



**2003  
South Carolina  
Residence Data**



**Infant Mortality  
Highlights**

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# Highlights of 2003 Infant Mortality

## 1. Changes from 2002 to 2003 in SC:

The 2003 South Carolina infant mortality rate is 8.3 infant deaths per 1,000 live births, a 10.8% decrease from last year's rate of 9.3. This is largely due to a 15.6% decrease of infant death in Black and Other group from 15.4% in 2002 to 13.0% in 2003.

The neonatal mortality rate for white infant has a slight increase by 2.6% from the last year. However, neonatal mortality for Black and Other dropped down by 11.9% from 10.9 in 2002 to 9.6 in 2003. Thus the neonatal mortality for all races decreased by 7.8% from 6.4 in 2002 to 5.9 in 2003.

The postneonatal mortality rate for both race categories went down from last year. The postneonatal mortality for White infant decreased by 9.5% from 2.1 in 2002 to 1.9 in 2003. The postneonatal mortality for Black and Other dropped down by 26.7% from 4.5 in 2002 to 3.3 in 2003. Thus, the postneonatal mortality for all races decreased by 20% from 3.0 in 2002 to 2.4 in 2003.

## 2. IMR Disparity and Trends in US and Select States:

Table 1. IMR by race in US and select states

	2000			2001			2002			2003		
	Total	White	Black	Total	White	Black	Total	White	Black	Total	White	Black
United States	6.9	5.7	14.0	6.9	5.7	14.2	7.0	5.8	14.3	6.7**	N/A	N/A
South Carolina	8.7	5.5	14.2*	8.9	5.8	14.5*	9.3	5.9	15.4*	8.3	5.9	13.0*
Alabama	9.4	6.5	15.1	9.4	6.8	14.7	9.1	7.0	13.7	8.7	6.5	14.1
Georgia	8.5	5.9	13.9	8.5	6.2	13.2	8.9	6.6	13.7	8.5	6.2	13.8
Mississippi	10.6	6.7	15.1*	10.5	6.9	14.7*	10.3	6.8	14.4*	10.6**	N/A	N/A
North Carolina	8.6	6.3	14.4	8.5	6.1	14.8	8.2	5.9	14.2	8.2	5.9	14.0*
Tennessee	9.0	6.6	18.1	8.7	6.7	16.2	9.4	7.1	18.4	9.2	7.0	10.0

\* Including others.

\*\* Preliminary data from United Health Foundation

## 3. Neonatal and Postneonatal Mortality

Table 2. Neonatal and Postneonatal mortality

Neonatal Mortality			
Year	Total	White	Black & Other
2002	6.4	3.8	10.9
2003	5.9	3.9	9.6
<b>Percent Change</b>	- 7.8%	2.6%	- 11.9%
Postneonatal Mortality			
Year	Total	White	Black & Other
2002	3.0	2.1	4.5
2003	2.4	1.9	3.3
<b>Percent Change</b>	- 20.0%	- 9.5%	- 26.7%

Notes: Rates are per 1,000 live births, and race of mother is used

#### **4. Leading cause of infant deaths in 2003:**

The top three leading causes of infant death remain the same as in 2002, but their order is changed. In descending order for 2003, they are: “Disorders relating to short gestation and low birthweight (ICD-10 code P07)”, “Congenital malformations, deformations, etc.” (ICD-10 codes Q00-Q99), and “Newborn affected by maternal complications of pregnancy (ICD-10 code P01)”. Infant death caused by “Disorders relating to short gestation and low birthweight (ICD-10 code P07)” increased by 41.7% from 72 in 2002 to 102 in 2003, which moved from the second cause of infant death to the first place in 2003. In contrast, infant death related to “Respiratory distress of newborn (ICD-10 code P22)” dropped by 50.0% from 24 in 2002 to 12 in 2003.

#### **5. Changes in leading causes of deaths from 2002 to 2003**

**Table 3. Leading causes of death comparison**

Cause of Infant Death Ranked by 2003 Data (ICD-10 Codes)	2002	2003	% Change
<b>Total Infant Death</b>	<b>507</b>	<b>463</b>	<b>-8.7%</b>
Congenital malformations, deformations, etc. (Q00-Q99)	77	71	-7.8%
Disorders relating to short gestation and low birth weight, NEC (P07)	72	102	41.7%
Fetus and newborn affected by maternal complications of pregnancy (P01)	47	39	-17.0%
Sudden infant death syndrome (R95)	37	33	-10.8%
Respiratory distress of newborn (P22)	24	12	-50.0%
Newborn affected by complication of placenta, ect. (P02)	20	16	-20.0%
Bacterial sepsis of newborn (P36)	19	15	-21.1%
Accidents (V01-X59, Y85-Y86)	18	13	-27.8%
Diseases of Circulatory System (I00-I99)	16	13	-18.8%
Intrauterine hypoxia and birth asphyxia (P20-P21)	14	12	-14.3%
All other causes	173	137	-20.8%

#### **6. Infant Mortality Rate to Hispanic Mother**

Infant mortality rate to Hispanic mother is 5.5 per 1,000 live births. Total number of Hispanic mothers were 3,671, total number of infant deaths to Hispanic mother were 20.

#### **7. Breakdown of Infant Deaths due to Maternal Complications (P01)**

**Table 4. Breakdown of Infant Deaths due to Maternal Complications (P01)**

	1997	1998	1999	2000	2001	2002	2003	Total (97-03)	Percent
Premature Rupture of Membranes	15	17	9	10	17	18	<b>10</b>	96	35.29%
Multiple Pregnancy	6	18	17	4	12	9	<b>13</b>	79	29.04%
Incompetent Cervix	7	9	11	4	13	12	<b>15</b>	71	26.10%
Others	3	2	0	4	1	2	<b>1</b>	13	4.78%
Oligohydramnios	0	1	1	2	1	5	<b>0</b>	10	3.68%
Polyhydramnios	0	2	0	0	0	1	<b>0</b>	3	1.10%

## 8. Trends in Multiple Births in SC

Table 5. Multiple birth trend in SC, 1999–2003, All Race

Year	Singleton Births	Singleton Deaths	Infant Mortality Rate*	Twin Births***	Twin Deaths	Infant Mortality Rate*	Higher Order (3+) Births	Higher Order (3+) Deaths	Infant Mortality Rate*	Total Births**	Total Deaths**	Infant Mortality Rate*
1999	52,951	466	8.8	1,694	86	50.8	50	6	120.0	54,706	564	10.3
2000	54,270	431	7.9	1,593	45	28.2	94	2	21.3	55,964	488	8.7
2001	53,954	432	8.0	1,706	56	32.8	81	4	49.4	55,748	496	8.9
2002	52,746	431	8.2	1,620	62	38.3	83	10	120.5	54,453	507	9.3
2003	53,591	392	7.3	1,779	67	37.7	78	2	25.6	55,461	463	8.3
Total	267,512	2,152	8.0	8,392	316	37.7	386	24	62.2	276,332	2518	9.1

\* Rates are in per 1,000 births. Rates calculated with 20 or fewer deaths are unreliable and should be used cautiously

\*\* Includes Unknown Birth Number

\*\*\*Twin births do not include twin fetal deaths

## 9. Statistically significant changes in maternal characteristics in SC from 2002 to 2003:

Table 6.

	2002		2003		Z-TEST	P-VALUE
	Percent	Number	Percent	Number		
<b>&lt;5 PRENATAL CARE VISITS</b>						
TOTAL <sup>2</sup>	4.08	2,222	4.66	2,587	4.7323	0.0000
White	2.89	1,015	3.56	1,283	5.1021	0.0000
Black & Other	6.24	1,204	6.70	1,304	1.8549	0.0636
<b>PRENATAL CARE BEGAN 1<sup>ST</sup> TRIMESTER</b>						
TOTAL <sup>2</sup>	77.66	42,290	76.18	42,248	-5.8503	0.0000
White	82.00	28,824	80.03	28,813	-6.6782	0.0000
Black & Other	69.79	13,466	69.06	13,432	-1.5768	0.1149
<b>KESSNER INDEX: ADEQUATE</b>						
TOTAL <sup>2</sup>	69.97	38,101	67.57	37,477	-8.5723	0.0000
White	74.74	26,273	71.48	25,734	-9.8027	0.0000
Black & Other	61.30	11,828	60.36	11,740	-1.9098	0.0562
<b>KESSNER INDEX: LESS THAN ADEQUATE</b>						
TOTAL <sup>2</sup>	27.39	14,916	29.32	16,263	7.1002	0.0000
White	22.83	8,025	25.71	9,257	8.9683	0.0000
Black & Other	35.70	6,887	36.01	7,005	0.6537	0.5133
<b>KOTELCHUCK INDEX: ADEQUATE PLUS</b>						
TOTAL <sup>2</sup>	41.65	22,677	38.85	21,546	-9.4519	0.0000
White	41.44	14,567	39.25	14,130	-5.9567	0.0000
Black & Other	42.03	8,109	38.12	7,414	-7.8575	0.0000
<b>KOTELCHUCK INDEX: ADEQUATE</b>						
TOTAL <sup>2</sup>	33.51	18,246	34.27	19,006	2.6661	0.0077
White	36.70	12,901	36.43	13,116	-0.7429	0.4575
Black & Other	27.70	5,345	30.28	5,889	5.5813	0.0000
<b>KOTELCHUCK INDEX: INADEQUATE</b>						
TOTAL <sup>2</sup>	13.35	7,267	14.36	7,966	4.8828	0.0000
White	10.13	3,562	11.74	4,225	6.8463	0.0000
Black & Other	19.19	3,702	19.23	3,740	0.1012	0.9194
<b>HISPANIC MOTHER</b>						
TOTAL <sup>2</sup>	5.85	3,188	6.62	3,671	5.2388	0.0000
White	8.53	2,997	9.56	3,442	4.8114	0.0000
Black & Other	0.99	191	1.18	229	1.7809	0.0749

<sup>1</sup>Race of mother

<sup>2</sup>Includes unknown races

(Narratives are on next page.)

Table 6 on previous page is about maternal characteristics selected from table 9 in “South Carolina 2003 Infant Mortality and Birth Characteristics”(another more detailed publication from us).

Z-test in table 6 in the second to the last column indicates the change in 2003 vs. 2002 is either increase or decrease. If Z-test value is positive, then there was an increase in 2003 vs. 2002; and a decrease otherwise.

And *P* value in the last column is for statistical evaluation. If *P* value is less than 0.05, then the conclusion of “a statistically significant change (either decrease or increase) ” can be derived.

For example, in “Kotelchuck Index: Adequate” category, there was a statistically significant increase in percent of mothers with Adequate Kotelchuck Index in 2003 vs. 2002 for All Races and Black & Other race group, with *P* values of 0.0077 and 0.0000 respectively. However, such increase in White group was not statistically significant (with *P* value of 0.4575).

**10. Infant death leading causes of death, 2001 to 2003:**

**Table 7.1 South Carolina Infant Death, Resident Data, 2001-2003, All races**

Rank	Cause of death	Number	Mortality rate*
	.....Total Infant Deaths.....	1,466	8.8
1	Disorders Related To Short Gestation, Etc. (P07).....	248	1.5
2	Congenital Malformations, Etc. (Q00-Q99).....	223	1.3
3	Newborn Affected By Maternal Comp Of Pregnancy (P01).....	130	0.8
4	Sudden Infant Death Syndrome (R95).....	108	0.7
5	Respiratory Distress Of Newborn (P22).....	65	0.4
6	Accidents (V01-X59,Y85-Y86).....	59	0.4
7	Bacterial Sepsis Of Newborn (P36).....	49	0.3
8	Disease Of Circulatory System (I00-I99).....	45	0.3
9	Newborn Affected By Comp Of Placenta, Etc. (P02).....	45	0.3
10	Intrauterine Hypoxia And Birth Asphyxia (P20-P21).....	42	0.3
	.....All Other Causes.....	452	2.7

**Table 7.2 South Carolina Infant death, Resident Data, 2001-2003,White**

Rank	Cause of death	Number	Mortality rate*
	.....All White Infant Deaths.....	625	5.8
1	Congenital Malformations, Etc. (Q00-Q99).....	132	1.2
2	Disorders Related To Short Gestation, Etc. (P07).....	73	0.7
3	Sudden Infant Death Syndrome (R95).....	52	0.5
4	Newborn Affected By Maternal Comp Of Pregnancy (P01).....	50	0.5
5	Accidents (V01-X59,Y85-Y86).....	35	0.3
6	Respiratory Distress Of Newborn (P22).....	23	0.2
7	Disease Of Circulatory System (I00-I99).....	22	0.2
8	Bacterial Sepsis Of Newborn (P36).....	22	0.2
9	Intrauterine Hypoxia And Birth Asphyxia (P20-P21).....	19	0.2
10	Atelectasis (P28.0-P28.1).....	15	0.1
	.....All Other Causes.....	182	1.7

**Table 7.3 South Carolina Infant death, Resident Data, 2001-2003,Black and Others**

Rank	Cause of death	Number	Mortality rate*
	.....All Black And Other Infant Deaths.....	840	14.3
1	Disorders Related To Short Gestation, Etc. (P07).....	174	3.0
2	Congenital Malformations, Etc. (Q00-Q99).....	91	1.5
3	Newborn Affected By Maternal Comp Of Pregnancy (P01).....	80	1.4
4	Sudden Infant Death Syndrome (R95).....	56	1.0
5	Respiratory Distress Of Newborn (P22).....	42	0.7
6	Newborn Affected By Comp Of Placenta, Etc. (P02).....	32	0.5
7	Bacterial Sepsis Of Newborn (P36).....	27	0.5
8	Atelectasis (P28.0-P28.1).....	24	0.4
9	Accidents (V01-X59,Y85-Y86).....	24	0.4
10	Disease Of Circulatory System (I00-I99).....	23	0.4
	.....All Other Causes.....	267	4.5

\* Rates are per 1,000 live births.

(End Of This Highlight Package)