

MATERNAL AND CHILD HEALTH

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This chapter presents findings from several areas of importance to maternal and child health including information on antenatal, delivery and postnatal care, children's vaccinations, and common childhood illnesses and their treatment.

9.1 MATERNITY CARE

Early and regular checkups by health professionals are very important in assessing the physical status of women during pregnancy and ensuring delivery of appropriate interventions. The 2001-2002 ZDHS obtained information from women on both coverage of antenatal care and of key elements of the care received for the last birth during the five-year period before the survey.

9.1.1 Antenatal Care

Antenatal care coverage

Table 9.1 shows the proportion of women who had a live birth in the five years preceding the survey by the source of antenatal care for the most recent birth. In obtaining the information on source, interviewers recorded all persons a woman had seen for antenatal care. However, for cases where more than one person was seen, only the provider with the highest qualifications was recorded. Table 9.1 shows that 93 percent received antenatal care from medical personnel and 2 percent from traditional birth attendants

There is little variation in the distribution of antenatal care according to the birth order. Urban residents are more likely to receive antenatal care from doctors (5 percent) than rural residents (1 percent), but over 80 percent of urban and rural residents see midwives. Traditional birth attendants provide antenatal care to less than 1 percent of urban residents compared with 3 percent of rural residents.

There are few regional variations in obtaining antenatal care, with Lusaka and Copperbelt recording a higher proportion (4 percent and 7 percent, respectively) of attendances by doctors, respectively, compared with less than 1 percent in Luapula, Northern, Eastern, North-Western, and Southern. In comparison to the other provinces, Central, Northern, Western, and North-Western have a higher percentage of women who did not get any antenatal care.

Women's education is strongly associated with antenatal attendance. With a higher level of education, the choice of provider shifts to a higher qualification. Those with higher than secondary education have the highest antenatal attendance from medically trained providers (100 percent) compared to those with no education (84 percent). Thirteen percent of women with higher education saw a doctor for antenatal care compared with less than 1 percent for those with no education. None of the women with higher than secondary education reported having been attended to by traditional birth attendants compared with 6 percent of those with no education.

Table 9.1 Antenatal care

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider, for the most recent birth, according to background characteristics, Zambia 2001-2002

Background characteristic	Any ¹ ANC	Medically trained provider			Traditional birth attendant/ other	No one	Missing	Total	Number of women
		Doctor	Clinical officer	Nurse/ midwife					
Age at birth									
<20	93.2	1.7	6.3	85.1	2.4	4.3	0.1	100.0	866
20-34	94.0	2.6	7.0	84.4	2.0	3.6	0.3	100.0	2,868
35-49	90.7	1.7	8.4	80.6	3.0	6.0	0.3	100.0	668
Birth order									
1	93.9	1.8	5.9	86.2	2.6	3.4	0.1	100.0	948
2-3	93.8	2.7	7.0	84.2	1.9	3.8	0.4	100.0	1,467
4-5	94.2	2.4	7.4	84.4	2.1	3.6	0.0	100.0	941
6+	91.3	2.1	7.9	81.3	2.5	5.7	0.4	100.0	1,046
Residence									
Urban	97.7	4.6	1.4	91.6	0.1	1.9	0.4	100.0	1,499
Rural	91.1	1.1	10.0	80.0	3.4	5.2	0.2	100.0	2,904
Province									
Central	92.5	2.8	11.5	78.2	0.6	6.9	0.0	100.0	319
Copperbelt	96.8	6.7	2.2	88.0	0.0	2.6	0.6	100.0	765
Eastern	95.2	0.4	2.5	92.4	1.2	3.2	0.4	100.0	587
Luapula	91.7	0.0	13.9	77.8	3.5	4.5	0.3	100.0	371
Lusaka	97.6	4.3	1.5	91.9	0.2	1.9	0.2	100.0	590
Northern	90.5	0.4	11.1	79.0	2.9	6.6	0.0	100.0	649
North-Western	92.2	0.4	4.1	87.7	1.1	6.2	0.5	100.0	226
Southern	92.9	0.7	9.7	82.4	5.2	1.9	0.0	100.0	485
Western	86.0	2.0	13.1	70.9	7.1	6.4	0.5	100.0	412
Education									
No education	83.9	0.8	8.1	75.0	6.0	9.9	0.2	100.0	613
Primary	93.6	1.8	7.8	84.1	2.1	4.0	0.2	100.0	2,726
Secondary	97.8	3.8	4.7	89.3	0.5	1.2	0.5	100.0	977
Higher	100.0	2.6	2.5	84.9	0.0	0.0	0.0	100.0	87
Total	93.4	2.3	7.0	84.0	2.3	4.1	0.3	100.0	4,402

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation.

¹ The percentage receiving antenatal care from any trained medical provider is the sum of the proportions receiving care from a doctor, clinical officer or nurse/midwife

Antenatal care can be more effective in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and continues through to delivery. Table 9.2 provides information on the number of antenatal care visits and the timing of the first visit. Early detection of problems in pregnancy leads to more timely referrals in case of complications and this is of particular importance in Zambia, which is a large and sparsely populated country where physical barriers are a challenge to the health care delivery system. Women who do not receive antenatal care during pregnancy are at higher risk of obstetric emergencies and adverse outcomes. In an effort to bridge the gap and provide health care as close to the family as possible, the District Health Management Teams have been training traditional birth attendants to recognise the danger signs during pregnancy and refer women early to health centres.

Expectant mothers should begin antenatal attendance as early as possible in the first trimester. Monthly antenatal visits are recommended up to the seventh month of pregnancy, after which visits every two weeks are recommended up to the eighth month when the visits should be weekly until delivery. About half of Zambian women report visiting antenatal clinics at least four times during pregnancy. Half the women pay their first antenatal visit between four and five months of pregnancy followed by 27 percent who visit between six and seven months. Only 14 percent of the respondents begin their antenatal attendance in the first trimester of pregnancy. The median number of months of pregnancy at first visit is 5.3 for both urban and rural residents.

Overall, there has been little change in the pattern of antenatal attendance by gestational age over the last decade. The median gestational age at first visit was 5.6 months in 1992 and 1996, and dropped slightly to 5.3 months in 2001-2002. This calls for programme interventions that will encourage women to attend antenatal clinics in the first trimester of pregnancy.

Components of antenatal care

In the earlier ZDHS surveys, information was obtained on only one component of antenatal care services, tetanus toxoid immunisations. In the 2001-2002 survey, additional questions were asked about ANC services including whether information about signs of pregnancy complications was provided, whether the woman's blood pressure was measured, urine and blood samples were taken, and whether iron supplements and antimalarial prophylaxis tablets were provided.

Some caution should be exercised in considering the information on the content of antenatal care. First of all, the information is dependent on the woman's understanding of the questions, e.g., her understanding of what blood pressure measurement involves. It is also dependent on her recall of events during antenatal visits that may have taken place a number of years before the interview. Nonetheless, the results are useful in providing insights into the content of antenatal care for Zambian women. Table 9.3 shows the findings for components of antenatal care other than tetanus toxoid coverage and Table 9.4 provides information on tetanus toxoid coverage.

Although attendance at antenatal care is high in Zambia, the quality of care that expectant mothers receive varies. Table 9.3 shows that of women receiving antenatal care, 94 percent have their weight measured and 87 percent have blood pressure measured. However, only 25 percent of women have their height measured and urine sampled, and less than half (44 percent) have a blood sample taken.

Table 9.2 Number of antenatal care visits and timing of first visit

Percent distribution of women who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent birth, and by the timing of the first visit, according to residence, Zambia 2001-2002

Number and timing of ANC visits	Residence		Total
	Urban	Rural	
Number of ANC visits			
None	1.9	5.2	4.1
1	1.2	2.4	2.0
2-3	14.6	22.5	19.8
4+	79.6	67.5	71.6
Don't know/missing	2.7	2.3	2.5
Total	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	1.9	5.2	4.1
<4	16.3	13.2	14.3
4-5	52.6	52.3	52.4
6-7	26.6	26.8	26.7
8+	1.9	1.9	1.9
Don't know/missing	0.6	0.5	0.6
Total	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	5.3	5.3	5.3
Number of women	1,499	2,904	4,402

Table 9.3 Antenatal care content

Percentage of women with a live birth in the five years preceding the survey who received antenatal care (ANC) for the most recent birth, by content of antenatal care, and percentage of women with a live birth in the five years preceding the survey who received iron/folic acid tablets for the most recent birth, according to background characteristics, Zambia 2001-2002

Background characteristic	Content of antenatal care among women who received ANC						Percentage of women with a birth in the 5 years preceding the survey who:	
	Weight measured	Height measured	Blood pressure measured	Urine sample taken	Blood sample taken	Number of women	Received iron tablets/iron syrup/folic acid	Number of women
Age at birth								
<20	91.3	24.4	83.7	19.1	41.6	828	63.1	866
20-34	94.0	25.3	87.2	25.0	46.3	2,755	72.2	2,868
35-49	93.9	24.0	87.2	31.1	39.6	626	73.1	668
Birth order								
1	91.5	26.3	85.5	24.9	49.9	915	62.6	948
2-3	93.5	27.2	86.1	23.8	46.2	1,406	72.3	1,467
4-5	94.5	22.4	86.8	23.0	44.1	906	73.4	941
6+	94.3	22.7	87.7	27.6	36.9	982	72.8	1,046
Residence								
Urban	97.2	37.3	96.5	42.2	77.1	1,464	64.7	1,499
Rural	91.5	18.3	81.2	15.4	26.9	2,744	73.6	2,904
Province								
Central	94.7	18.7	92.3	18.9	36.8	297	74.3	319
Copperbelt	94.9	45.3	94.9	49.1	69.3	740	69.0	765
Eastern	95.1	16.8	84.6	13.6	28.8	566	66.1	587
Luapula	89.9	19.7	70.5	11.5	24.4	353	67.1	371
Lusaka	98.7	21.4	97.4	35.4	81.6	577	62.5	590
Northern	92.2	32.0	87.0	18.0	33.6	606	72.6	649
North-Western	99.2	11.7	92.2	22.2	38.0	210	76.1	226
Southern	84.7	14.8	76.5	17.9	24.5	475	79.6	485
Western	92.3	21.2	75.4	15.3	32.5	384	74.9	412
Education								
No education	90.8	15.4	80.7	14.6	26.4	551	62.7	613
Primary	93.0	22.0	85.0	21.0	40.4	2,610	70.5	2,726
Secondary	95.7	36.0	92.8	36.4	60.7	960	74.4	977
Higher	100.0	51.9	98.7	72.0	95.6	87	85.2	87
Total	93.5	24.9	86.5	24.7	44.4	4,209	70.6	4,402

Blood sampling is of particular importance in the screening for maternal syphilis. Over 70 percent of women with recent births were given or bought iron and/or folic acid supplements during pregnancy.

The socioeconomic characteristics that appear to influence the quality of antenatal care are residence and level of education. Urban residents have a higher percentage of women who receive all the specified components of antenatal care compared with rural residents. The only exception is the dispensing of iron and folic acid supplements, which may be attributed to a higher incidence of malaria and anaemia in rural areas. Similarly, antenatal care coverage appears to be more comprehensive in the more urbanised provinces of Copperbelt and Lusaka than in the other provinces.

There are particularly sharp differences in antenatal care content by education level. For example, among women with higher education, 72 percent have urine tests during antenatal care visits, compared with only 15 percent of those with no education. Similarly, blood tests are performed for 96 percent of women with higher education, compared with 26 percent of those with no education.

Table 9.4 shows the percent distribution of women who had a live birth in the five years preceding the survey by number of tetanus toxoid injections received during the most recent pregnancy, according to background characteristics. The data show that 75 percent of women receive at least one tetanus toxoid injection during pregnancy. Women are slightly more likely to receive two injections during their first pregnancy. Urban women are more likely to receive one tetanus toxoid injection (55 percent) than rural women (45 percent). Lusaka province has the lowest proportion of women who received no tetanus injections compared with other provinces. Education is again a strong predictor of tetanus toxoid vaccination, as women with no education are twice as likely to receive no tetanus toxoid injections, compared with those with higher than secondary education.

Table 9.4 Tetanus toxoid injections						
Percent distribution of women who had a live birth in the five years preceding the survey by number of tetanus toxoid injections received during pregnancy for the most recent birth, according to background characteristics, Zambia 2001-2002						
Background characteristic	None	One injection	Two or more injections	Don't know/missing	Total	Number of women
Age at birth						
<20	19.6	46.6	33.1	0.7	100.0	866
20-34	22.8	50.4	25.6	1.1	100.0	2,868
35-49	35.7	40.0	22.9	1.4	100.0	668
Birth order						
1	18.1	46.3	35.1	0.6	100.0	948
2-3	19.5	51.8	27.4	1.3	100.0	1,467
4-5	24.9	51.9	22.0	1.2	100.0	941
6+	35.6	41.1	22.2	1.1	100.0	1,046
Residence						
Urban	20.6	54.5	23.8	1.1	100.0	1,499
Rural	26.0	44.8	28.1	1.1	100.0	2,904
Province						
Central	28.1	44.8	24.8	2.4	100.0	319
Copperbelt	27.7	52.5	18.9	0.9	100.0	765
Eastern	28.3	43.1	28.3	0.4	100.0	587
Luapula	24.6	45.2	29.9	0.3	100.0	371
Lusaka	14.8	57.0	27.4	0.9	100.0	590
Northern	21.5	45.6	31.8	1.1	100.0	649
North-Western	25.5	50.4	23.7	0.4	100.0	226
Southern	24.0	47.7	26.6	1.7	100.0	485
Western	25.4	42.6	29.8	2.2	100.0	412
Education						
No education	32.6	38.7	27.8	0.9	100.0	613
Primary	24.2	48.9	25.9	1.0	100.0	2,726
Secondary	19.4	52.0	27.3	1.2	100.0	977
Higher	16.6	45.2	36.0	2.2	100.0	87
Total	24.2	48.1	26.7	1.1	100.0	4,402

9.1.2 Delivery and Postnatal Care

Another important component of efforts to reduce the health risks of mothers and children is increasing the proportion of health facility-based deliveries. Proper medical attendance and hygienic conditions during delivery can reduce the risk of complications and infections and possibly death for both the mother and/or the baby.

For births occurring outside a health facility, the 2001-2002 ZDHS collected information on whether the mother had seen anyone after the birth to check on her health (Table 9.8). Postnatal checkups provide an opportunity to assess and treat delivery complications and to counsel new mothers on how to care for herself and her child.

Delivery care

The 2001-2002 ZDHS obtained information on both the place of delivery and the person assisting with the delivery. Tables 9.5 and 9.6 present this information for all live births in the five-year period preceding the survey.

Place of delivery and assistance during delivery are indicators of the quality of care being provided. Table 9.5 shows that over half of births occur at home, while 44 percent occur in health facilities. Of the births in health facilities, 35 percent occur in public sector facilities and about one in ten occur in private sector facilities. Women having their first baby are more likely to deliver in health institutions; this proportion declines with increased birth order. Urban residents are three times more likely to deliver in a health facility than their rural counterparts, the majority of the latter (71 percent) delivering at home. Lusaka and Copperbelt have the highest proportion of institutional deliveries.

The higher a woman's education, the higher the probability that she will deliver in a health facility. Almost all women with higher than secondary education deliver in health facilities (97 percent) while only 17 percent of women with no education do so. Additionally, antenatal care attendance has an impact on the proportion of women who deliver in a health facility. Only 7 percent of women who did not receive antenatal care delivered at a health facility, compared with 53 percent of those with four or more visits.

Table 9.5 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery, according to background characteristics, Zambia 2001-2002

Background characteristic	Health facility			Home	Other	Don't know/missing	Total	Number of births
	Any ¹ facility	Public sector	Private sector					
Mother's age at birth								
<20	45.8	39.6	16.1	53.4	0.5	0.4	100.0	1,454
20-34	44.5	34.6	9.9	55.0	0.2	0.3	100.0	4,364
35-49	35.4	25.3	10.2	63.1	1.0	0.4	100.0	831
Birth order								
1	54.4	46.3	8.0	44.9	0.3	0.4	100.0	1,515
2-3	44.3	36.1	8.2	55.2	0.2	0.4	100.0	2,257
4-5	41.1	30.0	11.1	58.4	0.4	0.2	100.0	1,422
6+	33.9	24.3	9.6	64.9	0.8	0.4	100.0	1,455
Residence								
Urban	79.0	67.2	11.8	20.6	0.0	0.3	100.0	2,050
Rural	27.9	20.0	7.9	71.3	0.5	0.3	100.0	4,599
Province								
Central	33.7	30.9	2.8	66.1	0.1	0.1	100.0	502
Copperbelt	71.8	50.6	21.1	27.2	0.3	0.8	100.0	1,065
Eastern	31.2	24.0	7.2	67.6	1.0	0.1	100.0	890
Luapula	29.1	23.1	6.0	70.6	0.3	0.0	100.0	625
Lusaka	75.4	74.1	1.3	24.6	0.0	0.0	100.0	805
Northern	27.6	19.7	7.8	71.9	0.3	0.3	100.0	1,008
North-Western	47.0	26.0	21.0	52.5	0.3	0.1	100.0	357
Southern	32.1	24.8	7.2	66.7	0.5	0.8	100.0	764
Western	33.3	26.2	7.1	65.8	0.5	0.5	100.0	632
Mother's education								
No education	17.4	13.3	4.1	81.9	0.7	0.0	100.0	978
Primary	38.1	29.7	8.4	61.1	0.4	0.3	100.0	4,235
Secondary	76.3	62.1	14.1	23.0	0.1	0.6	100.0	1,334
Higher	97.1	75.8	21.4	2.9	0.0	0.0	100.0	101
Antenatal care visits²								
None	7.4	6.7	0.7	91.6	1.1	0.0	100.0	181
1-3	30.6	24.4	6.2	68.7	0.7	0.0	100.0	960
4+	52.8	42.3	10.6	46.8	0.3	0.1	100.0	3,153
Total	43.6	34.5	9.1	55.7	0.4	0.3	100.0	6,649

¹ Sum of percentage delivered at a public sector facility and percentage delivered at a private sector facility; excludes 108 births lacking information on number of antenatal visits

² Information on 'antenatal care visits' includes only the most recent birth in the five years preceding the survey

Table 9.6 shows that medically trained providers assist 43 percent of deliveries. Births are equally likely to be assisted by a relative or friend (38 percent) as they are by a nurse or midwife (39 percent). Traditional birth attendants assist 12 percent of the deliveries and doctors assist an even smaller percentage (3 percent). Births to older mothers (35-49) are considerably more likely to deliver without any assistance (18 percent) than births to women under age 20 (1 percent). Women expecting their first child are more likely to be delivered by a medically trained provider compared with those with more children. Seventy-nine percent of urban women are delivered by a medically trained provider, compared with only 28 percent of those living in rural areas. Medical personnel assisted in over 70 percent of the deliveries in Lusaka and Copperbelt compared with Northern (28 percent) and Luapula (29 percent) provinces. Seventeen percent of births to mothers with no education are assisted by medically trained personnel during delivery, compared with 76 percent of births to mothers with secondary education and 97 percent of those with higher than secondary education.

Table 9.6 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, according to background characteristics, Zambia 2001-2002

Background characteristic	Medically trained provider				Traditional birth attendant	Relative/friend	No one	Don't know/missing	Total	Number of births
	Any ¹ provider	Doctor	Clinical officer	Nurse/midwife						
Mother's age at birth										
<20	45.4	3.5	1.5	40.5	12.1	40.7	1.3	0.4	100.0	1,454
20-34	44.3	3.2	1.3	39.8	11.5	37.6	6.4	0.2	100.0	4,364
35-49	35.0	2.9	1.2	30.9	10.2	36.9	17.7	0.2	100.0	831
Birth order										
1	54.1	5.4	1.8	47.0	10.7	34.0	0.9	0.4	100.0	1,515
2-3	44.2	3.0	1.2	40.0	11.6	40.5	3.4	0.3	100.0	2,257
4-5	41.0	2.3	1.0	37.8	11.9	38.8	8.2	0.1	100.0	1,422
6+	33.4	2.3	1.4	29.7	11.8	38.5	16.2	0.1	100.0	1,455
Residence										
Urban	78.9	7.2	0.6	71.2	3.4	14.4	3.0	0.2	100.0	2,050
Rural	27.6	1.5	1.7	24.4	15.1	48.8	8.3	0.2	100.0	4,599
Province										
Central	34.2	2.8	2.0	29.4	10.4	47.9	7.5	0.0	100.0	502
Copperbelt	71.5	8.0	0.8	62.7	6.3	17.4	4.3	0.5	100.0	1,065
Eastern	31.7	1.4	0.8	29.5	22.0	39.1	7.1	0.1	100.0	890
Luapula	28.6	1.0	2.9	24.8	17.5	46.6	7.3	0.0	100.0	625
Lusaka	74.9	7.1	0.9	66.9	1.6	15.7	7.8	0.0	100.0	805
Northern	27.6	1.1	1.2	25.2	14.8	50.9	6.5	0.2	100.0	1,008
North-Western	47.4	1.5	1.1	44.8	18.0	32.2	2.3	0.1	100.0	357
Southern	32.1	1.2	1.7	29.2	9.5	47.6	10.4	0.5	100.0	764
Western	31.4	2.3	1.3	27.8	6.3	56.4	5.5	0.5	100.0	632
Mother's education										
No education	17.3	0.7	0.8	15.8	14.3	56.0	12.4	0.0	100.0	978
Primary	37.8	2.6	1.4	33.8	12.8	42.2	7.0	0.2	100.0	4,235
Secondary	76.3	5.8	1.4	69.2	6.0	15.2	2.0	0.4	100.0	1,334
Higher	97.1	22.0	1.2	73.9	1.2	1.6	0.0	0.0	100.0	101
Total	43.4	3.2	1.3	38.9	11.5	38.2	6.7	0.2	100.0	6,649

Note: If the respondent mentioned more than one person attending delivery, only the most qualified person is considered in this tabulation.

¹ The percentage assisted by any medically trained provider is the sum of the percentages assisted by a doctor, clinical officer or nurse/midwife

Delivery characteristics

The 2001-2002 ZDHS obtained information on a number of aspects of deliveries including the frequency of caesarean sections and of low birth weight babies. In countries where the level of facility deliveries is comparatively low like Zambia, the caesarean section rate provides a proxy for women's access to care for complicated deliveries. Information is collected on the baby's birth weight and size because low birth weight is associated with neonatal morbidity and mortality. To obtain the birth weight data, respondents were asked whether their baby was weighed at birth, and if so, how much the baby weighed. Interviewers were trained to use any written record of birth weight available. As many women do not deliver at a health facility, the mother was also asked for her own perception of the baby's size at birth.

Table 9.7 shows that only 2 percent of births are delivered by caesarean section. Caesarean sections are more common among first births (3 percent), women residing in urban areas (4 percent), women in Lusaka (5 percent) and Copperbelt (3 percent), and women with higher than secondary education (15 percent).

Two and half kilogrammes is considered normal birth weight and babies weighing less than that are regarded as small or low birth weight. The 2001-2002 ZDHS revealed that more than half (54 percent) of neonates are not weighed at birth. This may be explained by the low percentage of institutional deliveries. Five percent of all births are underweight, representing 11 percent of births for which a birth weight was recorded. Underweight births are more common among babies born to younger mothers (6 percent) and mothers delivering their first child (8 percent). Although it appears as if babies who weigh less than 2.5 kg are more common in urban than in rural areas and among babies born of mothers with higher education, this pattern disappears when only babies who were weighed are taken into account.

Background characteristic	Delivery by caesarean section	Birth weight					Size of child at birth					Number of births
		Not weighed	Less than 2.5 kg	2.5 kg or more	Don't know/missing	Total	Very small	Smaller than average	Average or larger	Don't know/missing	Total	
Mother's age at birth												
<20	1.7	51.9	6.4	36.5	5.1	100.0	4.6	14.5	80.3	0.5	100.0	1,454
20-34	2.3	53.0	4.1	39.5	3.4	100.0	3.2	9.1	87.5	0.2	100.0	4,364
35-49	1.5	61.3	3.9	30.4	4.4	100.0	3.3	9.7	86.5	0.5	100.0	831
Birth order												
1	3.1	44.2	8.0	42.9	5.0	100.0	4.9	15.1	79.4	0.5	100.0	1,515
2-3	2.0	53.2	3.6	39.7	3.5	100.0	3.0	9.2	87.4	0.3	100.0	2,257
4-5	1.3	55.6	4.3	37.2	2.9	100.0	3.2	8.9	87.8	0.1	100.0	1,422
6+	1.8	63.2	2.8	29.8	4.3	100.0	3.0	8.6	88.1	0.3	100.0	1,455
Residence												
Urban	4.2	17.6	8.1	71.0	3.4	100.0	5.0	10.6	84.0	0.4	100.0	2,050
Rural	1.1	70.0	3.0	22.9	4.1	100.0	2.8	10.3	86.6	0.3	100.0	4,599
Province												
Central	1.9	66.0	2.6	27.8	3.6	100.0	2.9	13.2	83.8	0.1	100.0	502
Copperbelt	3.2	21.3	7.6	68.4	2.8	100.0	5.7	6.9	86.6	0.8	100.0	1,065
Eastern	1.5	67.9	2.2	26.1	3.8	100.0	0.8	8.0	91.0	0.1	100.0	890
Luapula	0.6	68.5	5.2	22.4	3.8	100.0	1.6	14.3	84.1	0.0	100.0	625
Lusaka	4.7	20.6	6.0	69.4	4.1	100.0	3.9	14.8	81.3	0.0	100.0	805
Northern	2.1	70.3	2.5	21.9	5.4	100.0	3.1	5.8	90.9	0.2	100.0	1,008
North-Western	1.7	52.1	6.4	40.0	1.5	100.0	1.9	9.2	88.7	0.1	100.0	357
Southern	0.8	65.7	4.2	25.5	4.7	100.0	4.2	14.5	80.6	0.8	100.0	764
Western	1.0	67.4	4.8	24.0	3.9	100.0	6.1	10.8	82.6	0.5	100.0	632
Mother's education												
No education	0.5	81.3	1.3	12.0	5.4	100.0	2.7	11.5	85.9	0.0	100.0	978
Primary	1.8	59.0	4.0	32.7	4.2	100.0	3.4	10.5	85.8	0.3	100.0	4,235
Secondary	3.3	21.0	8.2	68.7	2.1	100.0	4.3	9.5	85.7	0.5	100.0	1,334
Higher	14.5	1.9	11.1	87.0	0.0	100.0	5.1	7.3	87.0	0.6	100.0	101
Total	2.1	53.8	4.6	37.7	3.9	100.0	3.5	10.4	85.8	0.3	100.0	6,649

When asked about the size of their children at birth, 14 percent of the mothers reported that their babies were very small or smaller than average. The majority of babies (86 percent) were reported to be of average or larger size at birth. Among babies who were weighed, the proportion that were of low birth weight was highest in Copperbelt (8 percent) and lowest in Eastern (2 percent). There was little difference by mother's level of education in the proportion who weighed less than 2.5 kg at birth.

Postnatal care

Postnatal care is particularly important in the case of non-institutional births in order to detect delivery complications that may threaten the mother or the child's survival. Table 9.8 shows the percent distribution of women who delivered a baby outside a health facility in the five years before the survey, according to whether they received a postnatal checkup and, if they had such care, the timing of the first postnatal visit. A checkup during the first two days following delivery is particularly critical since most maternal and neonatal deaths occur during that period. The benefits of early postnatal check-up, especially during the first 24 hours, include early diagnosis of complications during the postpartum period for both mother and her newborn, care of the newborn and mother including education or breastfeeding and family planning. One of the most frequent postpartum complications is haemorrhage, which occurs within 24 hours after delivery and can lead to death (Ransom and Yinger, 2002). In Zambia, the majority of women deliver at home where they do not have access to skilled care.

Table 9.8 shows that 77 percent of women who deliver outside a health facility do not receive postnatal care. Only 12 percent attend postnatal care within 2 days of delivery and 8 percent 7 to 41 days after delivery. Younger mothers tend to utilise postnatal services slightly more than older mothers. More than twice as many women from the urban areas receive postnatal care within 2 days of delivery as those from rural areas. Differences in the utilisation of postnatal services by province are quite marked. Mothers residing in Copperbelt (51 percent) and Lusaka (46 percent) are most likely to receive postnatal care, compared with mothers living in Central, Western, and Eastern provinces, where the level is less than 15 percent. A higher proportion of mothers with secondary or higher education receive postnatal care compared with those with primary or no education.

Table 9.8 Postnatal care

Percent distribution of women who had a non-institutional live birth in the five years preceding the survey by timing of postnatal care for the most recent non-institutional birth, according to background characteristics, Zambia 2001-2002

Background characteristic	Timing of first postnatal checkup					Total	Number of women
	Within 2 days of delivery	3-6 days after delivery	7-41 days after delivery	Don't know/missing	Did not receive postnatal checkup ¹		
Age at birth							
<20	12.6	3.0	11.6	0.1	72.7	100.0	441
20-34	11.8	2.3	7.6	0.2	78.1	100.0	1,506
35-49	11.7	1.8	7.7	0.0	78.8	100.0	423
Birth order							
1	11.8	4.1	11.4	0.1	72.5	100.0	394
2-3	13.4	2.1	8.4	0.2	76.0	100.0	768
4-5	13.1	2.0	6.4	0.2	78.2	100.0	539
6+	9.4	2.0	8.0	0.1	80.5	100.0	669
Residence							
Urban	23.0	4.8	19.4	0.3	52.5	100.0	313
Rural	10.3	2.0	6.7	0.1	81.0	100.0	2,057
Province							
Central	9.8	1.5	3.4	0.0	85.3	100.0	206
Copperbelt	28.0	3.2	20.0	0.0	48.8	100.0	206
Eastern	3.4	0.3	7.1	0.0	89.2	100.0	393
Luapula	11.1	3.3	15.5	0.4	69.7	100.0	269
Lusaka	19.0	6.7	20.0	0.0	54.3	100.0	133
Northern	14.8	2.3	3.5	0.2	79.1	100.0	456
North-Western	1.4	5.1	9.2	1.0	83.2	100.0	117
Southern	12.5	1.8	6.8	0.0	78.9	100.0	321
Western	10.2	1.9	1.9	0.0	86.1	100.0	270
Education							
No education	6.0	1.8	6.1	0.2	86.0	100.0	500
Primary	12.6	2.2	8.7	0.1	76.4	100.0	1,652
Secondary or higher	20.9	5.2	10.8	0.0	63.2	100.0	218
Total	11.9	2.4	8.4	0.1	77.2	100.0	2,370

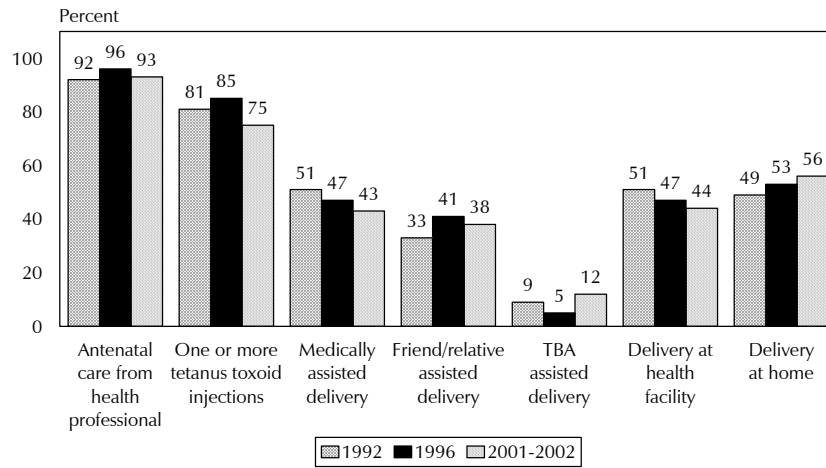
¹ Includes women who received the first postnatal checkup after 41 days

9.1.3 Trends in Maternity Care Indicators

The trends in selected maternity care indicators are shown in Figure 9.1. The percentage of women receiving antenatal care from a health professional has decreased slightly from 96 percent in 1996 to 93 percent in 2001-2002. Tetanus toxoid coverage for women has declined from 81 percent in 1992 to 75 percent in 2001-2002. Medical personnel are attending slightly fewer deliveries, while the proportion of births attended by traditional birth attendants is the highest recorded since 1992 (12 percent).

Figure 9.1 also shows that there has been a decline in the proportion of deliveries at health facilities and an increase in home deliveries. Presumably, because of declines in facility deliveries, the proportion of births assisted by medically trained providers has also declined, from 51 percent of births in 1992 to 47 percent in 1996 and 43 percent in 2001-2002. The percentage of women delivered by a relative or friend increased from 33 percent in 1992 to 41 percent in 1996 but has now declined slightly to 38 percent.

Figure 9.1 Trends in Maternity Care Indicators, Zambia 1992-2002



Source: 1992 ZDHS, 1996 ZDHS, and 2001-2002 ZDHS

9.2 VISITS BY HEALTH WORKERS AND PRESENCE OF A NEIGHBOURHOOD HEALTH COMMITTEE

Table 9.9 shows the proportion of women who reported that someone in their house was visited by a health worker in the last 12 months and of those visited, the percentage provided with various services by background characteristics.

Overall, 10 percent of women reported a visit by a health worker from the community in their house. The proportion of health worker visits is higher in rural areas (11 percent) than in urban areas (7 percent). Among provinces, North-Western and Western have the higher proportions of women reporting house visits by a community health worker (29 percent and 22 percent, respectively), while Central province has the lowest (5 percent).

Information, education, counseling is the most common service provided to the household members by the community health workers (45 percent), followed by immunisations (28 percent) and administering of vitamin A (14 percent).

Table 9.9 Visits by health workers

Percentage of all women 15-49 visited by a health worker in the 12 months preceding the survey, and, of those visited, the percentage who received specific services, by background characteristics, Zambia 2001-2002

Background characteristic	Percentage visited by health worker	Number of women	Services provided										Number of women visited
			Pills, foam	ORs packets	Clorin	Anti-malarial medicine	Weighed baby	Mosquito net	Vitamin A	Information, education, counseling	Immunisations	Other	
Age													
15-19	6.7	1,811	5.4	0.3	5.0	1.4	4.8	2.1	14.8	33.5	43.2	7.1	121
20-24	10.2	1,664	3.3	2.1	4.4	2.6	7.2	1.8	10.0	48.9	23.3	5.3	169
25-29	8.9	1,376	5.2	2.4	6.7	0.5	3.8	1.6	17.6	39.1	31.9	7.0	123
30-34	12.2	972	9.8	3.5	6.5	0.0	7.6	0.0	13.4	40.5	26.6	6.5	118
35-39	12.4	766	6.6	1.8	1.1	2.0	2.0	1.1	12.6	57.9	22.0	7.8	95
40-44	11.2	601	5.3	0.6	1.7	0.0	7.0	1.3	17.5	52.3	25.6	5.7	67
45-49	11.6	467	5.6	3.5	9.8	3.0	1.9	0.0	13.8	55.3	21.7	9.7	54
Residence													
Urban	7.4	3,073	7.3	2.9	11.4	0.5	5.6	0.4	15.7	49.0	18.1	8.5	229
Rural	11.3	4,585	5.1	1.6	2.1	1.8	5.1	1.6	13.0	43.8	32.9	6.0	519
Province													
Central	5.4	562	4.2	2.1	8.3	10.4	0.0	0.0	0.0	70.8	4.2	16.7	30
Copperbelt	7.7	1,544	5.6	2.8	5.6	1.4	6.9	1.4	26.4	43.1	18.1	12.5	118
Eastern	6.8	926	16.4	8.2	3.3	1.6	9.8	3.3	11.5	52.5	0.0	3.3	63
Luapula	9.9	622	1.6	0.0	4.8	0.0	4.8	3.2	16.1	79.0	0.0	0.0	62
Lusaka	6.5	1,132	10.3	1.7	20.7	3.4	6.9	0.0	1.7	62.1	0.0	8.6	73
Northern	9.1	1,040	8.5	0.9	0.9	0.9	6.6	2.8	4.7	74.5	3.8	6.6	94
North-Western	28.8	354	0.4	1.6	0.0	0.0	0.0	0.0	2.0	3.5	92.5	1.2	102
Southern	7.4	814	9.6	1.9	9.6	0.0	5.8	1.9	9.6	65.4	0.0	7.7	60
Western	21.7	663	1.4	0.7	0.7	0.7	4.9	0.0	28.9	18.3	63.4	7.0	144
Education													
No education	9.6	925	7.7	1.4	3.3	0.0	6.3	2.5	9.3	48.8	30.8	3.8	89
Primary	9.5	4,439	5.3	2.3	4.7	0.9	5.5	0.9	15.6	45.2	30.3	5.9	423
Secondary or higher	10.3	2,295	5.8	1.8	5.9	2.8	4.4	1.5	12.5	44.5	24.0	9.4	235
Total	9.8	7,658	5.7	2.0	4.9	1.4	5.3	1.3	13.9	45.4	28.4	6.7	747

Neighbourhood Health Committee

Tables 9.10.1 and 9.10.2 show the percentage of women and men who report there is a Neighbourhood Health Committee (NHC) in their community and the percentage who have ever attended an NHC meeting, by background characteristics. A NHC is a committee selected by people in the community to assist in the management and financing of health services in the community. Forty-two percent of women report the existence of an NHC in their community, 33 percent in urban areas and 48 percent in rural areas. Men are less likely to report having an NHC in their neighbourhood (37 percent). NHCs are apparently more common in the rural provinces than in the predominantly urban provinces. Among people who report having an NHC in their community, only 23 percent of women and 42 percent of men reported ever attending an NHC meeting. Attendance is higher in rural than urban areas.

Table 9.10.1 Neighbourhood Health Committee (NHC): women

Percentage of women who say there is a NHC in their community and of those, percentage who have ever attended an NHC meeting, by background characteristics, Zambia 2001-2002

Background characteristic	NHC in community		Ever attended NHC meeting	
	Percentage	Number	Percentage	Number
Age				
15-19	35.5	1,811	12.0	643
20-24	39.2	1,664	19.0	652
25-29	41.6	1,376	24.9	572
30-34	47.9	972	26.0	466
35-39	51.6	766	31.9	395
40-44	45.6	601	32.2	274
45-49	47.0	467	33.3	219
Residence				
Urban	32.6	3,073	15.4	1,002
Rural	48.4	4,585	26.9	2,220
Province				
Central	46.2	562	16.0	260
Copperbelt	38.4	1,544	18.0	594
Eastern	45.2	926	22.8	419
Luapula	64.7	622	10.4	402
Lusaka	24.9	1,132	17.9	282
Northern	49.7	1,040	33.0	517
North-Western	50.4	354	32.2	179
Southern	39.7	814	27.4	323
Western	37.2	663	39.9	247
Education				
No education	39.5	925	25.9	365
Primary	44.7	4,439	23.3	1,983
Secondary	39.4	2,061	21.7	813
Higher	26.1	234	30.3	61
Total	42.1	7,658	23.3	3,222

Table 9.10.2 Neighbourhood Health Committee (NHC): men

Percent distribution of men who say there is a NHC in their community and of those, percentage who have ever attended an NHC meeting, by background characteristics, Zambia 2001-2002

Background characteristic	NHC in community		Ever attended NHC meeting	
	Percentage	Number	Percentage	Number
Age				
15-19	24.0	459	15.8	110
20-24	33.2	346	28.5	115
25-29	41.0	361	38.3	148
30-34	37.7	281	44.6	106
35-39	48.4	241	51.3	117
40-44	50.4	174	64.7	88
45-49	40.2	113	69.5	46
50-54	44.1	100	53.1	44
55-59	32.9	71	51.6	23
Residence				
Urban	22.6	851	31.4	192
Rural	46.6	1,294	46.0	603
Province				
Central	40.6	165	50.0	67
Copperbelt	22.6	447	26.7	101
Eastern	60.5	268	54.2	162
Luapula	53.0	166	37.5	88
Lusaka	23.4	314	33.9	73
Northern	55.0	292	43.9	161
North-Western	45.8	93	56.9	43
Southern	26.8	232	36.4	62
Western	22.9	169	36.1	39
Education				
No education	40.5	108	47.8	44
Primary	39.9	1,100	42.9	439
Secondary	34.7	808	39.5	280
Higher	25.0	129	55.0	32
Total	37.1	2,145	42.4	796

9.3 WOMEN'S PERCEPTIONS OF PROBLEMS IN OBTAINING HEALTH CARE

The 2001-2002 ZDHS included a series of questions aimed at obtaining information on the problems women perceive as barriers to accessing health care for themselves. This information is particularly important in understanding and addressing the barriers women may face in seeking care in general. To obtain this information, all ZDHS respondents were asked whether each of the following factors would be a big problem or not for them in obtaining medical advice or treatment when they are sick: knowing where to go, getting permission to go, getting money for transport and treatment, distance to the health facility and availability of transport. Table 9.11 shows the problems in accessing health care.

Clearly, women have problems in accessing health care services, with 77 percent of all women citing at least one of the specified problems. The majority of women say that difficulty in getting money for treatment or transport is a big problem (66 percent), followed by availability of transport (47 percent) and distance to the health facilities (46 percent). Very few women cite knowing where to go for treatment or getting permission to go as big problems in accessing health care for themselves.

Getting money for transport or treatment, distance to the health facility, and availability of transport are problems of particular concern to older women and high parity women. The same is true for divorced/separated/widowed women compared with never-married women and those married or cohabiting with a partner. More rural women cite getting money for transport, distance to the health facility, and availability of transport as big problems than urban women.

Table 9.11 Problems in accessing health care

Percentage of women who report they have big problems in accessing health care for themselves when they are sick, by type of problem and background characteristics, Zambia 2001-2002

Background characteristic	Problems in accessing health care						Number of women
	Knowing where to go for treatment	Getting permission to go for treatment	Getting money for treatment or transport	Distance to health facility	Availability of transport	Any of the specified problems	
Age							
15-19	7.8	4.8	59.7	40.9	42.0	71.5	1,811
20-29	6.5	4.4	65.1	45.1	46.2	76.6	3,040
30-39	6.7	2.5	69.5	47.1	50.5	79.8	1,738
40-49	7.6	3.9	76.0	51.6	54.5	85.1	1,069
Number of living children							
0	7.7	4.9	59.0	39.3	40.7	71.4	2,067
1-2	6.5	4.3	65.2	44.7	46.1	76.2	2,431
3-4	7.4	3.3	70.5	49.3	53.3	81.1	1,578
5+	6.3	2.9	73.6	51.0	52.1	83.0	1,582
Marital status							
Never married	7.1	5.0	59.1	38.2	39.2	70.5	1,897
Married or living together	6.5	3.3	66.4	47.4	49.4	77.9	4,694
Divorced, separated, widowed	9.1	5.0	79.1	50.1	52.8	86.9	1,067
Residence							
Urban	5.2	3.0	58.5	25.2	28.0	66.2	3,073
Rural	8.1	4.7	71.6	59.1	60.3	84.8	4,585
Province							
Central	12.2	4.8	66.0	58.0	50.2	82.4	562
Copperbelt	5.5	3.3	57.1	27.6	28.0	66.0	1,544
Eastern	3.4	2.6	78.4	52.1	57.7	83.2	926
Luapula	0.6	3.8	60.9	57.8	56.2	77.2	622
Lusaka	6.5	4.1	66.9	32.1	36.9	75.6	1,132
Northern	4.8	1.2	68.0	55.7	59.4	82.5	1,040
North-Western	7.0	5.8	73.1	56.6	57.9	82.1	354
Southern	8.9	4.7	69.6	50.8	56.2	80.6	814
Western	18.8	9.2	65.5	50.1	49.5	79.6	663
Education							
No education	9.7	6.1	78.0	61.8	63.6	88.0	925
Primary	7.4	3.9	71.6	50.7	53.3	82.8	4,439
Secondary	5.4	2.8	53.8	30.2	30.7	64.6	2,061
Higher	2.5	7.6	31.0	15.7	17.6	43.7	234
Employment							
Not employed	6.7	3.8	65.9	41.5	44.1	75.1	3,274
Working for cash	6.8	4.2	67.3	42.3	44.7	77.6	2,553
Not working for cash	7.8	3.9	65.8	57.1	56.8	81.0	1,830
Total	7.0	4.0	66.4	45.5	47.3	77.3	7,658

Note: The total includes one woman with data missing for employment

It is also quite evident that women with no education are more likely to experience problems in accessing health care compared with their counterparts with higher education. Women with no education are more likely to have problems with finding money for treatment or transport (78 percent) than women with higher than secondary education (31 percent). Getting money for treatment or transport is the most frequently reported problem in all nine provinces. Women in Lusaka and Copperbelt were notably less likely to cite distance to the health facility and availability of transport as a problem in accessing health care than women in other provinces.

No major variations were observed with regard to women's employment status and getting money for treatment or transport. However, 57 percent of women not working for cash identified distance to a health facility and availability of transport as barriers to accessing health services compared with 42 and 45 percent, respectively, of women working for cash.

9.4 CHILD IMMUNISATION

The 2001-2002 ZDHS collected information on immunisation coverage for all children born in the five years before the survey. The Government of Zambia has adopted the World Health Organisation (WHO) guidelines for vaccinating children. According to these guidelines, to be considered fully vaccinated, a child should receive the following vaccinations: one dose of BCG, three doses each of DPT and polio vaccine, and one dose of measles vaccine. BCG, which protects against tuberculosis, should be given at birth or at first clinic contact. DPT protects against diphtheria, pertussis (whooping cough), and tetanus. DPT and polio vaccine guidelines require three vaccinations at approximately 6, 10 and 14 weeks of age. There is also a dose of polio vaccine at birth (Polio 0) or within 13 days. The measles vaccine should be given at nine months of age. It is recommended that children receive the complete schedule of vaccinations before 12 months of age.

In the 2001-2002 ZDHS, information on vaccination coverage was obtained in two ways—from health cards and from mother's verbal reports. All mothers were asked to show the interviewer the health cards on which the child's immunisations are recorded. If the card was available, the interviewer copied the dates on which each vaccination was received. If a vaccination was not recorded on the card, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present a card for a child at all, she was asked to recall whether the child had received BCG, polio, DPT and measles. If she recalled that the child had received the polio or DPT vaccines, she was asked about the number of doses that the child received.

Table 9.12 presents information on vaccination coverage for children 12-23 months indicating the source of information used to determine the coverage for specific vaccines.

Table 9.12 Vaccinations by source of information												
Percentage of children 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Zambia 2001-2002												
Source of information	BCG	Percentage of children who had received:									Number of children	
		DPT			Polio ¹			Measles	All ²	None		
		1	2	3	0	1	2	3				
Vaccinated at any time before the survey												
Vaccination card	78.0	78.3	75.8	70.9	12.1	78.7	75.9	71.1	70.5	63.5	0.0	1,033
Mother's report	16.0	15.8	13.9	9.2	2.2	16.8	15.1	9.1	13.9	6.5	3.4	266
Either source	94.0	94.1	89.7	80.0	14.3	95.6	91.0	80.2	84.4	70.0	3.4	1,299
Vaccinated by 12 months of age³												
	90.7	91.9	85.9	73.8	13.9	93.6	87.3	73.4	70.2	57.1	5.3	1,299

¹ Polio 0 is the polio vaccination given at birth.
² BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)
³ For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

Overall, 70 percent of children 12-23 months are fully vaccinated and only 3 percent of children have not received any vaccines. Looking at coverage for specific vaccines, only 14 percent of children have received polio at birth, 94 percent the first DPT dose, and 96 percent the first polio dose. Coverage declines for subsequent doses of DPT and polio, with only 80 percent of children receiving the recommended three doses of these vaccines. These figures reflect dropout rates of 15 and 16 percent for DPT and polio, respectively; the dropout rate represents the proportion of children who receive the first dose of a vaccine but do not go on to get the third dose. The proportion of children vaccinated against measles is 84 percent.

Table 9.13 presents vaccination coverage among children age 12-23 months by background characteristics. There are minor variations in coverage by sex and birth order. Urban children have 77 percent coverage for all vaccinations, compared with 67 percent among rural children. Copperbelt, Lusaka, and Southern provinces record the highest coverage (79, 78 and 77 percent, respectively) for all vaccinations.

The proportion of children fully immunised increases with mother's level of education, from 58 percent among children whose mothers have no education to 71 percent among those whose mothers have some primary education and 76 percent among those whose mothers have at least some secondary education.

Table 9.13 Vaccinations by background characteristics

Percentage of children 12-23 months who received specific vaccines at any time before the survey (according to vaccination card or mother's report), and percentage with a vaccination card, by background characteristics, Zambia 2001-2002

Background characteristic	Percentage of children who received:											Percentage with a vaccination card	Number of children
	BCG	DPT			Polio ¹				Measles	All ²	No vaccinations		
		1	2	3	0	1	2	3					
Sex													
Male	92.4	93.8	88.9	78.4	14.2	95.6	90.8	79.7	82.7	68.8	3.7	78.0	636
Female	95.4	94.4	90.3	81.6	14.4	95.6	91.1	80.8	86.0	71.2	3.1	81.0	663
Birth order													
1	95.9	97.3	93.8	85.0	17.7	97.3	92.7	83.4	88.6	74.6	1.5	80.6	303
2-3	94.3	95.5	90.2	79.9	15.5	96.1	91.7	82.3	84.7	71.2	3.2	80.5	421
4-5	95.5	95.5	91.5	84.0	13.7	95.7	92.3	82.2	85.1	72.0	3.1	82.2	293
6+	89.6	87.2	82.4	70.8	9.3	92.8	86.6	71.6	78.6	61.5	6.0	74.1	282
Residence													
Urban	95.5	95.9	94.3	87.9	23.3	96.0	92.8	85.1	85.5	76.9	3.2	81.3	379
Rural	93.3	93.4	87.7	76.8	10.6	95.4	90.2	78.2	83.9	67.2	3.4	78.8	920
Province													
Central	95.1	93.8	88.2	81.3	9.0	95.8	91.0	81.9	83.3	70.1	2.1	80.6	91
Copperbelt	92.1	92.1	92.1	87.1	23.7	94.2	92.1	85.6	84.9	79.1	5.0	79.9	229
Eastern	96.7	97.8	91.7	81.8	12.7	97.2	90.1	75.7	89.0	68.5	1.7	76.8	188
Luapula	91.6	86.9	84.1	70.1	3.7	91.6	87.9	72.9	82.2	61.7	6.5	83.2	106
Lusaka	99.2	99.2	97.5	90.0	22.5	99.2	96.7	87.5	86.7	78.3	0.0	84.2	152
Northern	91.7	90.8	79.8	68.4	4.8	92.5	84.6	72.8	80.7	60.5	5.3	71.9	203
North-Western	93.3	94.5	89.1	77.6	8.5	96.4	90.3	80.0	82.4	68.5	3.0	86.7	66
Southern	93.5	96.0	94.4	87.9	18.5	96.8	95.2	86.3	87.1	77.4	3.2	84.7	143
Western	92.6	95.9	89.3	71.1	15.7	97.5	91.7	78.5	80.2	60.3	2.5	76.0	123
Mother's education													
No education	88.2	87.9	80.0	67.1	5.3	90.6	82.9	67.6	79.8	58.0	7.3	73.9	198
Primary	95.5	95.6	90.9	81.3	14.0	96.8	92.3	81.1	84.4	70.6	2.4	82.3	786
Secondary or higher	93.7	94.3	92.6	85.0	20.7	95.6	92.7	85.3	87.2	76.3	3.3	76.1	316
Total	94.0	94.1	89.7	80.0	14.3	95.6	91.0	80.2	84.4	70.0	3.4	79.5	1,299

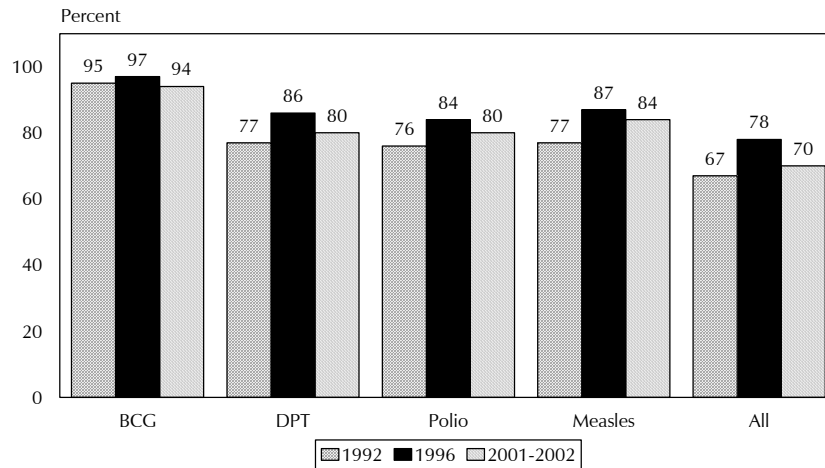
¹ Polio 0 is the polio vaccination given at birth.

² BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

Figure 9.2 shows trends in vaccination coverage among children 12-23 months old from 1992 to 2001-2002. Vaccination coverage for all vaccines increased from 1992 to 1996 and decreased slightly between 1996 and 2001-2002.

Availability of new, clean syringes and needles at health facilities is thought to be low in parts of Zambia. In order to assess the situation as well as the frequency of re-using needles, women interviewed in the 2001-2002 ZDHS were asked if their children under five had received any injection during the three months prior to the survey and if so, whether they brought their own syringes, whether a previously used syringe was used, and whether they kept the syringe after the injection.

Figure 9.2 Trends in Vaccination Coverage Among Children 12-23 Months



Source: 1992 ZDHS, 1996 ZDHS, and ZDHS 2001-2002

Table 9.14 shows the percent distribution of children under five years receiving injections in the three months preceding the survey, by background characteristics. Twenty-two percent of children under five received an injection in the three months prior to the survey.

Of those who received injections, 24 percent used their own needle and syringe brought to the health facility. Thirty-seven percent of urban children were given an injection using their own needle and syringe brought to the health facility, compared with 15 percent of children in rural areas.

Central (38 percent), Southern (37 percent), and Lusaka (37 percent) provinces have the highest percentage of children who received an injection using their own needle and syringe brought to the health facility and North-Western province (2 percent) has the lowest.

Forty-six percent of children were given injections using old/used needles and syringes.

Only 7 percent of respondents reported keeping the needles and syringes after the injection was given to the child, 5 percent in urban areas and 8 percent in rural areas. The questions on injections are specific to Zambia and have not been tested in other countries. Thus, the data should be interpreted with caution because some confusion may have occurred in the respondent's understanding of the questions and in the coded responses.

Table 9.14 Prevalence of injections

Percentage of children under five who received an injection in the three months preceding the survey and of those, the percentage who provided their own syringe, the percentage for whom a previously used syringe was used, and the percentage who kept the syringe, according to background characteristics, Zambia 2001-2002

Background characteristic	Received injection in past 3 months	Number of children	Client provided syringe	Previously used needle and syringe used	Client kept needle and syringe after use	Number of children who received injection
Age in months						
<6	51.8	634	20.2	47.0	3.6	329
6-11	53.3	604	26.3	49.5	4.6	322
12-23	25.6	1,299	25.1	46.7	7.9	333
24-35	13.8	1,143	19.2	43.5	6.5	157
36-47	6.5	1,003	20.5	45.8	19.6	65
48-59	4.3	1,103	34.3	30.0	11.2	47
Sex						
Male	22.1	2,877	21.1	49.1	6.3	635
Female	21.2	2,911	26.0	43.7	6.7	618
Residence						
Urban	26.5	1,796	37.1	45.7	4.7	476
Rural	19.5	3,991	15.2	46.9	7.6	777
Province						
Central	22.4	425	38.4	79.5	10.6	95
Copperbelt	21.2	931	31.7	73.3	5.0	197
Eastern	15.3	781	5.2	7.8	9.6	119
Luapula	27.3	508	6.4	52.9	11.4	139
Lusaka	30.2	711	36.5	12.4	2.4	215
Northern	15.7	884	19.9	77.6	13.5	139
North-Western	22.1	326	2.2	5.0	5.0	72
Southern	22.6	684	36.6	72.4	3.0	154
Western	22.9	536	13.2	24.0	1.7	123
Mother's education						
No education	18.2	842	13.3	39.7	4.6	153
Primary	21.3	3,656	22.6	47.1	6.1	778
Secondary or higher	25.0	1,289	30.6	48.0	8.3	322
Total	21.7	5,787	23.5	46.4	6.5	1,253

9.5 ACUTE RESPIRATORY INFECTIONS

Pneumonia and other respiratory tract infections are leading causes of death of young children in Zambia. In cases of pneumonia, early diagnosis and treatment with antibiotics can prevent a large proportion of deaths due to acute respiratory tract infections (ARI). The prevalence of ARI in the 2001-2002 ZDHS was estimated by asking mothers whether their children under age five had been ill with a cough accompanied by short, rapid breathing in the two weeks preceding the survey. It should be borne in mind that these data are subjective (i.e., mother's perception of illness) and not validated by a medical examination.

Table 9.15 shows the percentage of children reported to have the symptoms of ARI during the two-week period before the survey and, among children with these symptoms, the percentage for whom treatment was sought from a health provider.

Table 9.15 Prevalence and treatment of symptoms of acute respiratory infection (ARI)

Percentage of children under five years of age who had a cough accompanied by short, rapid breathing (symptoms of ARI), and percentage of children with symptoms of ARI for whom treatment was sought from a health facility or provider, by background characteristics, Zambia 2001-2002

Background characteristic	Percentage of children with symptoms of ARI	Number of children	Among children with symptoms of ARI, percentage for whom treatment was sought from a health facility or provider ¹	Number of children with ARI symptoms
Age in months				
<6	16.5	634	71.8	105
6-11	21.4	604	78.8	129
12-23	18.0	1,299	76.0	234
24-35	15.5	1,143	71.4	177
36-47	9.9	1,003	55.4	99
48-59	9.0	1,103	46.8	99
Sex				
Male	14.9	2,877	68.1	428
Female	14.2	2,911	70.1	415
Residence				
Urban	13.8	1,796	73.2	248
Rural	14.9	3,991	67.4	595
Province				
Central	17.7	425	53.8	75
Copperbelt	11.8	931	76.1	110
Eastern	9.4	781	81.7	74
Luapula	26.8	508	72.3	136
Lusaka	15.8	711	74.2	112
Northern	12.8	884	61.4	113
North-Western	9.2	326	64.0	30
Southern	14.6	684	75.9	100
Western	17.2	536	56.0	92
Mother's education				
No education	18.2	842	63.6	153
Primary	14.6	3,656	69.2	535
Secondary and higher	12.0	1,289	74.2	155
Total	14.6	5,787	69.1	843

¹ Excludes pharmacy, shop and traditional practitioner

Mothers reported that 15 percent of children under 5 had symptoms of acute respiratory illness (ARI) in the two weeks prior to the survey, of whom 69 percent sought treatment from a health care provider. The 6-23 month old children had the highest prevalence of ARI closely followed by those aged less than 6 months and 24-35 months. The prevalence of ARI drops sharply after 3 years of age. There is little difference observed between boys and girls and residential location. Luapula has 27 percent of children with symptoms of ARI which was the highest compared with North-Western and Eastern provinces which have the lowest (9 percent). Children of mothers with secondary or higher education were reported to have slightly lower occurrence of ARI symptoms (12 percent) compared with those of mothers with no education (18 percent).

Eastern province has the highest proportion (82 percent) of ARI cases for which treatment was sought from a facility, while Central had the lowest (54 percent). Children age 0-35 months are more likely to be taken for treatment compared with children age 36-59 months. Children of mothers with secondary or higher education are more likely to receive treatment from a health facility (74 percent) than those whose mothers have no education (64 percent).

9.6 DIARRHOEAL DISEASES

Dehydration caused by severe diarrhoea is a major cause of morbidity and mortality among young children in Zambia. Exposure to diarrhoeal-causing agents is frequently related to use of contaminated water and unhygienic practices related to food preparation, hand-washing, and excreta disposal.

In the 2001-2002 ZDHS, mothers were asked whether any of their children under five years of age had diarrhoea at any time during the two-week period prior to the survey. If any child had diarrhoea, the mother was asked about feeding practices during the diarrhoeal episode and about what actions were taken to treat the diarrhoea.

Table 9.16 shows the proportion of children under 5 who had diarrhoea during the two-week period before the survey. Overall, the prevalence of diarrhoea in the two weeks preceding the survey was 21 percent. Children age 6-23 months have the highest prevalence of diarrhoea (36-39 percent) followed by those age 24-35 months (22 percent). There are no differences in the prevalence of diarrhoea regarding the child's sex or residence. Children in North-Western province have a somewhat lower diarrhoea prevalence than children in other provinces. Children of mothers with more than secondary education have a much lower prevalence rate for diarrhoeal diseases (6 percent), than children of mothers with no education (24 percent), some primary education (21 percent), or some secondary education (20 percent). Some of this difference may be due to the relatively small number of children whose mothers have more than secondary education. There is little variation in episodes of diarrhoea by source of drinking water in households.

Use of ORT and ORS

A simple and effective response to dehydration associated with diarrhoea is a prompt increase in the child's fluid intake through food and oral rehydration therapy (ORT). ORT may include the use of a solution prepared from commercially produced packets of oral rehydration salts (ORS) or a homemade mixture usually prepared from sugar, salt and water. Table 9.17 shows the proportion of women with children under five years of age who know about ORS packets.

Table 9.16 Prevalence of diarrhoea

Percentage of children under five years with diarrhoea in the two weeks preceding the survey, by background characteristics, Zambia 2001-2002

Background characteristic	Diarrhoea in the two weeks preceding the survey	Number of children
Age in months		
<6	9.9	634
6-11	38.5	604
12-23	36.0	1,299
24-35	22.2	1,143
36-47	12.6	1,003
48-59	7.4	1,103
Sex		
Male	21.4	2,877
Female	20.9	2,911
Residence		
Urban	21.1	1,796
Rural	21.2	3,991
Province		
Central	20.0	425
Copperbelt	19.3	931
Eastern	22.3	781
Luapula	23.4	508
Lusaka	24.5	711
Northern	19.9	884
North-Western	13.6	326
Southern	23.9	684
Western	20.5	536
Mother's education		
No education	23.7	842
Primary	21.4	3,656
Secondary	19.7	1,198
Higher	5.7	92
Source of drinking water		
Piped	20.0	1,717
Covered well/borehole	21.3	1,145
Open well	21.9	1,689
Surface	21.8	1,219
Total	21.2	5,787

Ninety-five percent of recent mothers know about ORS. There is little variation in the proportion by age, residence, and province. All the women with more than secondary education know about ORS compared with 88 percent of those with no education.

Mothers of children who had diarrhoea in the two weeks preceding the survey were asked what was done to manage or treat the illness. The results are shown in Table 9.18. Mothers reported that 43 percent of their children with diarrhoea were taken to a health facility. Just over half the children (53 percent) were given a solution made from oral rehydration salts (ORS), and 41 percent were given increased fluids. Overall, 67 percent received either ORS or increased fluids. Fifteen percent of children with diarrhoea were given pills or syrup, less than 1 percent received injections or intravenous medication, and 18 percent were given herbal remedies or medicines. One in five children with diarrhoea were given no treatment at all.

Children under three years are more likely to be taken to a health facility for treatment (43-47 percent) than those over 3 years of age. There are wide variations between the provinces in the proportion of children with diarrhoea who are taken for treatment, ranging from the lowest (32 percent) in Central to the highest (53 percent) in Luapula. Children with diarrhoea are more likely to be taken to a health facility if their mother has a higher level of education. Thirty-nine percent of children with diarrhoea whose mothers have no education are taken to a health facility, compared with 46 percent of those whose mothers have secondary or higher education. Use of ORS also increases with education level of the mother.

Mothers are encouraged to continue feeding their children normally when they suffer from diarrhoea and to increase the amount of fluids children are given. These practices help to reduce the likelihood the child will become dehydrated and also minimise the adverse consequences of diarrhoea on the child's nutritional status.

Table 9.17 Knowledge of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about ORS packets for treatment of diarrhoea in children, by background characteristics, Zambia 2001-2002

Background characteristic	Percentage of mothers who know about ORS packets	Number of mothers
Age		
15-19	93.0	467
20-24	94.4	1,250
25-29	96.0	1,106
30-34	95.7	708
35-49	93.5	870
Residence		
Urban	98.3	1,499
Rural	92.9	2,904
Province		
Central	97.8	319
Copperbelt	98.7	765
Eastern	97.0	587
Luapula	92.0	371
Lusaka	98.5	590
Northern	92.1	649
North-Western	94.3	226
Southern	87.2	485
Western	91.9	412
Education		
No education	87.7	613
Primary	95.1	2,726
Secondary	97.6	977
Higher	100.0	87
Total	94.7	4,402

Table 9.18 Diarrhoea treatment

Percentage of children under five years who had diarrhoea in the two weeks preceding the survey who were taken for treatment to a health provider, percentage who received oral rehydration therapy (ORT), and percentage given other treatments, according to background characteristics, Zambia 2001-2002

Background characteristic	Percentage taken to a health facility ¹	Oral rehydration therapy			Other treatments					Number of children with diarrhoea	
		ORS packets	In-creased fluids	ORS or in-creased fluids	Pill or syrup	Injection	Intra-venous solution	Home remedy/ herbal medicine/ other	Missing		No treatment
Age in months											
<6	43.7	48.1	22.3	52.7	9.3	0.0	1.4	20.7	0.0	30.6	63
6-11	43.1	50.3	41.7	66.6	15.2	0.0	0.5	17.4	0.4	24.0	232
12-23	46.9	57.7	40.7	68.2	17.1	0.5	0.5	17.4	0.0	20.3	468
24-35	41.6	54.4	48.4	71.9	14.6	0.0	1.1	18.3	0.4	17.6	254
36-47	35.4	45.7	40.3	62.9	13.9	0.0	0.0	21.4	0.0	24.2	127
48-59	32.3	47.8	32.0	61.6	8.7	0.0	0.0	20.5	0.0	21.4	81
Sex											
Male	42.0	53.2	41.9	67.9	13.5	0.1	1.0	17.3	0.2	21.6	617
Female	43.5	53.3	39.8	65.8	16.4	0.3	0.2	19.4	0.2	21.2	609
Residence											
Urban	40.6	56.4	45.5	71.9	22.4	0.4	1.6	11.2	0.0	18.6	379
Rural	43.7	51.8	38.9	64.6	11.6	0.1	0.1	21.6	0.2	22.7	847
Province											
Central	31.9	44.4	42.2	62.2	8.9	0.7	0.0	22.2	0.0	26.7	85
Copperbelt	48.6	55.0	51.4	74.3	20.2	0.9	0.9	11.0	0.0	19.3	179
Eastern	51.8	62.5	54.8	76.2	22.6	0.0	0.6	25.0	0.0	14.9	174
Luapula	53.3	60.0	37.5	73.3	19.2	0.0	0.8	16.7	0.8	14.2	119
Lusaka	34.1	58.7	42.8	73.2	21.0	0.0	1.4	11.6	0.0	17.4	174
Northern	42.4	44.4	41.4	62.1	6.6	0.0	0.5	20.7	0.0	25.3	176
North-Western	47.3	60.9	31.8	68.2	5.5	0.0	0.0	23.6	0.0	19.1	44
Southern	34.5	47.2	28.9	57.0	11.3	0.0	0.0	21.8	0.0	27.5	163
Western	40.7	46.3	22.2	48.1	7.4	0.0	0.0	18.5	0.9	31.5	110
Mother's education											
No education	38.8	42.0	35.1	56.7	12.2	0.0	0.0	31.3	0.5	23.9	200
Primary	42.8	53.1	38.9	66.3	13.0	0.3	0.9	17.7	0.1	23.1	784
Secondary or higher	46.0	63.1	52.0	77.0	23.6	0.0	0.0	10.0	0.0	14.1	241
Total	42.8	53.2	40.9	66.9	14.9	0.2	0.6	18.4	0.2	21.4	1,225

Note: ORT includes solution prepared from packets of oral rehydration salts (ORS) or increased fluids.

¹ Excludes pharmacy, shop, and traditional practitioner

Table 9.19 presents data on feeding practices when a child has diarrhoea. Most children are given either the same amount of fluids (36 percent) or more fluids than usual (41 percent) when they have diarrhoea. Twelve percent of children are given less fluids than usual, 6 percent are given much less, and 5 percent receive no fluids.

Regarding food, 39 percent of children are offered the same amount of food and 9 percent are offered more food than usual. Almost half of children with diarrhoea are offered somewhat less or much less food than usual, or no food at all.

Knowledge and Use of Clorin

Clorin is a product used for water purification that is widely marketed in Zambia. Table 9.20 shows that 75 percent of all households have heard of Clorin (95 percent in urban areas and 65 percent in rural areas). However, only 14 percent of households (27 percent in urban and 7 percent in rural areas) reported treating their water with Clorin at the time of the survey.

Lusaka (98 percent), Copperbelt (96 percent) and Central provinces (93 percent) have the highest percentage of households that have heard of Clorin. The same three provinces have the largest proportion of households reporting use of Clorin to treat household water; 24 percent in Lusaka and Copperbelt, and 16 percent in Central province. The smallest proportion of households that report ever having heard of Clorin or are currently using Clorin to treat their household water is in Western province, 39 percent and 3 percent, respectively.

Community-based agents (31 percent) and radio messages (31 percent) are the most common sources of information about Clorin, followed by television (20 percent), and shops (18 percent). Leaflets/booklets and posters were the least mentioned source of information about the use of Clorin (2 percent each).

Table 9.19 Feeding practices during diarrhoea

Percent distribution of children under five years who had diarrhoea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, Zambia 2001–2002

Feeding practices	Percent
Amount of liquids offered	
Same as usual	36.2
More	40.9
Somewhat less	12.4
Much less	5.7
None	4.7
Don't know/missing	0.2
Total	100.0
Amount of food offered	
Same as usual	39.3
More	8.5
Somewhat less	24.5
Much less	14.0
None	10.0
Never gave food	3.5
Don't know/missing	0.1
Total	100.0
Number of children	1,225

Table 9.20 Household knowledge and usage of Clorin

Percentage of household respondents who have ever heard of Clorin, percentage of households whose water is currently treated with Clorin, and among those who have heard of Clorin, the percentage who cite specific sources of information, by background characteristics, Zambia 2001-2002

Background characteristic	Percentage of household respondents who have heard of Clorin	Percentage of households whose water is currently treated with Clorin	Number of households	Among households that have heard of Clorin, source of information							Number of household respondents who have heard of Clorin
				Radio	Television	Shop	Leaflet/booklets	Poster	Community-based agent	Other	
Residence											
Urban	94.8	26.5	2,437	41.1	39.1	21.5	2.2	3.0	32.1	3.7	2,310
Rural	64.8	6.7	4,689	22.6	4.7	15.6	1.1	0.8	29.8	4.0	3,039
Province											
Central	92.5	16.4	490	40.4	17.2	7.3	2.1	2.4	29.2	2.9	453
Copperbelt	95.7	24.2	1,221	39.3	40.9	27.1	1.6	1.3	27.5	2.6	1,168
Eastern	63.5	11.7	999	17.3	4.9	9.2	0.3	1.1	35.0	6.4	634
Luapula	86.8	7.3	652	11.9	0.9	11.2	1.1	0.9	36.4	0.9	566
Lusaka	97.5	23.6	976	41.0	36.8	16.1	2.2	4.5	39.8	4.6	951
Northern	69.1	11.4	1,028	29.1	7.2	27.6	0.9	0.5	21.7	4.1	711
North-Western	63.3	6.5	371	23.8	2.4	36.4	1.2	0.0	11.0	4.9	235
Southern	51.3	4.2	734	24.4	9.8	12.0	3.5	2.5	35.8	3.5	377
Western	38.9	2.6	656	28.2	4.4	7.9	2.0	0.4	29.4	7.9	255
Total	75.1	13.5	7,126	30.6	19.6	18.2	1.6	1.8	30.8	3.9	5,349