitudes toward certain aspects of their autonomy. They include the number of decisions in which the woman participates in the final say, the number of reasons a woman is justified in refusing sexual relations with her husband, and the number of reasons that justify wife beating. A woman is considered more independent if she participates in a larger number of household decisions and has more reasons to refuse sex with her husband. On the other hand, the more reasons she justifies wife beating, the less independent she is.

Although there is an inverse relationship between women's status and early childhood mortality, the relationship is not necessarily linear (see Table 8.4). The mother's decisionmaking power seems to have its greatest importance in influencing infant mortality. Among children whose mother has no final say in any decision, 131 in 1,000 died before celebrating their first birthday, compared with 93 or fewer in 1,000 among children whose mother participates in some decisions. Data in this table suggest that decisionmaking is not additive. Children's mortality level is associated with whether their mother has some power to make a final decision. It does not seem to depend on the number of decisions the mother makes.

The relationship between mother's ability to participate in decisionmaking and child mortality is not as strong as with mortality in the first year of life. This is probably because a child's survival during infancy is more sensitive to health care interventions such as immunisation, feeding, and early care seeking. If mothers cannot freely and independently make decisions on these actions, the survival of their infants is likely to be adversely affected.

The number of reasons justifying refusal of sexual relations operates in an unexpected way. Women who find no reasons are considered to have less independence. Therefore, their children are expected to be disadvantaged. However, data in Table 8.4 shows that the mortality rates of these women's children are considerably lower than those of other children, including children whose mother agrees with three or four reasons for refusing sex.

Wife beating is another reflection of women's status. Women who do not approve any form of beating are assumed to enjoy a higher status, which in turn, translate into a more favourable mortality profile for their children. This is because they are more likely to have decisionmaking powers, which extend to child care. Table 8.4 shows the expected effect. Generally, children of lower status women have higher mortality. Although 81 in 1,000 children born to mothers who do not justify wife beating died before reaching age one, the corresponding rate for children whose mother agrees to all reasons of wife beating is 104 deaths per 1,000. The same picture is generally observed in the case of child mortality.

| Table 8.4 Early childhood mo | rtality by won | nan's status | | | |
|---|----------------------------------|---|----------------------------------|---------------------------------|---|
| Neonatal, postneonatal, infan preceding the survey, by wome | t, child, and en's status inc | under-five n licators, Ugar | nortality rates nda 2000-200 | s for the ten 1 | -year period |
| Women's status indicator | Neonatal mortality (NN) | Post- neonatal mortality (PNN) | Infant mortality $(_1q_0)$ | Child mortality $(_4q_1)$ | Under-five mortality $({}_{{}_{5}}q_{0})$ |
| Number of decisions with mother having final say | | | | | |
| 0 1-2 3-4 5 | 54.7 29.2 41.3 33.3 | 76.2 56.4 52.0 52.1 | 131.0 85.6 93.3 85.4 | 75.2 79.2 65.9 74.0 | 196.3 158.0 153.0 153.1 |
| Number of reasons to refuse sexual relations | | | | | |
| 0 1-2 3-4 | 27.9 38.5 34.5 | 51.1 63.0 53.6 | 79.0 101.5 88.1 | 49.1 98.0 71.4 | 124.3 189.5 153.2 |
| Number of reasons to justify | | | | | |
| wife beating 0 1-2 3-4 5 | 33.9 34.4 35.4 36.1 | 46.9 47.9 63.5 68.1 | 80.8 82.3 98.9 104.3 | 62.4 70.9 85.0 76.4 | 138.1 147.4 175.5 172.7 |
| Total | 34.8 | 54.6 | 89.4 | 73.7 | 156.5 |

8.6 PERINATAL MORTALITY

In the 2000-2001 UDHS, women were asked to report all pregnancy losses in the five years before the survey. For each such pregnancy, the duration was recorded. In this report, perinatal deaths include pregnancy losses occurring after seven completed months of gestation (stillbirths) and deaths to live births within the first seven days of life (early neonatal deaths). The perinatal mortality rate is the sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration. The distinction between a stillbirth and an early neonatal death may be a fine one, depending often on the observed presence or absence of some faint signs of life after delivery. The causes of stillbirths and early neonatal deaths are overlapping, and examining just one or the other can understate the true level of mortality around delivery. For this reason, in this report, both event types are combined and examined together.

The perinatal mortality rate is a useful indicator of the state of delivery services, either in terms of their utilisation or their ability to cope with the demands of childbirth and thereby to deliver a healthy baby. Data in Table 8.5 show that overall, 126 stillbirths and 206 early neonatal deaths were recorded in the survey, resulting in a perinatal mortality rate in Uganda of 43 per 1,000 pregnancies.

Perinatal mortality is highest among teenage mothers. Among Ugandan teenagers, 53 of 1,000 pregnancies of seven or more months end in a stillbirth or a death within one week after birth. This is most likely because teenage mothers are more likely to be unmarried and less likely to utilise antenatal services, as well as the lack of both the social and financial support to enable them to utilise delivery services. Furthermore, very young women are less biologically ready for safe childbearing. The perinatal rate is lowest among mothers age 20-29. This age group has been identified as the safest age to have children (see Table 8.3).

| | | Number of early | Perinatal | Number of pregnancies | |
|-----------------------------------|--------------------------|---------------------------------|-------------------|--------------------------------|--|
| Background characteristic | Number of stillbirths | neonatal deaths ² | mortality rate | of 7 or more months duratio | |
| Mother's age at birth | 20 | 4 5 | F2 F | 1 501 | |
| <20 20-29 | 38. 59 | 45 102 | 52.5 38.5 | 1,581 4,195 | |
| 30-39 | 28 | 49 | 43.2 | 1,793 | |
| 40-49 | 1 | 10 | 45.5 | 229 | |
| Previous pregnancy interv | al | | | | |
| 1st pregnancy | 33 | 43 | 58.1 | 1,311 | |
| <15 months | 11 | 25 | 64.6 | 569 | |
| 15-26 months 27-38 months | 39 25 | 60 39 | 38.6 31.3 | 2,582 | |
| 39+ months | 17 | 39 | 43.1 | 2,051 1,284 | |
| Residence | | | | | |
| Urban | 21 | 17 | 45.5 | 843 | |
| Rural | 105 | 189 | 42.2 | 6,955 | |
| Region | | | | | |
| Central | 47 | 50 | 43.7 | 2,220 | |
| Eastern | 24 | 48 | 30.8 | 2,328 | |
| Northern Western | 12 44 | 50 57 | 46.8 52.6 | 1,327 1,922 | |
| | 44 | 57 | 52.0 | 1,922 | |
| E ducation No education | 21 | 46 | 34.9 | 1,911 | |
| Primary | 83 | 145 | 45.6 | 5,005 | |
| Secondary+ | 22 | 15 | 42.3 | 881 | |
| Total | 126 | 206 | 42.6 | 7,798 | |

³ The perinatal mortality rate is the sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months duration.

Table 8.5 further demonstrates that the duration of the previous pregnancy interval has a strong influence on the outcome of the index pregnancy. Pregnancies occurring within 15 months of a previous birth and first pregnancies have the highest risk to pregnancy loss or early death (65 pregnancy losses or early deaths per 1,000 pregnancies), while the safest interval is between 27 and 38 months (31 pregnancy losses or early deaths per 1,000).

The Eastern Region has the lowest perinatal mortality rate of only 31 per 1,000. The rates in the Central and Northern regions are 44 and 47 per 1,000, respectively, while the Western Region has the highest rate of 53 per 1,000. As is the case with other childhood mortality measures, better educated women are expected to experience lower perinatal mortality. However, the national average is close to the perinatal mortality rate of children whose mothers had secondary or higher education, and the rate of children whose mothers had no education is the lowest. This pattern raises questions about reporting biases; less educated women may have underreported the level of stillbirths and early deaths.

8.7 HIGH-RISK FERTILITY BEHAVIOUR

This section examines the relative importance of under-five mortality risk factors. These factors are of particular interest because they are easily avoidable at a low cost. Generally, infants and children have a greater probability of dying if they are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are of high birth order. In the analysis of the effects of high-risk fertility behaviour on child survival, 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 at the time of delivery. A short birth interval is defined as a birth occurring less than 24 months after the previous birth, and a child is of high birth order if the mother had previously given birth to three or more children (i.e., if the child is of birth order four or higher). Although first births are commonly associated with high mortality risk, even if they occurred when the mother was between 18 and 34 years old, they are not included in the high-risk category because these births are considered unavoidable.

The first column in Table 8.6 shows the percentage of births occurring in the five years before the survey that fall into these various risk categories. Two in three births in Uganda have elevated mortality risks, which are avoidable, and only one in five births were not in any high-risk category. Among those who are at risk, 44 percent of births were in only one of the high-risk categories and 23 percent fall into multiple high-risk categories due to a combination of mother's age, birth order, and birth interval.

The category with the highest percentage of births is birth order three or higher, which constitutes 27 percent of births. This is hardly surprising in a high-fertility population like Uganda. However, compared with births with no elevated mortality risk, the mortality increase associated with this category is minimal (4 percent). The category associated with the highest risk ratio is mother's age under 18. Children born to mothers under 18 years old have a 60 percent higher risk of dying than children not in any high-risk category. Births to young mothers are most likely first order births. The second highest risk is associated with the birth interval. Children born less than 24 months after a prior birth have a mortality risk that is 48 percent higher than those who are not in any high-risk category. The risk ratio was not calculated for children born to mothers at age 35 or older because there were too few children.

In reality, children are often found in more than one high-risk category. It would therefore make sense, for programmatic purposes, to consider multiple risks. The category with the highest multiple-risk ratio (1.62) is for births to older women (age 35 or older) with high birth order combined with short birth intervals (less than 24 months). This category involves only 2 percent of births. The second highest combination is of short birth intervals and higher birth order, which increases mortality risks by 40 percent. This category involves 11 percent of births.

Table 8.6 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 percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Uganda 2000-2001

| | Births in th preceding t | Percentage of | |
|---|-------------------------------|------------------------------|-------------------------------|
| Risk category | Percentage of births | Risk ratio | currently married women |
| Not in any high risk category | 21.8 | 1.00 | 16.3 ^a |
| Unavoidable risk category First order births between ages 18 and 34 years | 11.2 | 1.19 | 4.9 |
| Single high-risk category Mother's age <18 Mother's age >34 Birth interval <24 months Birth order >3 | 7.6 0.2 9.1 27.2 | 1.60 * 1.48 1.04 | 0.7 2.9 9.8 20.7 |
| Subtotal | 44.1 | 1.22 | 34.2 |
| Multiple high-risk category Age <18 & birth interval <24 months ² Age >34 & birth order >3 Age >34 & birth interval <24 months & birth order >3 Birth interval <24 months and birth order >3 | 0.9 9.4 2.1 10.5 | 1.35 1.02 1.62 1.40 | 0.6 20.0 6.0 18.1 |
| Subtotal | 22.8 | 1.26 | 44.7 |
| In any avoidable high-risk category | 67.0 | 1.23 | 78.8 |
| Total | 100.0 | na | 100.0 |
| Number of births | 7,674 | na | 4,881 |
| Note: Risk ratio is the ratio of the high-risk category to the proport category. An asterisk indicates t unweighted cases and has been s pa = Not applicable Women are assigned to risk cate at the birth of a child if they were | uppressed. gories accordin | ig to the status t | hey would ha |

as the orrun 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 less than 15 months ago, or latest birth being of order 3 or higher. a Includes the category age < 18 and birth order > 3Includes sterilised women

The fourth column of Table 8.6 shows the distribution of currently married women by category of increased risk if they were to conceive at the time of the survey. Although many women are protected from conception due to use of family planning, postpartum insusceptibility, and prolonged abstinence, for simplicity, only those who have been sterilised are included in the category for not in any high-risk. The criteria for placing women into specific risk categories is adjusted to take into account gestation.

Data in Table 8.6 show that only 16 percent of currently married, nonsterilised women in Uganda are not in any high-risk category, while 79 percent are potentially at risk of conceiving a high-risk pregnancy. Forty-five percent of married women fall into multiple risks categories. There are two important points to note. First, although some high-risk categories were individually not associated with any enhanced mortality risk, the risk is considerably higher when considered in combination with others. Second, nearly half of married Ugandan women are at risk of conceiving a baby who will have a high risk of dying.