

# Racial/Ethnic Differences in Infant Mortality: Evidence from North Carolina

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# Introduction/Rationale

higher, 13.9 per 1,000 live births. Among minorities in NC, the rate is even US rate of 6.6 per 1,000 live births. 1,000 live births compared to the current in the US, with 8.5 infant deaths per mortality constitute a critical public health Racial/ethnic disparities in infant problem. North Carolina (NC) ranks 45th

# 2. Purpose

infants born to black, white, and Hispanic women. neonatal and postneonatal mortality among This study seeks to examine predictors of

# 3. Methods

#### DATA

inked birth/infant death files from 1999 to 2007 Data were obtained from the North Carolina

## Infant death (0 and 364 days) was OUTCOME VARIABLE

days) or postneonatal mortality (28 - 364 considered as neonatal mortality (0 - 27

## RACE/ETHNICITY

Maternal race/ethnicity was classified as non-Hispanic black, non-Hispanic white and Hispanic

Maternal age, marital status, education

child's gender, gestational age, birth weight problems experienced during pregnancy, tobacco use, parity, prenatal care, medical

on infant mortality across the three effect of maternal and infant characteristics models were constructed to estimate the Descriptive statistics and logistic regression STATISTICAL ANALYSIS

# Table 1. Adjusted Odds Ratios (95% CI) for Infant

|                                     | Neonatal Mortality   | Postneonatal        |
|-------------------------------------|----------------------|---------------------|
|                                     | for space )          | (n = 2323)          |
| Maternal Race/Ethnicity             |                      |                     |
| Black                               | 1.03 (0.96, 1.11)    | 1.26 (1.14, 1.39)   |
| Hispanic                            | 0.99 (0.88, 1.12)    | 0.67 (0.57, 0.79)   |
| White                               | 1.00                 | 1.00                |
| Maternal age, years                 |                      |                     |
| <18                                 | 0.94 (0.85, 1.05)    | 0.98 (0.81, 1.18)   |
| 18-26                               | 1.00                 | 1.00                |
| 27-34                               | 0.94 (0.86, 1.01)    | 0.66 (0.59, 0.73)   |
| ×34                                 | 0.95 (0.82, 1.09)    | 0.66 (0.56, 0.77)   |
| Maternal Education, years           |                      | 200                 |
| <b>6</b>                            | 1.15 (0.98, 1.35)    | 1.73 (1.42, 2.11)   |
| 9-11                                | 1.06 (0.96, 1.18)    | 1.61 (1.41, 1.83)   |
| 12                                  | 1.09 (1.01, 1.18)    | 1.18 (1.06, 1.33)   |
| 13-15                               | 1.00                 | 1.00                |
| >15                                 | 0.9(0.7, 1.0)        | 0.68 (0.52, 0.88)   |
| Unmarried                           | 1.0 (0.9, 1.1)       | 1.09 (0.99, 1.21)   |
| Utilization of prenatal care        |                      |                     |
| Adequate                            | 1.00                 | 1.00                |
| Intermediate                        | 1.02 (0.94, 1.11)    | 1.02 (1.01, 1.23)   |
| Inadequate                          | 1.43 (1.29, 1.58)    | 1.07 (1.03, 1.36)   |
| Number of previous live births      |                      |                     |
| 0                                   | 1.00                 | 1.00                |
| 75                                  | (0.87)               | 1.44 (1.23, 1.61)   |
| 23                                  | (0.96                | 1.88 (1.68, 2.12)   |
| Live births now dead                | 1.35 (1.15, 1.57)    | 1.24 (0.98, 1.57)   |
| Tobacco use                         | 0.91 (0.83, 0.98)    | 1.56 (1.44, 1.77)   |
| Prior low birth weight or premature | 0.75 (0.63, 0.88)    | 0.93 (0.72, 1.19)   |
| Infant                              | 0040076 4461         | 0071076 4 251       |
| Dishetes                            | 107 (0.90, 1.10)     | 1 11 (0 86 1 /3)    |
| Other medical problems              | 0.86 (0.81, 0.92)    | 103/094 113)        |
| Labor and delivery complications    | 1.20 (1.13, 1.28)    | 1.13(1.04 1.24)     |
| Male infant                         | 1.21 (1.11, 1.34)    | 1.31 (1.20, 1.41)   |
| Infant birth weight, grams          |                      |                     |
| Very low, < 1500                    | 66.74 (56.74, 78.51) | 10.62 (8.57, 13.14) |
| Moderately low, 1500 - 2499         | 6.32 (5.51, 7.25)    | 3.28 (2.88, 3.74)   |
| Normal, 2500 - 4000                 | 1.00                 | 1.00                |
| High. > 4000                        | 0.56 (0.42, 0.76)    | 0.54 (0.42, 0.68)   |
| Infant gestational age, weeks       |                      |                     |
| Very premature, < 33                | 3.74 (3.20, 4.37)    | 1.37 (1.12, 1.69)   |
| Moderately premature, 33 - 37       | 1.52 (1.32, 1.75)    | 1.26 (1.10, 1.43)   |
| Term, 38-42                         | 1.00                 | 1.00                |
| Post-term, > 42                     | 0.78 (0.54, 1.14)    | 1.02 (0.79, 1.31)   |

### Key Findings

- No significant racial/ethnic differences were found in neonatal mortality.
- Infants born to black mothers had an increased risk for postneonatal mortality
- Infants born to Hispanic mothers were significantly less likely to die during the postneonatal period.

associated with Increased risk for neonatal mortality was

inadequate prenatal care

- having experienced prior death of a living
- labor and delivery complications
- Early gestational age VLBW and LBW infants and

Increased risk for postneonatal mortality was

- associated with lower educational levels
- tobacco use intermediate and inadequate prenatal care
- labor and delivery complications
- early gestational age VLBW and LBW infants

| 102 (101, 123) 108 (108, 123) 108 (108, 123) 109 (109, 121) 100 (1 |         | Neonatal Mortality<br>(n = 4896 )<br>(n = 4896 )<br>(n = 4996 )<br>(100   0.08   1.11)<br>1.00   0.08   1.12)<br>1.00   0.08   1.05)<br>1.00   0.08   1.01)<br>0.09   (0.85   1.01)<br>0.09   (0.85   1.01)<br>0.09   (0.85   1.01)<br>0.09   (0.85   1.01) | Postheonatal Mortality (n = 2223) 1.26 (1.14, 1.39) 0.87 (0.57, 0.79) 1.00 0.98 (0.81, 1.18) 1.00 0.66 (0.59, 0.73) 0.66 (0.59, 0.77) | Maternal age, years  18-26 27-24 2-24 Maternal education, years 4-9 9-9-11 12-15 13-16 |
|--|---------|---|---|--|
| 100 (0.06; 118) 161 (141, 133) 100 (102, 138) 100 ( |         | 1.15 (0.98, 1.35)   | 1.73 (1.42, 2.11)   | Unmarried  |
| 1.09(1.01) 1.18 (1.06, 1.33) 1.09(2.01) 1.19 (1.06, 1.33) 1.00(2.1) 1.00(2.3, 1.23) 1.00(2.1) 1.00(2.3, 1.23) 1.00(2.1) 1.00(2.3, 1.23) 1.00(2.1) 1.00(2.3, 1.23) 1.00(2.0.4, 1.11) 1.00(1.01, 1.23) 1.00(2.0.4, 1.11) 1.00(1.01, 1.23) 1.00(2.0.4, 1.11) 1.00(1.01, 1.23) 1.00(2.0.4, 1.11) 1.00(1.01, 1.23) 1.00(2.0.4, 1.12) 1.00(2.3, 1.13) 1.00(2.0.4, 1.13) 1.00(2.3, 1.13) 1.00(2.0.4 |         | 1.06 (0.96, 1.18)   | 1.61 (1.41, 1.83)   | Utilization of prenatal care   |
| 0.06(0.7,10) 0.06(0.92,0.08) 10(0.94,121) 10 |         | 1.09 (1.01, 1.18)   | 1.18 (1.06, 1.33)   | Adequate   |
| 100 (84, 12) 100 (103, 14) 100 |         | 0.9 (0.7, 1.0)  | 0.68 (0.52, 0.88)   | Inadequate   |
| 100<br>102(0.4.11)<br>102(0.4.11)<br>104(123.18)<br>104(123.18)<br>107(103.18)<br>107(103.18)<br>107(103.18)<br>107(103.18)<br>107(103.18)<br>107(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)<br>109(103.18)  |         | (1.1 '8:0) 0.1  | 1.09 (0.99, 1.21)   | Number of previous live births   |
| 102(004,111) 102(101,123) 144(123,164) 107(103,136) 107(1 |         | 1.00  | 1.00  | 0  |
| 140 (1,44) 1-90 10 (104, 1-90) 100 (107, 107, 107, 107, 107, 107, 107, 107,  |         | 1.02 (0.94, 1.11)   | 1.02 (1.01, 1.23)   | 7.3  |
| 100<br>040 087 102) 144(123.181)<br>105 (086.115) 128(108.212)<br>125 (135.15) 124(083.157)<br>125 (135.15) 124(083.157)<br>125 (135.15) 124(083.157)<br>125 (135.15) 125 (144.177)<br>125 (123.208) 038(072.118)<br>040 (078.116) 097 (078.1.25)<br>107 (083.128) 038(072.125)<br>107 (083.128) 117 (086.143)<br>107 (083.129) 117 (086.143)<br>107 (083.129) 117 (086.143)<br>127 (113.128) 137 (120.144)<br>127 (113.128) 137 (120.144)<br>128 (127.125) 024 (042.088)<br>128 (123.144)<br>129 (123.175) 125 (110.143)<br>120 (123.175) 125 (110.143)   | the     | 1.43 (1.29, 1.58)   | 1.07 (1.03, 1.36)   | *3   |
| 0.94 (0.87, 10.2) 1.44 (1.23, 161) 1.95 (0.88, 11.5) 1.88 (1.68, 27.2) 1.89 (1.68, 27.2) 1.89 (1.68, 27.2) 1.89 (1.68, 27.2) 1.89 (1.68, 27.2) 1.99 (0.83, 0.88) 1.59 (1.44, 17.2) 1.99 (0.87, 0.88) 1.59 (1.44, 17.2) 1.99 (0.87, 0.88) 0.970 (27, 11.9) 0.970 (27, 11.9) 1.170 (88, 1.29) 1.170 (88, 1.29) 1.170 (88, 1.29) 1.170 (88, 1.29) 1.170 (88, 1.29) 1.170 (1.31, 1.28) 1.171 (1.04, 1.24) 1.27 (1.31, 1.28) 1.171 (1.04, 1.24) 1.27 (1.31, 1.28) 1.171 (1.04, 1.24) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.28) 1.27 (1.31, 1.32) 1.27 (1.31, 1.34 | 5       | 1.00  | 1.00  | Live births now dead   |
| 105 (0.66, 115) 1.88 (1.68, 2.12) 1.55 (1.58, 1.78) 1.24 (0.68, 1.12) 1.24 (0.68, 1.12) 1.24 (0.68, 1.12) 1.25 (1.44, 1.77) 1.25 (0.68, 0.68) 0.35 (0.74, 1.77) 1.25 (0.68, 0.68) 0.35 (0.74, 1.77) 1.25 (0.68, 0.68) 0.35 (0.74, 1.15) 0.97 (0.76, 1.25) 1.11 (0.66, 1.43) 1.25 (1.14, 1.26) 1.31 (1.04, 1.43) 1.25 (1.14, 1.26) 1.31 (1.04, 1.43) 1.25 (1.14, 1.26) 1.31 (1.04, 1.43) 1.25 (1.14, 1.26) 1.32 (1.08, 3.74) 1.00 (1.08, 3.74) 1.00 (1.08, 3.74, 1.26) 1.25 (1.14, 1.26) 1.25 (1. |         | 0.94 (0.87, 1.02)   | 1.44 (1.23, 1.61)   | lobaccouse   |
| 125 (135 127) 124 (145 137) 144 (145 137) 144 (145 137) 145 (145 137) 14 |         | 1.05 (0.96, 1.15)   | 1.88 (1.68, 2.12)   | Prior low birth weight or  |
| nure 0.75 (0.83, 0.88) 0.93 (0.72, 1.19) 0.94 (0.78, 1.15) 1.07 (0.84, 1.25) 1.07 (0.84, 1.25) 1.08 (0.81, 0.22) 1.08 (0.81, 0.22) 1.08 (0.81, 0.22) 1.08 (0.81, 1.13) 1.08 (0.81, 1.13) 1.08 (0.81, 1.13) 1.08 (0.81, 1.13) 1.08 (0.81, 1.13) 1.09 (0.81, 1.13) 1.00 (0.88, 3.74) 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0  |         | 0.91 (0.83, 0.98)   | 156 (144, 177)  | Anemia   |
| 0.94(0.76, 1/16) 0.97(0.76, 1.25) 1.00(0.80, 1.25) 1.00(0 | emature | 0.75 (0.63, 0.88)   | 0.93 (0.72, 1.19)   | Diabetes   |
| 107 (68) 129) 111 (68) 143)  na 120 (13) 129) 130 (64) 143)  na 120 (13) 120 130 (64) 143)  121 (13) 120 130 (64) 144)  121 (13) 120 130 (64) 144)  122 (14) 144)  123 (12) 144)  124 (12) 145  125 (12) 145  126 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145  127 (12) 145   |         | 0.94 (0.76, 1.16)   | 0.97 (0.76, 1.25)   | Other medical problems   |
| ne 120(13) 239 113(104) 1431<br>121(11) 143 131(20,143)<br>6674(9574, 7851) 1002(957, 1314)<br>623(551, 725) 326(288, 374)<br>100(042, 078) 100(042, 088)<br>1374(320, 437) 137(142, 108)<br>152(132, 175) 126(110, 143)<br>100  |         | 1.07 (0.89, 1.29)   | 1.11 (0.86, 1.43)   | complications  |
| 121(11.1) 49 131(120.141) 66.74(65.74,7851) 10.62(6.57, 13.44) 6.32(5.51,7.25) 3.82(2.83,734) 1.00 10. | ations  | 1.20 (1.13, 1.28)   | 1.13 (1.04, 1.24)   | Male   |
| 6874(854, 185) 1082(857, 13.4)<br>622(551, 225) 1082(85, 134)<br>100(6042, 075) 054 (042, 088)<br>374(320, 447) 137 (142, 169)<br>152(132, 135) 126 (110, 143)<br>100  |         | 1.21 (1.11, 1.34)   | 1.31 (1.20, 1.41)   | Very low, < 1500   |
| 632(551,725) 328(288,374)<br>100 100<br>0.58(0.42,0.76) 0.54(0.42,0.88)<br>374(2.20,4.37) 137(1.12,1.80)<br>152(1.32,1.75) 1.26(1.10,1.43)<br>1.00 1.00 1.00   |         | 66.74 (56.74, 78.51)  | 10.62 (8.57, 13.14)   | Low, 1500 - 2499   |
| 0.56 (0.42, 0.76) 0.54 (0.42, 0.66)<br>3.74 (3.20, 4.37) 1.37 (1.12, 1.69)<br>1.52 (1.32, 1.75) 1.26 (1.10, 1.43)<br>1.00 1.00   | 9       | 6.32 (5.51, 7.25)   | 3.28 (2.88, 3.74)<br>1.00   | Normal, 2500 - 4000<br>Hign. > 4000  |
| 3.74 (3.20, 4.37) 1.37 (1.12, 1.69)<br>1.52 (1.32, 1.75) 1.26 (1.10, 1.43)<br>1.00 1.00  | ñ       | 0.56 (0.42, 0.76)   | 0.54 (0.42, 0.68)   | Infant gestational age, weeks  |
| 1.52 (1.32, 1.75) 1.26 (1.10, 1.43)<br>1.00 1.00   | 20      | 3.74(3.20, 4.37)  | 1.37 (1.12, 1.69)   | Very premature, < 33   |
| 1.00   | -37     | 1.52 (1.32, 1.75)   | 1.26 (1.10, 1.43)   | Premature, 33-37   |
|  |         | 1.00  | 1.00  | Postnerm > 42  |

#### Key Findings

- Infants born to white women were at higher risk for previous child loss. education, had more than 3 children and experienced a neonatal deaths if their mothers had only high school
- Inadequate prenatal care was associated with an racial/ethnic groups. increased risk for neonatal mortality across all three
- neonatal deaths among black and white women. Labor and delivery complications increased the risk of

# Table 2. Adjusted Odds Ratios (95% CI) for Neonatal Mortality by Maternal Race/Ethnicity

Results

| Maternal age, years                            | 000100000000000000000000000000000000000 |  |  |
|--|---|--|--|
| :  | 0.94(0.76, 1.17)                        | 0.99 (0.78, 1.26)                      | 0.91 (0.60, 1.37)                      |
| 10-20  | 1.00                                    | 1.00                                   | 1.00                                   |
| 27-34  | 0.98 (0.87, 1.11)                       | 0.89 (0.79, 1.10)                      | 0.96 (0.76, 1.21)                      |
| >34  | 0.92 (0.77, 1.09)                       | 0.99 (0.78, 1.10)                      | 1.03 (0.72, 1.46)                      |
| Maternal education, years                      | 108 (0 78 1 51)                         | 1.06 (0.78 1.43)                       | 117 (0 8/1 1 8/1)                      |
| 9-11   | 0.99 (0.85, 1.15)                       | 1.10 (0.94, 1.29)                      | 1.09 (0.77, 1.55)                      |
| 12   | 1.04 (0.93, 1.16)                       | 1.17 (1.04, 1.32)                      | 0.98 (0.69, 1.39)                      |
| 13-15  | 1.00                                    | 1.00                                   | 1.00                                   |
| 3  | 0.95 (0.75, 1.25)                       | 0.07 (0.72, 1.00)                      | 0.03 (0.24, 1.04)                      |
| Unmarried                                      | 1.02 (0.91, 1.14)                       | 1.07 (0.96, 1.21)                      | 0.94 (0.77, 1.145)                     |
| Adequate                                       | 1.00                                    | 1.00                                   | 1.00                                   |
| Intermediate                                   | 1.04 (0.93, 1.17)                       | 098 (0.86, 1.14)                       | 1.00 (0.81, 1.25)                      |
| Inadequate                                     | 1.35 (1.17, 1.56)                       | 1.66 (1.39, 1.98)                      | 1.32 (1.01, 1.72)                      |
| Number of previous live births                 |   |  |  |
| 0  | 1.00                                    | 1.00                                   | 1.00                                   |
| 1-3  | 0.85 (0.76, 0.96)                       | 1.01 (0.90, 1.14)                      | 1.05 (0.83, 1.33)                      |
| >3   | 0.96 (0.85, 1.10)                       | 1.15 (1.08, 1.32)                      | 1.06 (0.82, 1.37)                      |
| Live births now dead                           | 1.18 (0.96, 1.46)                       | 1.61 (1.24, 2.10)                      | 1.51 (0.95, 2.40)                      |
| Tobacco use                                    | 0.88 (0.76, 1.02)                       | 0.92 (0.82, 1.04)                      | 0.61 (0.29, 1.23)                      |
| Prior low birth weight or<br>premature infant  | 0.78 (0.63, 0.99)                       | 0.71 (0.52, 095)                       | 0.73 (0.41, 1.32)                      |
| Anemia   | 0.98 (0.73, 1.31)                       | 0.90 (0.63, 1.31)                      | 0.89 (0.46, 1.74)                      |
| Diabetes                                       | 1.01 (0.76, 1.35)                       | 1.17 (0.90, 1.54)                      | 0.86 (0.45, 1.62)                      |
| Other medical problems                         | 0.84 (0.76, 0.93)                       | 0.91 (0.82, 1.01)                      | 0.81 (0.66, 0.98)                      |
| Labor and delivery complications               | 1.17 (1.06, 1.29)                       | 1.27 (1.15, 1.41)                      | 1.06 (0.87, 1.30)                      |
| Male   | 1.22 (1.11, 1.33)                       | 1.21 (1.10, 1.41)                      | 1.31 (1.21, 1.42)                      |
| Infant birth weight, grams<br>Very low, < 1500 | 73.52 (55.83, 96.81)                    | 49.77 (39.4, 62.87)                    | 132.36 (87.39, 200.45)                 |
| Low, 1500 - 2499                               | 5.63 (4.41, 7.17)                       | 5.72 (4.72, 6.93)                      | 12.24 (8.66, 17.31)                    |
| Nomal, 2500 – 4000<br>Hign, > 4000             | 1.00<br>0.79 (0.41, 1.55)               | 1.00<br>0.57 (0.41, 0.79)              | 1.00<br>0.21 (0.05, 0.86)              |
| Infant gestational age, weeks                  |   |  |  |
| Very premature, < 33<br>Premature, 33-37       | 3.65 (2.81, 4.74)<br>1.38 (1.07, 1.77)  | 4.19 (3.35, 5.27)<br>1.57 (1.29, 1.90) | 2.75 (1.84, 4.09)<br>1.81 (1.28, 2.56) |
| Term, 38-42<br>Post-term, > 42                 | 1.00<br>0.81 (0.39, 1.64)               | 1.00<br>0.63 (0.37, 1.08)              | 1.00<br>1.40 (0.65, 3.03)              |

# Table 3. Adjusted Odds Ratios (95% CI) for Postneonatal Mortality by Maternal Race/Ethnicity

|  | Black                                  | White                                  | Hispanic                               |
|--|--|--|--|
| Maternal age, years                                | 0.81 (0.60, 1.09)                      | 1.07 (0.81, 1.43)                      | 124 (0.73, 2.09)                       |
| 18-26<br>27-34                                     | 1.00<br>0.68 (0.57, 0.81)              | 1.00<br>0.60 (0.52, 0.70)              | 1.00<br>0.98 (0.72, 1.34)              |
| >34  | 0.68 (0.53, 0.87)                      | 0.62 (0.49, 0.77)                      | 0.87 (0.51, 1.51)                      |
| Maternal education, years                          | 1.86 (1.26, 2.77)                      | 2.06 (1.52, 2.81)                      | 1.60 (0.93, 2.77)                      |
| 9-11   | 1.38 (1.14, 1.68)                      | 1.84 (1.52, 2.22)                      | 1.69 (0.97, 2.96)                      |
| 12   | 0.99 (0.84, 1.18)                      | 1.34 ( 1.14, 1.57)                     | 1.34 (0.75, 2.37)                      |
| 13-15<br>>15                                       | 1.00<br>0.78 (0.49, 1.24)              | 1,00<br>0.70 (0.50, 0.97)              | 1.00<br>0.39 (0.05, 3.01)              |
| Unmarried Utilization of prenatal care             | 0.88 (0.75, 1.03)                      | 1.26 (1.10, 1.45)                      | 1.11 (0.85, 1.46)                      |
| Adequate<br>Intermediate                           | 1.00<br>0.99 (0.85, 1.16)              | 1.00<br>1.23 (1.06, 1.44)              | 1.00<br>1.18 (0.88, 1.58)              |
| Inadequate   | 1.08 (0.88, 1.34)                      | 1.23 (0.96, 1.57)                      | 1.51 (1.04, 2.17)                      |
| Number of previous live births                     | 1.00                                   | 1.00                                   | 1.00                                   |
| 7.5  | 1.32 (1.11, 1.56)                      | 1.6 0(1.38, 1.86)                      | 1.21 (0.86, 1.69)                      |
| >3   | 1.84 (1.54, 2.19)                      | 2.02 (1.72, 2.38)                      | 1.36 (0.94, 1.95)                      |
| Tobacco use  | 1.65 (1.39, 1.95)                      | 1.44 (1.26, 1.65)                      | 2.47 (1.28, 4.76)                      |
| Prior low birth weight or<br>premature infant      | 0.95 (0.67, 1.35)                      | 0.88 (0.59, 1.34)                      | 1.12 (0.44, 2.81)                      |
| Diabetes   | 0.86 (0.55, 1.33)                      | 1.18 (0.84, 1.68)                      | 1.55 (0.78, 3.05)                      |
| Labor/delivery complications                       | 1.07 (0.94, 1.24)                      | 1.16 (1.03, 1.31)                      | 1.26 (0.96, 1.64)                      |
| Male   | 1.22 (1.10, 1.41)                      | 1.20 (1.11, 1.34)                      | 1.11 (1.10, 1.45)                      |
| Infant birth weight, grams<br>Very low, <1500      | 11.79 (8.59, 16.2)                     | 8.16 (5.88, 11.31)                     | 17.08 (8.87, 32.88)                    |
| Moderately low, 1500-2499<br>Normal, 2500-4000     | 2.95 (2.41, 3.61)                      | 3.29 (2.73, 3.99)                      | 4.97 (3.36, 7.36)<br>1.00              |
| High, >4000<br>Infant gestational age, weeks       | 0.97 (0.65, 1.46)                      | 0.46 (0.33, 0.63)                      | 0.27 (0.11, 0.75)                      |
| Very premature, <33<br>Moderately premature, 33-37 | 1.21 (0.88, 1.64)<br>1.14 (0.92, 1.39) | 1.62 (1.19, 2.21)<br>1.33 (1.11, 1.60) | 1.16 (0.61, 2.24)<br>1.38 (0.94, 2.04) |
| Post-term, >42                                     | 1.00<br>0.92 (0.58, 1.44)              | 1.00                                   | 1.00<br>1.14 (0.56, 2.33)              |
|  |  |  |  |

## Key Findings

- Younger maternal age and lower educational levels and white women, but not Hispanic were associated with postneonatal deaths for black
- postneonatal mortality only among white women labor/delivery complications increased the risk for A previous child loss, being unmarried and having
- Intermediate and inadequate levels of prenatal care and Hispanic mothers, respectively were associated with postneonatal deaths in white
- Infants born to smokers were more likely to die during the postneonatal period compared to those born to

# 5: Conclusions

infants throughout the first year of life. and neonatal services and intervention programs that support mothers of low birth weight and preterm research and practice aimed at the early initiation of prenatal care and access to risk-appropriate obstetric Public health policies are needed that recognize these continuing racial/ethnic disparities and support