

## Section 6: Maternal and Infant Health

The health of mothers, infants, and children is of critical importance, both as a reflection of the current health status of a large segment of the U.S. population and as a predictor of the health of the next generation. This section addresses a range of indicators of maternal, infant, and child health—those primarily affecting pregnant women and those that affect infants' health and survival (including infant mortality rates; access to preventive care; and neonatal and post neonatal deaths).

Infant mortality is an important measure of a nation's health and a worldwide indicator of health status and social well being. As of 1995, the U.S. infant mortality rates ranked 25th among industrialized nations. In the past decade, critical measures of increased risk of infant death, such as new cases of low birth weight (LBW) and very low birth weight (VLBW), actually have increased in the United States. In addition, the disparity in infant mortality rates between whites and specific racial and ethnic groups (especially African Americans, American Indians or Alaska Natives, Native Hawaiians, and Puerto Ricans) persists. Although the overall infant mortality rate has reached record low levels, the rate for African Americans remains twice that of whites.

### Reduce infant deaths.

**HP 2010 Objective:** 16-1c, d, e

#### Target and baseline:

Objective	Reduction in Infant Deaths	1998 Baseline	2010 Target
		<i>Rate per 1,000 Live Births</i>	
<b>16-1c.</b>	All infant deaths (within 1 year)	7.2	4.5
<b>16-1d.</b>	Neonatal deaths (within the first 28 days of life)	4.8	2.9
<b>16-1e.</b>	Post neonatal deaths (between 28 days and 1 year)	2.4	1.2

**Data source:** HP 2010, Illinois Department of Public Health Birth and Death Files, 2001, IPLAN Data System.

Table 6.1

Live Births, 2001 n = 13,393	16-1c All Infant Deaths (<1 year) (n=93)	16-1d Neonatal Deaths (<28 days) (n=70)	16-1e Post neonatal Deaths (28-364 days) (n=23)
	Rate per 1,000		
<b>TOTAL - 2001</b>	6.9	5.2	1.7
<b>TOTAL – 3 Year Average</b>	6.4	5.1	1.4
<b>Mother's Race and Ethnicity – 3 Year Average (1999, 2000, 2001)</b>			
Asian	7.7	6.2	*
Black or African American	10.6	7.3	*
White	6.1	4.8	1.4
Hispanic or Latino	6.1	4.3	1.8
Not Hispanic or Latino	6.5	5.2	1.3

\*If fewer than 10 deaths, no rate calculated.

Table 6.2

2001 Demographics of Infant Mortality Cases	16-1c. 2001 All Infant Deaths (<1 year) (n=93)
	Percent
<b>Infant's Gender</b>	
Female	53 %
Male	47 %
<b>Mother's Education Level</b>	
Less than high school	7 %
High school graduate	17 %
At least some college	71 %
<b>Marital Status</b>	
Married	80 %
Not Married	20 %

2001 Demographics of Infant Mortality Cases	Percent of All 2001 Infant Deaths
<b>Mother's Age Groups</b>	
Under 15 years	0 %
15 to 19 years	5 %
20 to 24 years	11 %
25 to 29 years	17 %
30 to 34 years	39 %
35 to 39 years	23 %
40 years and older	4 %
<b>Infant Weight</b>	
>2,500 grams (5.9 lbs. or more)	24 %
1,500 to 2,499 grams (3.4 lbs. to 5.8 lbs.) Low Birth Weight	13 %
<1,500 grams (3.3 lbs. or less) Very Low Birth Weight	62 %

In 2001, DuPage County had 93 infant deaths. The DuPage infant mortality rate was 6.9 deaths per 1,000 births, which was higher than the 2001 U.S. infant mortality rate of 6.8.

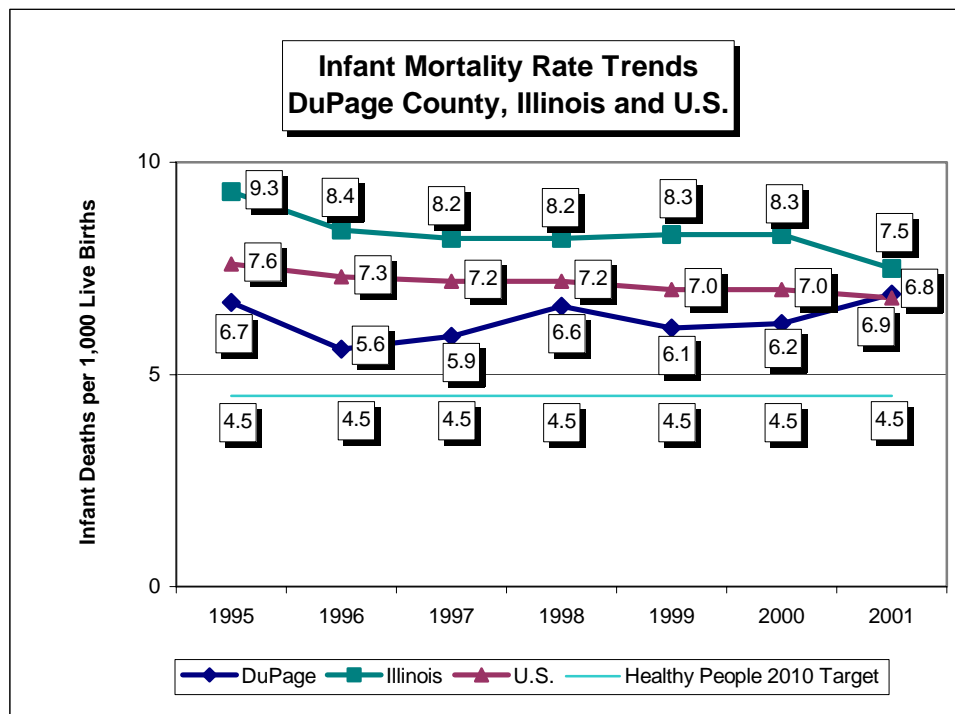
In statistical terms, 93 is a small number. A three-year average rate uses larger numbers and therefore provides a more reliable indicator. The three-year average (1999, 2000 and 2001) DuPage infant mortality rate is 6.4 deaths per 1,000 births. It is important to note that over the past ten years the DuPage County infant mortality rate has fluctuated between a high of 7.0 deaths per 1,000 births in 1991 and a low of 5.3 in 1993. While the 2001 rate of 6.9 is disturbing, it cannot be seen as a trend. The 2001 Illinois infant mortality rate is 7.5 deaths per 1,000 births. **The DuPage County infant mortality rate does not meet the HP 2010 Target.**

It is notable that the three-year average Black/African American (10.6) and Asian (7.7) infant mortality rates are both higher than the rate for White (6.1) and Hispanic (6.1) infants. 62 percent of infant mortality occurs to infants weighing 3.3 pounds or less (Very Low Birth Weight) within the first 24 hours of life. Recent increases in low birth weight (LBW) and VLBW are due largely to preterm delivery related to increases in multiple gestations. In 2001, 63 percent of mothers with infant mortality were aged 30 to 39 years. In 2001, there were no mothers under 15 years of age with infant mortality. Contrary to popular belief, in 2001, 80 percent of mothers were married and 71 percent completed some college or received a college or post-college degree.

Table 6.3

DuPage County Infant Mortality Statistics 1991 - 2001					
Year	Number of Infant Deaths	Number of Neonatal Deaths	DuPage Infant Mortality Rate (per 1,000 Births)	Illinois Infant Mortality Rate (per 1,000 Births)	U.S. Infant Mortality Rate (per 1,000 Births)
1991	96	75	7.0	10.7	8.9
1992	88	63	6.3	10.0	8.8
1993	74	53	5.3	9.6	8.3
1994	92	61	6.5	9.0	7.9
1995	93	71	6.7	9.3	7.6
1996	77	57	5.6	8.4	7.3
1997	79	62	5.9	8.2	7.2
1998	88	64	6.6	8.2	7.2
1999	82	67	6.1	8.3	7.0
2000	84	67	6.2	8.3	7.0
2001	93	70	6.9	7.5	6.8

Graph 6.1



## Prenatal Care

**Increase the proportion of pregnant women who receive early and adequate prenatal care.**

**HP 2010 Objective:** 16-6

**Target and baseline:**

Objective	Increase in Maternal Prenatal Care	1998 Baseline	2010 Target
		<i>Percent of Live Births</i>	
<b>16-6a.</b>	Care beginning in first trimester of pregnancy	83	90
<b>16-6b.</b>	Early and adequate prenatal care	74	90

**Data source:** HP2010, Illinois Department of Public Health Birth File 2001, IPLAN Data System.

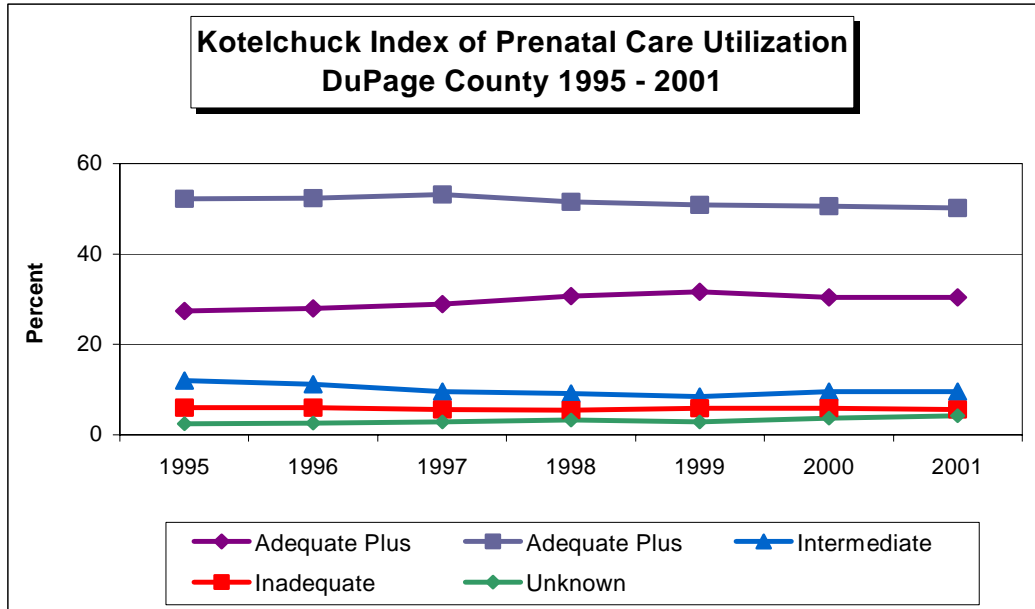
Table 6.4

Live Births, 2001 n = 13,393	Maternal Prenatal Care	
	16-6a. First Trimester (n=11,669)	16-6b. Early and Adequate
	Percent	
TOTAL - 2001	87	90
TOTAL – 3 Year Average	87	81

Table 6.5

2001 Demographics of First Trimester Care Cases	Maternal Prenatal Care
	16-6a. First Trimester (n=11,669)
	Percent
<b>Mother's Race and Ethnicity</b>	
Asian	87%
Black or African American	79%
White	88%
Hispanic or Latino	70%
Not Hispanic or Latino	91%
<b>Mother's Education Level</b>	
Less than high school	8%
High school graduate	17%
At least some college	74%
<b>Marital Status</b>	
Married	88%
Not Married	12%
<b>Mother's Age Groups</b>	
Under 15 years	<1%
15 to 19 years	3%
20 to 24 years	11%
25 to 29 years	26%
30 to 34 years	37%
35 to 39 years	19%
40 years and older	3%

Graph 6.2



Prenatal care is more likely to be effective if women begin receiving care early in pregnancy. In DuPage County in 2001, we find 87 percent of mothers begin prenatal care in their first trimester. The three-year average (1999 – 2001) of mothers who began prenatal care in their first trimester is also 87 percent, indicating the percent has remained stable over the past few years. **DuPage County does not meet this HP 2010 Target Objective.**

Similar to mothers with infant mortality, 88 percent of the mothers were married and 74 percent completed some college or received a college or post-college degree. Typically the likelihood of receipt of adequate prenatal care increases with maternal age, with fewer than half of pregnant women aged 15 years and under receiving adequate care. In 2001, receipt of first trimester care increased continuously through age 34, peaking at 37 percent. In the age group 35 – 39 years, the percent dramatically dropped to 19 percent. This means that out of 2,420 births, in the 35 – 39 age group, only 460 mothers began prenatal care in the first trimester. **DuPage County does not meet this HP 2010 Target of 90 percent for first trimester care.** Obviously the need for education about early, continuous prenatal care is needed.

**Reduce low birth weight (LBW) and very low birth weight (VLBW).**

**HP 2010 Objective:** 16-10

**Target and baseline:**

Objective	Reduction in Low and Very Low Birth Weight	1998 Baseline	2010 Target
		<i>Percent</i>	
<b>16-10a.</b>	Low birth weight (LBW)	7.6	5.0
<b>16-10b.</b>	Very low birth weight (VLBW)	1.4	0.9

**Data source:** HP2010, Illinois Department of Public Health Birth Files, 2001, IPLAN Data System.

Table 6.7

Live Births, 2001 N = 13,393	Low Birth Weight (n=899)	Very Low Birth Weight (n=185)
	Percent	
<b>TOTAL</b>	6.7	1.4
<b>Mother's Race and Ethnicity</b>		
Asian	2	1
Black or African American	6	10
White	78	78
Hispanic or Latino	16	20
Not Hispanic or Latino	84	80
<b>Infant's Gender</b>		
Female	53	50
Male	47	50
<b>Mother's Education Level</b>		
Less than high school	10	12
High school graduate	17	15
At least some college	72	71
<b>Marital Status</b>		
Married	84	83
Not Married	16	17

Live Births, 2001 N = 13,393	Low Birth Weight (n=899)	Very Low Birth Weight (n=185)
	Percent	
<b>Mother's Age Groups</b>		
Under 15 years	<1	0
15 to 19 years	4	5
20 to 24 years	12	10
25 to 29 years	25	27
30 to 34 years	37	40
35 to 39 years	19	15
40 years and older	4	3

LBW is the risk factor most closely associated with neonatal death; thus, improvements in infant birth weight can contribute substantially to reductions in the infant mortality rate. Of all infants born at low birth weight, the smallest (those weighing less than 1,500 grams) are at highest risk of dying in their first year. However, some researchers have proposed that further improvement in the survival of VLBW infants is nearly impossible, and reduction in the underlying rate of VLBW births is the only avenue toward reduction of neonatal mortality rates. Another important issue is the long-term effects of LBW on affected infants who survive their first year, as these infants are more likely to experience long-term developmental and neurological disabilities than are infants of normal birth weight. Recent increases in LBW are due largely to preterm delivery related to increases in multiple gestations. **DuPage County does not meet this HP 2010 Target Objective for LBW or VLBW.**

**Reduce adolescent pregnancies.**

**Target:** No HP2010 target.

**Data sources:** Illinois Department of Public Health Birth File, 2001.

Table 6.8

Adolescent Births, 2001 (n = 594)	Pregnancy	
	15 - 19	15 - 17
	Percent	
<b>TOTAL</b>	99	1
<b>Race and Ethnicity</b>		
Asian	0	0
Black or African American	11	16
White	86	80
Hispanic or Latino	52	59
Not Hispanic or Latino	48	41
<b>Marital Status</b>		
Married	24	14
Not Married	76	86
<b>Trimester Care Began</b>		
First	60	53
Second	28	37
Third or Unknown	10	9
<b>Infant Weight</b>		
>2,500 grams (5.9 lbs. or more)	94	92
1,500 to 2,499 grams (3.4 lbs. to 5.8 lbs.) Low Birth Weight	5	6
<1,500 grams (3.3 lbs. or less) Very Low Birth Weight	1	2

For teenagers, the problems associated with unintended pregnancy are compounded, and the consequences are well documented. Teenaged mothers are less likely to get or stay married, less likely to complete high school or college, and more likely to require public assistance. Teen mothers are also more likely to live in poverty than their childless peers. Infants born to teenaged mothers, especially mothers under age 15 years, are more likely to suffer from low birth weight, neonatal death, and sudden infant death syndrome. The infants may be at greater risk for child abuse, neglect, and behavioral and educational problems at later stages. Nearly 1 million teenage pregnancies occur each year in the United States. Clearly, a solution to this problem needs to be found.

Although no HP 2010 Target Objective exists, decreases in adolescent pregnancy have been reported. Data are not available to update objectives on family planning counseling and age-appropriate preconception care counseling.