

The Contribution of Preterm Births to Infant Mortality in Delaware

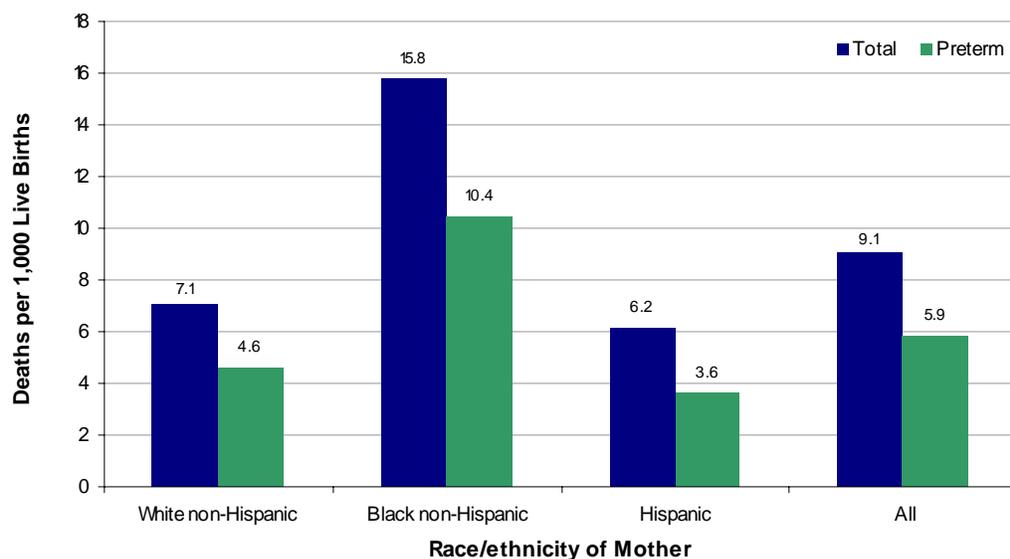
Preterm birth (infants born at less than 37 weeks' gestation) is generally accepted as one of the most critical factors in an infant's risk of mortality. However, the traditional system of identifying infant deaths due to prematurity and low birthweight, based on the International Classification of Diseases, Tenth Revision (ICD-10) code for "Disorders related to short gestation and low birthweight, not elsewhere classified," was felt to be inadequate and an under-representation of the true impact of preterm birth on infant mortality. To address this issue, researchers from the Centers for Disease Control and Prevention (CDC) developed a revised classification of infant deaths due to preterm birth¹.

In the 2001-2005 Live Birth Cohort:

- Preterm births accounted for 13.5 percent of live births in 2001-2005.
- One in 20 infants born prematurely died within the first year of life.
- Nearly 80 percent of infant deaths were infants born prematurely.

In 2001-2005, over half of the total infant deaths (58 to 66 percent) for each race and ethnic group were due to preterm-related causes. Not only were the preterm-related infant mortality rates for black non-Hispanics nearly three times that of Hispanics, and more than double that of white non-Hispanics, but they were higher than the total infant mortality rates of both.

Figure 1. Five-year Total and Preterm-related¹ Infant Mortality Rates by Ethnicity Delaware Live Birth Cohort, 2001-2005



Note:

1. Preterm-related deaths are those where the infant was born preterm (<37 weeks' gestation) and the cause of death fell within the NCHS defined category of infant deaths attributable to preterm causes, which includes the following ICD-10 codes: K55.0, P00.0, P01.0, P01.1, P01.5, P02.0, P02.1, P02.7, P07, P10.2, P22, P25-P27, P28.0, P28.1, P36, P52.0-P52.3, and P77.

Source: Delaware Health Statistics Center

In the 2001-2005 live birth cohort, 402 of the 508 (79 percent) total infant deaths occurred in those born preterm. Using the traditional leading cause of infant death classification system, only 109 (22 percent) were identified as being due to “Disorders related to short gestation and low birthweight, not elsewhere classified,” versus 329 (65 percent) that were identified as preterm-related causes using the CDC’s revised grouping of preterm-related causes.

LEADING CAUSES OF INFANT DEATH BY GESTATIONAL AGE CATEGORY

DELAWARE, 2001-2005 LIVE BIRTH COHORT

Leading causes of death	Gestational Age Category					% Born Very Preterm	% Born Preterm
	Very preterm	Moderately preterm	Term	Unknown	Total		
Disorders related to short gestation and low birth weight, not elsewhere classified	108	1	0	1	110	98.2	99.1
Congenital malformations, deformations, and chromosomal abnormalities	24	18	22	0	64	37.5	65.6
Newborn affected by maternal complications of pregnancy	50	1	0	0	51	98.0	100.0
Sudden infant death syndrome	3	7	28	0	38	7.9	26.3
Newborn affected by complications of placenta, cord, and membranes	27	2	1	0	30	90.0	96.7
Respiratory distress of newborn	21	0	0	0	21	100.0	100.0
Bacterial sepsis of newborn	19	1	1	0	21	90.5	95.2
Diseases of the circulatory system	2	3	8	0	13	15.4	38.5
Intrauterine hypoxia and birth asphyxia	6	1	2	0	9	66.7	77.8
Accidents (unintentional injuries)	1	3	5	0	9	11.1	44.4
Gastritis, duodenitis, and noninfective enteritis and colitis	7	0	0	0	7	100.0	100.0
Pulmonary hemorrhage originating in the perinatal period	7	0	0	0	7	100.0	100.0
Renal failure and other disorders of kidney	4	0	2	0	6	66.7	66.7
Newborn affected by other complications of labor and delivery	5	0	1	0	6	83.3	83.3
Neonatal hemorrhage	5	0	1	0	6	83.3	83.3
Septicemia	2	1	2	0	5	40.0	60.0
Slow fetal growth and fetal malnutrition	5	0	0	0	5	100.0	100.0
Necrotizing enterocolitis of newborn	2	2	1	0	5	40.0	80.0
Atelectasis	3	1	0	0	4	75.0	100.0
Interstitial emphysema and related conditions originating in the perinatal period	3	0	0	0	3	100.0	100.0
All other causes	36	21	31	0	88	40.9	64.8
TOTAL	340	62	105	1	508	66.9	79.1

Notes:

1. Leading causes of infant death are categorized using the NCHS rankable causes of infant death, see http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_05.pdf for more information.
2. Very preterm is defined as less than 32 weeks of gestation.
3. Moderately preterm is defined as between 32 and 36 weeks of gestation.
4. Term is defined as 37 and greater weeks of gestation.
5. The percent born preterm includes both the very preterm and moderately preterm groups.

Source: Delaware Health Statistics Center

References:

1. Callaghan WM, MacDorman MF, Rasmussen SA, Qin C, Lackritz EM. **The contribution of preterm birth to infant mortality rates in the United States.** *Pediatrics.* 2006; 118: 1566-1573. Available at <http://www.pediatrics.org/cgi/content/full/118/4/1566>.
2. Mathews TJ, MacDorman MF. **Infant mortality statistics from the 2005 period linked birth/infant death data set.** *Natl Vital Stat Rep* 2008;57(2). Available at http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_02.pdf.



DELAWARE HEALTH AND SOCIAL SERVICES

Division of Public Health

If you have comments, suggestions, and/or questions, please contact the Delaware Health Statistics Center at (302) 744-4541.

Reported by Barbara Gladders