CHAPTER 7

Maternal Health

A number of factors can have a considerable impact on the health of a woman, the health of her baby, and the outcome of her pregnancy, such as the use of health care services related to pregnancy, the place and type of assistance at delivery, and postpartum behaviors. The use of preventive health services such as cervical cancer screening and the receipt of tetanus toxoid vaccines can also save the lives of mothers and infants alike. These topics are examined in this chapter.

Prenatal Care

Prenatal care is important for preventing, identifying, and treating conditions that can affect the health of an expectant mother or her baby. For the optimal health of mother and child, it is recommended that every pregnant woman start seeing a health care provider for prenatal care examinations during her first trimester of pregnancy. The number of prenatal visits a woman should make during her pregnancy depends on the evolution of her pregnancy. Data presented in this chapter reflect the norm established by the Ministry of Health in El Salvador of 5 or more prenatal visits. In Nicaragua a minimum of 4 visits is recommended by the Ministry of Health.

Table 7.1 presents trends in the percentage of live births in the five years prior to the surveys for which the respondents reported that they received prenatal care. Focusing on the most recent survey, in all of the countries, over 82 percent of the pregnancies received at least one prenatal care examination. The countries with the highest prenatal coverage were Nicaragua and El Salvador (about 86 percent), while the lowest coverage was in Honduras (82.6 percent). With one exception, differences between urban and rural populations tended to be relatively small. The exception is Nicaragua, where the urban/rural differential was almost 14 percentage points (Graph 7.1).

Since the early 1990s, the percentage of pregnancies that ended in a live birth that received prenatal care increased in two of the countries (El Salvador and Nicaragua) and decreased in the other two (Guatemala and Honduras). The increase in both El Salvador and Nicaragua is due primarily to increased coverage in the rural area. Lack of improvements in coverage in Guatemala appears to be related to a decrease in coverage in the rural area, while urban coverage deteriorated slightly in Honduras (data not shown).

Table 7.1
Trends in the Use of Prenatal Care: Live Births in the Five Years Prior to the Survey

Country	Year of Survey	Percentage
El Salvador	1993*	68.7
El Salvador	1998*	76.0
El Salvador	2002/03*	86.0
Guatemala	1995*	86.7
Guatemala	1998/99*	86.8
Guatemala	2002‡	84.3
Honduras	1991/92§	87.7
Honduras	1996†	83.9
Honduras	2001*	82.6
Nicaragua	1992/93*	71.5
Nicaragua	1998*	83.6
Nicaragua	2001*	86.4

* Live births to women aged 15–49 during the 5 years prior to the survey.

† Last live birth to women aged 15–49 during the 5 years prior to the survey.

‡ Live births to married women aged 15–49 during the 5 years prior to the survey.

§ Last live birth to women aged 15–44 during the 5 years prior to the survey.

Graph 7.1
Use of Prenatal Care, by Area of Residence (Most Recent Survey)

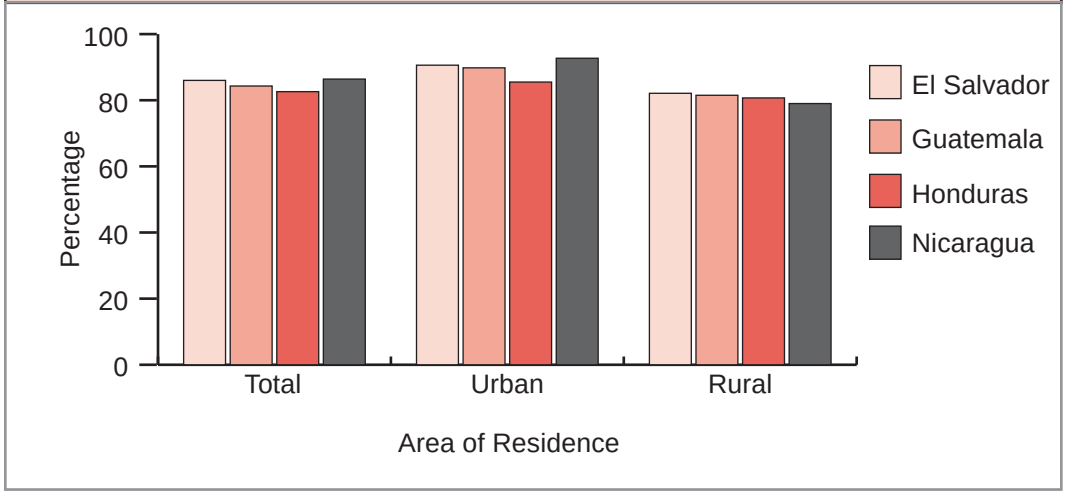


Table 7.2
Use of Prenatal Care, According to Area of Residence, By Trimester of First Visit and Number of Controls: Live Births in the 5 Years Prior to the Survey (Most Recent Survey)

Country/Area	Year of Survey	First Trimester	5+ Controls
El Salvador	2002/03		
Total		66.0	71.2
Urban		73.6	79.3
Rural		59.5	64.2
Guatemala	2002		
Total		51.1	56.6
Urban		64.4	67.4
Rural		44.5	51.2
Honduras	2001		
Total		56.4	58.6
Urban		64.1	67.2
Rural		51.3	53.1
Nicaragua	2001		
Total		61.0	71.6*
Urban		69.7	82.1*
Rural		50.8	59.3*

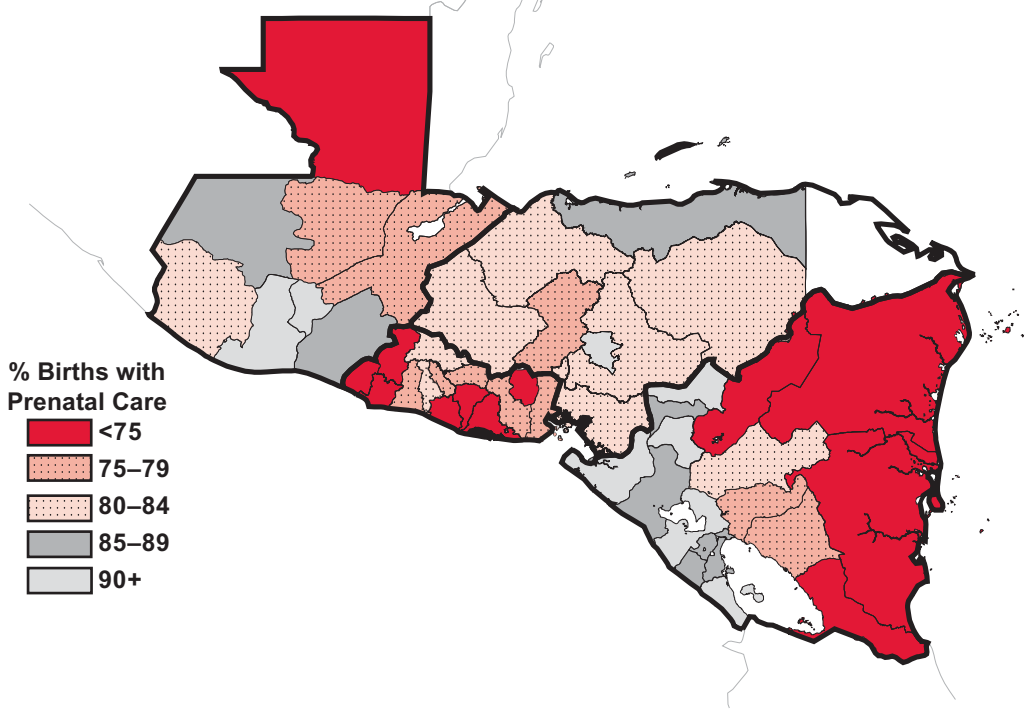
* Four or more controls.

According to the last survey conducted in each country, nearly two-thirds of women in El Salvador began receiving prenatal care during their first trimester of pregnancy, with Nicaragua not far behind at 61.0 percent (Table 7.2). Care tended to begin later in Guatemala (51.1 percent), followed by Honduras (56.4 percent). However, in all of the countries, there is a trend in receiving the first prenatal examination at earlier gestational ages (data not shown).

Also shown in Table 7.2, the percentage of pregnancies receiving five or more prenatal care examinations is highest in Nicaragua (71.6 percent) and El Salvador (71.2 percent) and lowest in Honduras (58.6 percent) and Guatemala (56.6 percent).

Urban women are more likely than their rural counterparts to begin prenatal care during the first trimester of pregnancy, and to receive five or more visits. Focusing only on rural women, rural women in El Salvador rank first on these measures, while Guatemala ranks last.

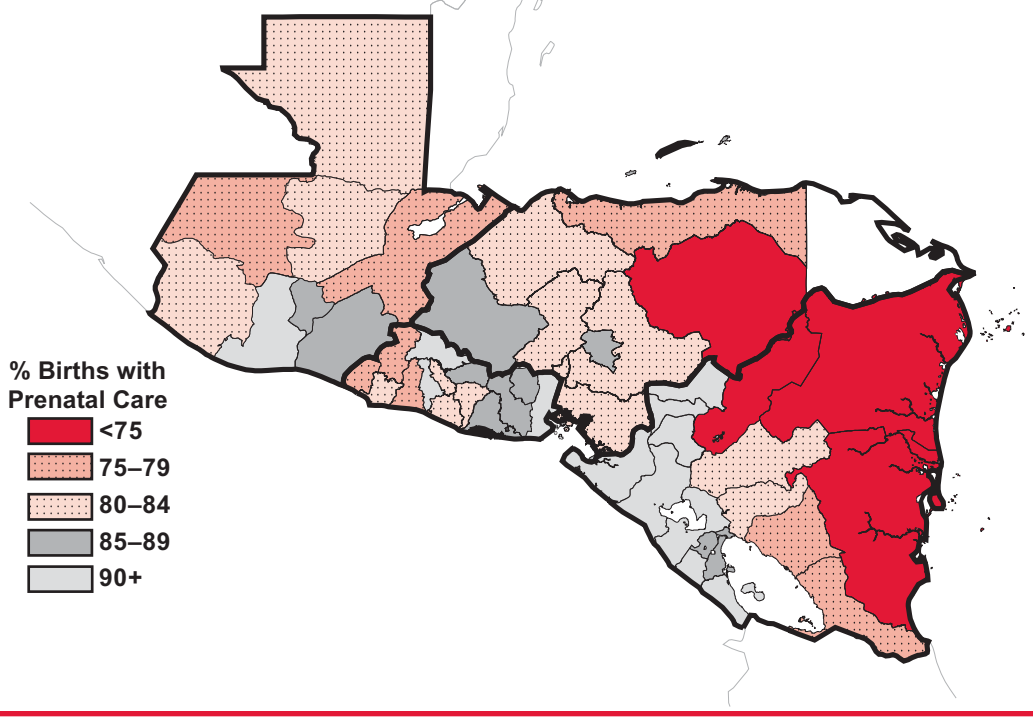
Map 7.1
Use of Prenatal Care for Births in the Previous 5 Years by Region / Department (Next-to-Last Survey)



Maps 7.1 and 7.2 show the use of prenatal care for sub-national regions, according to the next-to-last and last surveys conducted in each of the four countries. In Nicaragua, there was little or no change between the surveys in the departments that are not adjacent to the Pacific Ocean. In Honduras, there is a notable change for the better in the health region that borders northern El Salvador, while the health region on Honduras' northern coast lost coverage. With regard to El Salvador, each department appears to have enjoyed an increase in prenatal care, especially in those departments in the eastern part of the country. Guatemala presents a mixed picture in that some health regions increased prenatal coverage between the two surveys, while in others coverage decreased.

In the countries for which there are data (El Salvador, Guatemala, and Honduras), the Ministry of Health is the primary provider of prenatal care, according to the latest survey (data not shown). The second most important provider in El Salvador and Guatemala are their respective Social Security Institutes (ISSS and IGSS), while in Honduras it is private physicians.

Map 7.2
Use of Prenatal Care for Births in the Previous 5 Years by Region / Department (Last Survey)



Delivery Care

Skilled medical assistance during childbirth, whether at home or in a medical facility, can save women's lives. Untreated or improperly treated complications of pregnancy, delivery, and the postpartum period are a leading cause of death for women in developing countries. To prevent maternal complications, skilled attendants are needed to provide assistance with delivery and monitoring of the postpartum period. Skilled attendants include doctors, nurses, and midwives trained to manage normal deliveries and who can also diagnose and refer or else manage obstetric complications.

Surveys measure skilled delivery care in two ways: by the percentage of women giving birth in a medical facility rather than at home, and by the proportion of all births that are attended by skilled personnel, whether at home or in a health facility. Usually, home deliveries are associated with lower skilled assistance. For all four countries, data exist on the percentage of births attended in a medical facility, while only Guatemala and Nicaragua have data on births attended by skilled personnel.

Table 7.3
Trends in the Percentage of Deliveries Attended in a Medical Facility, By Area of Residence: Live Births in the 5 Years Prior to the Survey

Country	Year of Survey	Percentage
El Salvador	1993*	51.0
El Salvador	1998*	58.0
El Salvador	2002/03*	69.4
Guatemala	1995*	35.3
Guatemala	1998/99*	41.0
Guatemala	2002*	42.1
Honduras	1991/92‡	45.6
Honduras	1996†	53.8
Honduras	2001*	55.2
Nicaragua	1992/93*	59.2
Nicaragua	1998*	63.6
Nicaragua	2001*	66.3

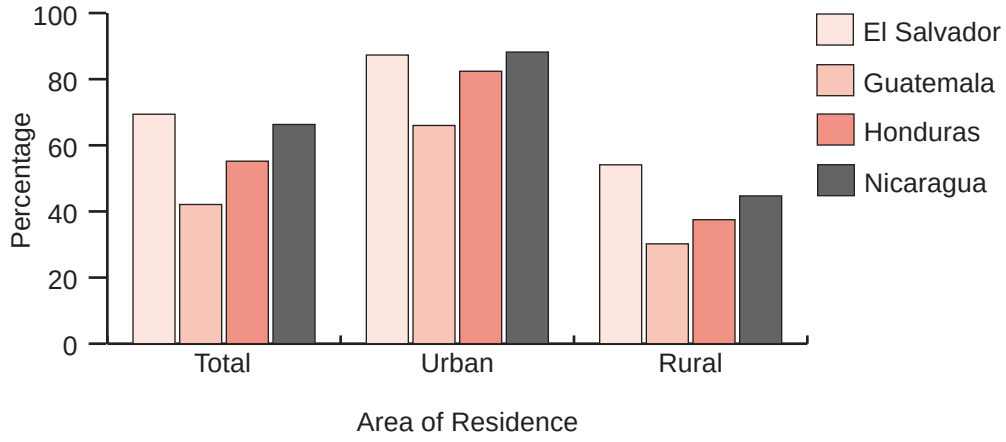
* Live births to women aged 15–49 during the 5 years prior to the survey.
† Last live birth to women aged 15–49 during the 5 years prior to the survey.
‡ Last live birth to women aged 15–44 during the 5 years prior to the survey.

According to data from the last survey conducted in each country, over half of the women in El Salvador, Honduras, and Nicaragua who had at least one live birth in the five years prior to the survey delivered in a medical facility, ranging from 55.2 percent in Honduras to 69.4 percent in El Salvador (Table 7.3). The level was lowest in Guatemala, at 42.1 percent. However, it should be noted that deliveries outside of medical facilities are relatively common in all of the countries, ranging from 30 percent in El Salvador to 58 percent in Guatemala. Not surprisingly, births outside of medical facilities were far more frequent in rural areas than in urban areas, ranging from 46 percent in El Salvador to 70 percent in Guatemala (Graph 7.2).

Each of the countries has experienced an increase in the proportion of births in medical facilities since the early 1990s (Table 7.3). Most striking was the increase in El Salvador, where in the

Graph 7.2

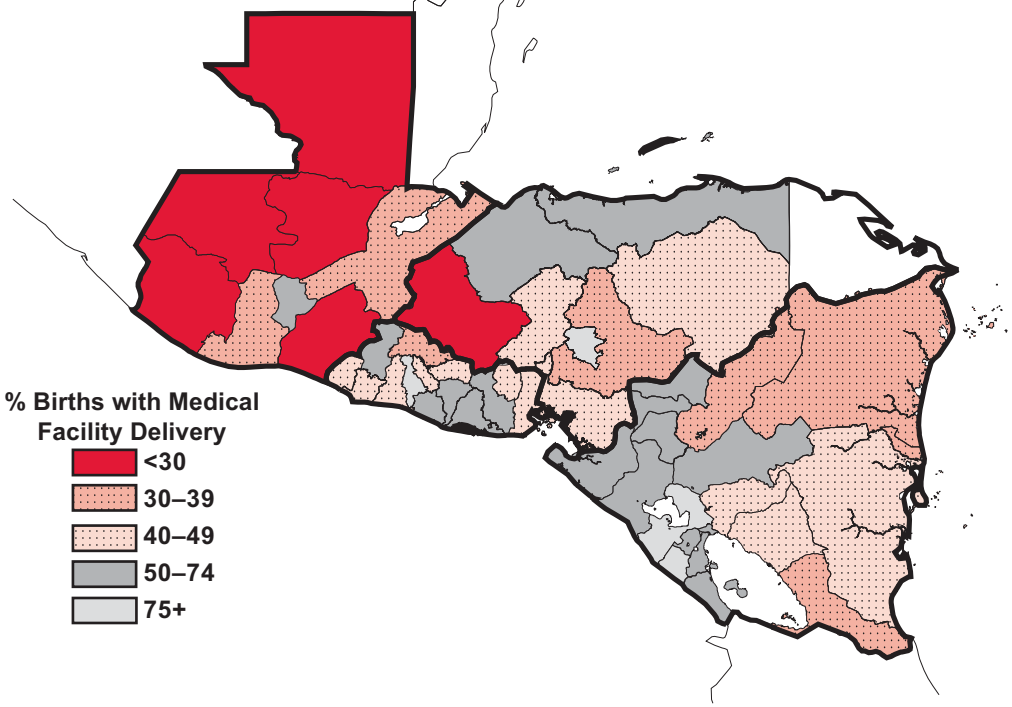
Percentage of Births Attended in a Medical Facility, by Area of Residence (Most Recent Survey)



2002/03 survey 69.4 percent of women reported that their deliveries were in a medical facility, compared with 51.0 percent reported in 1993, for an 18 percentage point increase. El Salvador is followed by Honduras (10 percentage point increase) and by Nicaragua and Guatemala with a 7 percentage point increase.

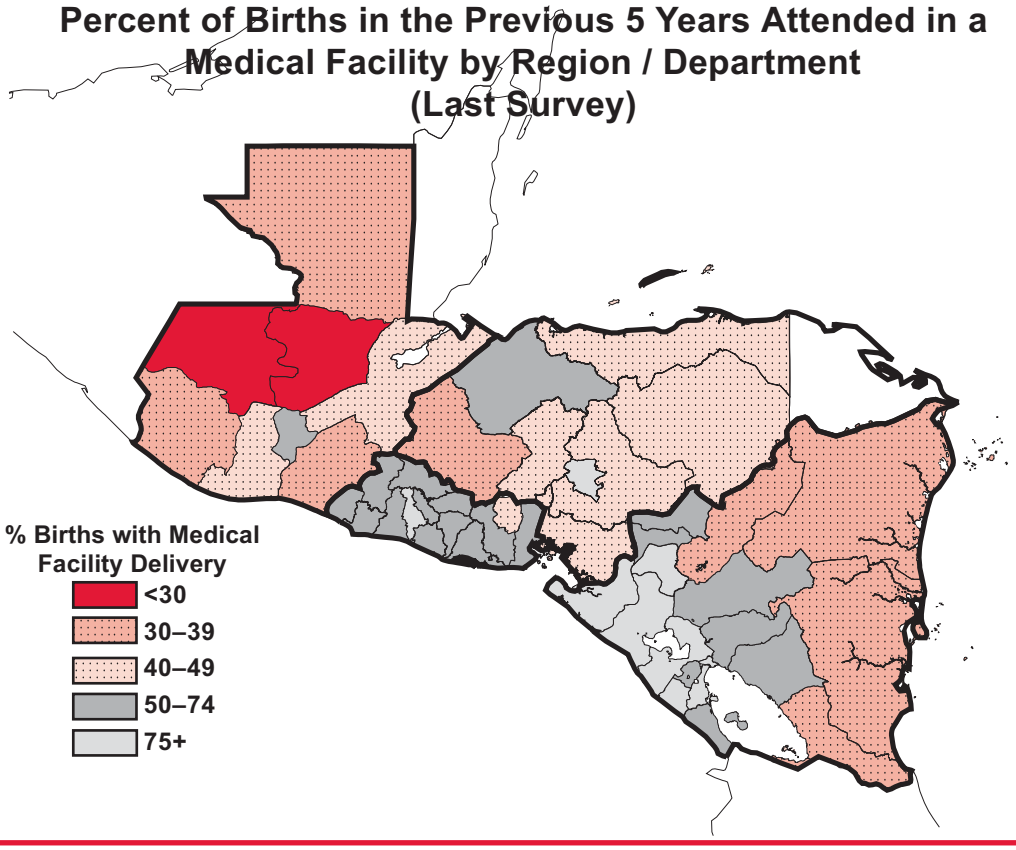
With respect to who attended the deliveries, data exist for Guatemala and Nicaragua from the last survey conducted in these countries. In Guatemala, 37.0 percent of all births occurring in the five years prior to interview were attended by a physician, 4.4 percent by a nurse, and 47.5 percent by a midwife. In Nicaragua, 45.2 percent were attended by a physician, 18.9 percent by a gynecologist, 2.8 percent by a nurse, and 22.7 percent by a midwife (data not shown).

Map 7.3
Percent of Births in the Previous 5 Years Attended in a Medical Facility by Region / Department (Next-to-Last Survey)



Maps 7.3 and 7.4 show the percentage of births attended in a medical facility, according to the next-to-last and last surveys in each country. What stands out when the two maps are compared is that in almost every department in El Salvador over 50 percent of the births are attended in a medical facility, according to the most recent survey. Excluding the Northern and Southern Atlantic Autonomous Regions (RAAN and RAAS) in Nicaragua, at least 50 percent of births are attended in a medical facility in the remaining departments, with most of the departments that border the Pacific Ocean reaching 75 percent. Some improvement is noted in Honduras, but the health region on the northern coast suffered a decline between the two surveys. Guatemala's situation improved slightly, especially in those departments that border the Pacific Ocean.

Map 7.4
Percent of Births in the Previous 5 Years Attended in a Medical Facility by Region / Department (Last Survey)



Cesarean Births

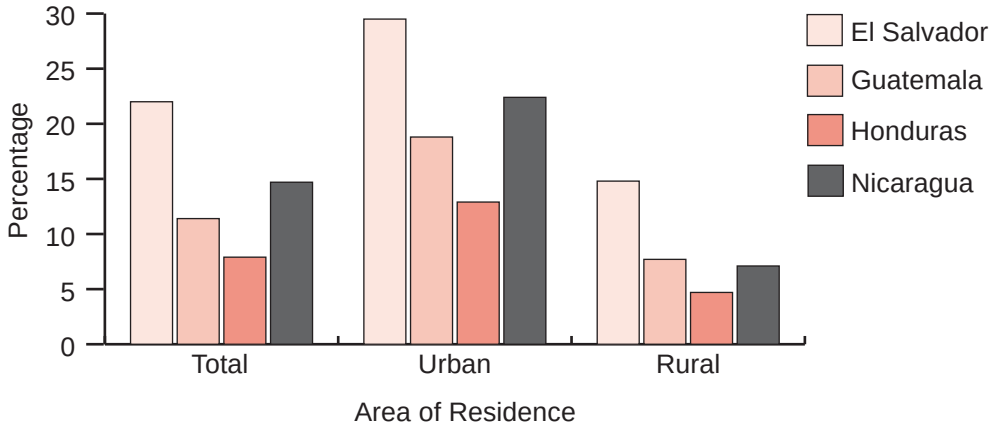
In its plan to reduce maternal mortality, the Pan American Health Organization (PAHO) indicates that the percentage of all births in a country by cesarean section should range from 5 to 15 percent. If the percentage falls below 5 percent, this indicates lack of accessibility to the procedure, while if it is above 15 percent, this indicates abuse in the use of this procedure. In Table 7.4, trends in the percentage of all deliveries that were by cesarean section are shown. Focusing on the most recent survey, El Salvador has the highest cesarean rate (22.0 percent), while Honduras has the lowest rate (7.9 percent). As shown in Graph 7.3, the lowest cesarean rate was found to be among Honduran women who live in rural areas (4.7 percent) and the highest among El Salvador's urban women (29.5 percent). Important urban/rural differentials exist. For example, in Nicaragua and Honduras, approximately three times more women who live in urban areas experienced a cesarean section than women who live in rural areas. In Guatemala and El Salvador the differential is approximately two times greater. The data indicate that, at least for Nicaragua and Guatemala, the trend in delivering births by cesarean section is beginning to level off, whereas in El Salvador there appears to be an upward trend.

Table 7.4
Trends in the Percentage of All Deliveries That Were By Cesarean Section: Live Births in the 5 Years Prior to the Survey

Country	Year of Survey	Percentage
El Salvador	1993*	na
El Salvador	1998*	15.7
El Salvador	2002/03*	22.0
Guatemala	1995*	8.2
Guatemala	1998/99*	10.8
Guatemala	2002*	11.4
Honduras	1991/92‡	6.5
Honduras	1996†	6.3
Honduras	2001*	7.9
Nicaragua	1992/93*	8.0
Nicaragua	1998*	15.4
Nicaragua	2001*	14.7

* Live births to women aged 15–49 during the 5 years prior to the survey.
† Last live birth to women aged 15–49 during the 5 years prior to the survey.
‡ Last live birth to women aged 15–44 during the 5 years prior to the survey.

Graph 7.3
Percentage of All Deliveries That Were Cesarean, by Area of Residence (Most Recent Survey)



Postpartum Care

It is usually a joyful event when a woman gives birth to a baby she wants. Despite the pain and discomfort, birth is the long-awaited culmination of pregnancy and the start of a new life. However, birth is also a critical time for the health of the mother and her baby. Problems may arise that, if not treated promptly and effectively, can lead to ill-health and even death for one or both of them. Nonetheless, the postpartum period is often neglected by maternity care. The lack of postpartum care ignores the fact that the majority of maternal deaths and disabilities occur during the postpartum period and that early neonatal mortality is high. Postpartum care should include: the prevention and early detection and treatment of complications and disease, and the provision of advice and services on breastfeeding, birth spacing, immunization, and maternal nutrition.

According to the last survey conducted in each country, there was great variation in the proportion of women receiving postpartum care, ranging from 20.3 percent in Guatemala to 54.2 percent in El Salvador (Table 7.5). As shown in Graph 7.4, postpartum care coverage was higher in urban areas than in rural areas in each country, but the percentage of urban women receiving postpartum care pales when compared with the percentage of women receiving prenatal care (see Table 7.1).

Table 7.5
Trends in the Use of Postpartum Care: Live Births in the 5 Years Prior to the Survey

Country	Year of Survey	Percentage
El Salvador	1993*	30.3
El Salvador	1998*	43.3
El Salvador	2002/03*	54.2
Guatemala	1995*	na
Guatemala	1998/99*	na
Guatemala	2002*	20.3
Honduras	1991/92‡	33.6
Honduras	1996†	34.3
Honduras	2001*	34.0
Nicaragua	1992/93*	30.5
Nicaragua	1998*	na
Nicaragua	2001*	28.4

* Live births to women aged 15–49 during the 5 years prior to the survey.

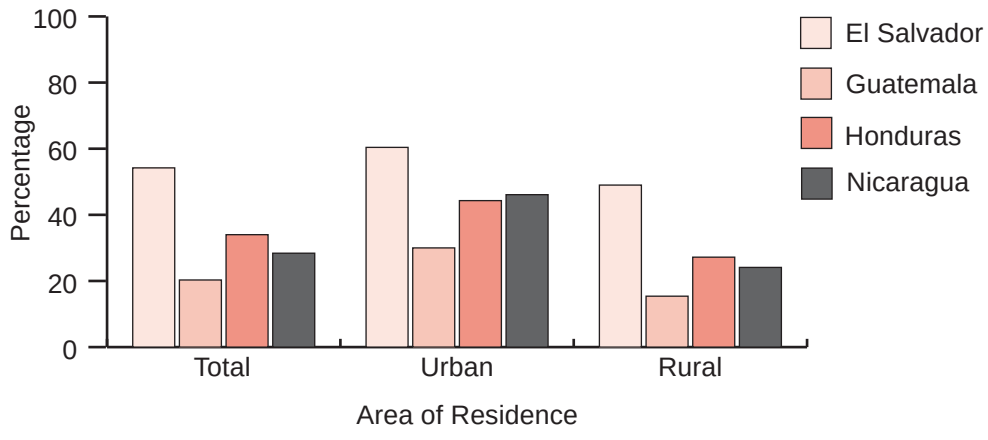
† Last live birth to women aged 15–49 during the 5 years prior to the survey.

‡ Last live birth to women aged 15–44 during the 5 years prior to the survey.

na: Not available.

In general, it can be said that postpartum care is the least used maternal and child health service offered in the four countries. Only in El Salvador does one see a systematic increase in the use of postpartum care since the early 1990s.

Graph 7.4
Use of Postpartum Care, by Area of Residence (Most Recent Survey)



Changes in the Use of Maternal Health Services

Graph 7.5 shows changes in the use of key maternal health services between the third-to-last survey conducted in the early 1990s and the most recent survey since 2000. El Salvador is notable for having the most pronounced increases for every health service shown. Guatemala registered a decline in prenatal care and almost a 20 percent increase in births attended in a medical facility. Honduras also registered a decline in prenatal care, a 21 percent increase in medical deliveries, and a very small increase in postpartum care. With regards to Nicaragua, this country enjoyed both an increase in prenatal care and in medical deliveries, but a decline in postpartum care.

Cervical Cancer Screening

Worldwide, cervical cancer is the second most common cancer of women, and is the most frequent cancer of women in developing countries. In countries where a decline in mortality due to cervical cancer has been recorded, much of the decline has been attributed to widespread use of cervical cancer screening (Papanicolaou smear test), resulting in detection at an earlier and therefore more curable stage with the treatment of premalignant lesions. Experts recommend that women who are sexually active, or at least 18 years old, should have a Pap test annually or at least every three years. Although the validity of self-reported rates of Pap testing cannot be established without examining medical records, survey results are often used to estimate the extent of cervical screening in the general population. The last surveys conducted in El Salvador, Guatemala, and Honduras included a series of questions regarding Pap testing among the female respondents.

As shown in Table 7.6, the percentage of all sexually experienced women aged 15–49 who reported ever having a Pap test ranged from a low of 36.2 percent in Guatemala to a high of 84.7 percent in El Salvador. In all three of the countries, Pap smear prevalence was higher in urban areas than in rural areas, with the smallest urban/rural differential in El Salvador (3.6 percent) and the largest in Honduras (17 percent) and Guatemala (20 percent).

The proportion of sexually experienced women who reported at least one cervical cancer screening test increased dramatically in El Salvador and Honduras over the past decade. In El Salvador screening increased by 17 percentage points between 1993 and 2002/03, while in Honduras screening increased by 10 percentage points between 1996 and 2001 (data not shown). In both countries, the largest increase occurred in the rural area.

Graph 7.5
Percent Change Since the Early 1990s in the Use of Key Maternal Health Services

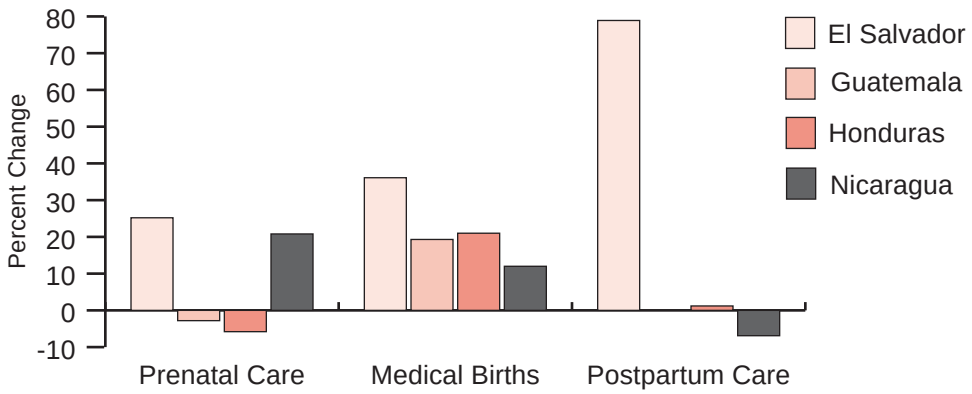


Table 7.6
Percentage of Women Who Have Ever Been Screened For Cervical Cancer, By Area of Residence: All Sexually Experienced Women Aged 15–49 (Most Recent Survey)

Country	Year of Survey	Total	Urban	Rural
El Salvador	2002/03	84.7	86.3	82.7
Guatemala	2002	36.2	48.0	27.7
Honduras	2001	60.9	69.5	52.6
Nicaragua	2001	na	na	na

na: Not available.

Tetanus Toxoid Injections

Tetanus is the only vaccine-preventable disease that is not communicable but acquired through environmental exposure to the spores of *Clostridium tetani*. Neonatal (newborn) tetanus is the most common form of tetanus in developing countries. The disease is caused by contamination of the umbilical stump with spores following childbirth through cutting the cord with a non-sterile instrument or by application of animal dung to the cut cord.

To protect the newborn with passive immunity, women should receive at least two doses of tetanus toxoid vaccine during their pregnancy. Also, clean practices should be used during delivery and for the care of the infant's umbilical cord. The optimal program to protect newborns against neonatal tetanus via immunization of their mothers depends on the immunization history among women. When most women of childbearing age have not previously been immunized with TT in their infancy or adolescence, implementation of a TT five-dose schedule for women of childbearing age is of the utmost importance. Protective antibody levels are attained in 80–90 percent of women after the second dose, and in 95–98 percent after the third dose. This basic course provides protection for at least 5 years. Fourth and fifth doses of TT given later will prolong the duration of immunity for 10 and 20 years, respectively.

Table 7.7 shows the percentage of women living in El Salvador and Honduras who have received two or more doses of TT in their lifetime. In El Salvador and Honduras, over three-fourths of the women have received two or more doses. It should be noted that the differences between urban and rural women are small.

Table 7.7
Percentage of Women Who Have Received Two Or More Doses of Tetanus Toxoid in Their Life, By Area of Residence: Women Aged 15–49 (Most Recent Survey)

Country	Year of Survey	Total	Urban	Rural
El Salvador	2002/03	76.9	78.2	75.3
Guatemala	2002	na	na	na
Honduras	2001	77.7	77.4	78.1
Nicaragua	2001	na	na	na

NA: Not available.

Summary of Findings

- The percentage of pregnancies ending in a live birth for which prenatal care was reported is relatively high in each country—over 80 percent. Differences between urban and rural populations tended to be relatively small except in Nicaragua.

- Since the early 1990s, the percentage of pregnancies receiving prenatal care has increased in El Salvador and Nicaragua, but stagnated or deteriorated in Guatemala and Honduras.

- In all of the countries, there appears to be a trend in making the first prenatal visit at younger gestational ages and in receiving five or more controls.

- In El Salvador and Nicaragua, at least two out of three live births are attended in a medical facility. In Honduras and Guatemala, 55 and 42 percent, respectively, are attended in a medical facility. Important urban/rural differentials exist, with substantially more urban women delivering in a medical facility than rural women.

- Since the early 1990s, the percentage of live births attended in a medical facility has been increasing in each country.

- According to the most recent survey, El Salvador has the highest cesarean rate (22.0 percent), while Honduras has the lowest (7.9 percent), indicating that there may be abuse of this service in the former and that some women in the latter may not have access to this service.

- In all of the countries, less than 55 percent of the women reported that they received a postpartum examination following birth. Only El Salvador appears to be improving coverage of this service. More attention should be placed on access to post-partum care.

- The percentage of sexually experienced women who reported that they have ever been screened for cervical cancer ranges from a low of 36.2 percent in Guatemala to a high of 84.7 percent in El Salvador. The data suggest that less than half of the women are undergoing screening on an annual basis.

- In El Salvador and Honduras, more than 75 percent of women aged 15–49 have received two or more doses of tetanus toxoid.