



Achievement 2013

Regional Collaborative Database

Southern New Jersey Perinatal Cooperative

The licensed Maternal and Child Health Consortium
serving the seven counties of South Jersey



2013 ACHIEVEMENT

Report of the Regional Collaborative Database

Since its inception in 1981, SNJPC has recorded and documented trends in birth weight, mortality and transport in southern New Jersey and presented these findings in the Regional Collaborative Database. Members of the Cooperative have, as part of the agency's core mission, directed their efforts toward developing and maintaining a regional perinatal system that assures that high-risk mothers and infants receive optimal care. The effectiveness of these efforts is documented in the Regional Collaborative Database. This Database also follows ongoing concerns and identifies emerging problems.

The regionalization of perinatal services includes these core objectives:

- accessible quality care for pregnant women and newborns
- appropriate use of perinatal personnel and facilities
- assurance of reasonable cost effectiveness

Thank You

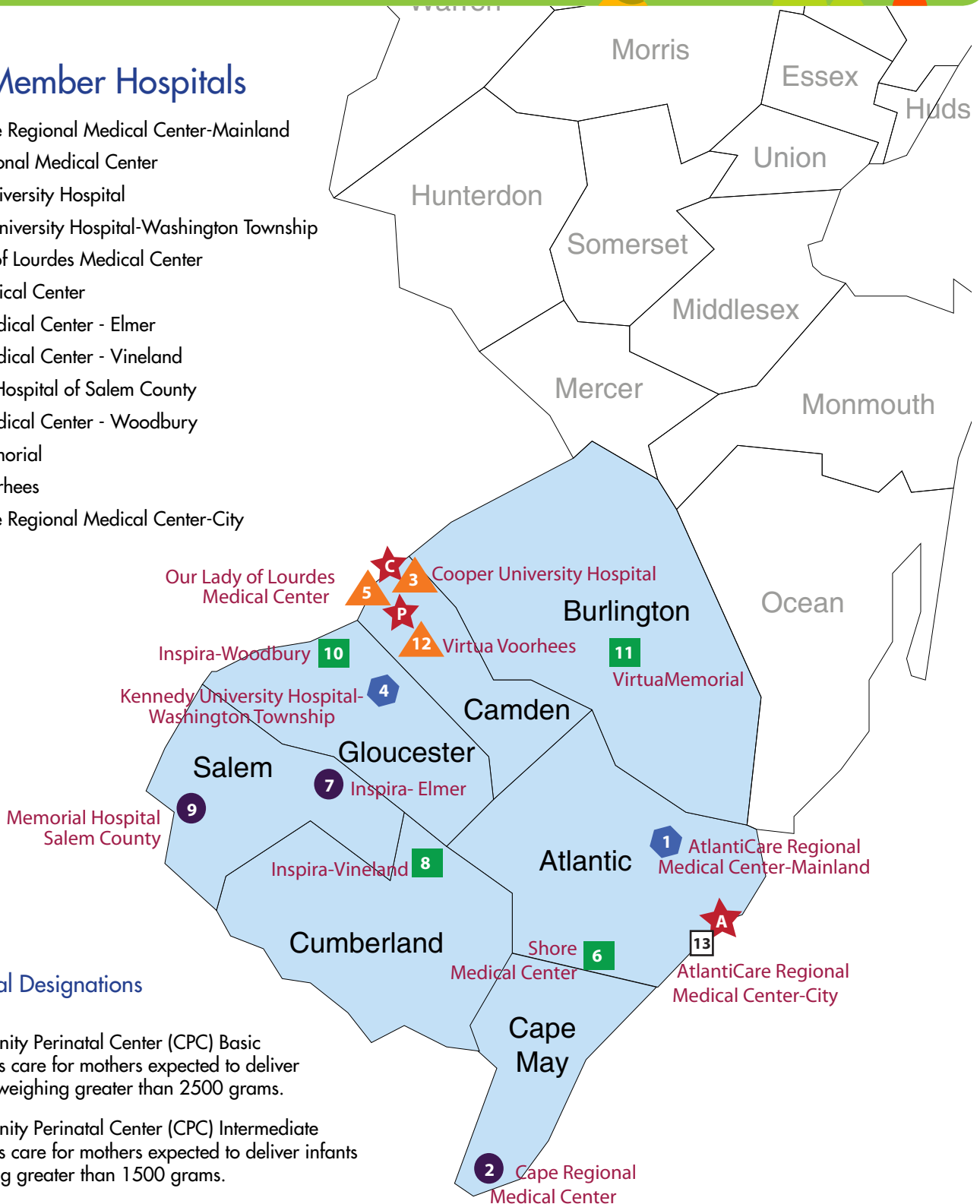
Production of the Regional Collaborative Database report is possible only through the support and assistance of the obstetrical and nursery staffs of our member hospitals. Their contributions are invaluable. We extend our gratitude to these individuals whose consistently high level of professionalism is the basis of the information in this report.

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SNJPC Member Hospitals

- 1 AtlantiCare Regional Medical Center-Mainland
- 2 Cape Regional Medical Center
- 3 Cooper University Hospital
- 4 Kennedy University Hospital-Washington Township
- 5 Our Lady of Lourdes Medical Center
- 6 Shore Medical Center
- 7 Inspira Medical Center - Elmer
- 8 Inspira Medical Center - Vineland
- 9 Memorial Hospital of Salem County
- 10 Inspira Medical Center - Woodbury
- 11 Virtua Memorial
- 12 Virtua Voorhees
- 13 AtlantiCare Regional Medical Center-City



Hospital Designations

-  Community Perinatal Center (CPC) Basic provides care for mothers expected to deliver infants weighing greater than 2500 grams.
-  Community Perinatal Center (CPC) Intermediate provides care for mothers expected to deliver infants weighing greater than 1500 grams.
-  Community Perinatal Center (CPC) Intensive provides care for mothers expected to deliver infants weighing greater than 1000 grams.
-  Regional Perinatal Center (RPC) provides full range of services for high-risk mothers and newborns

Cooperative Offices

SNJPC maintains offices in Atlantic City, Camden City and Pennsauken.

REGIONAL HOSPITAL SUMMARY

	BASIC		INTERMEDIATE		INTENSIVE		RPC		REGION	
	ACTUAL	RATE %	ACTUAL	RATE %	ACTUAL	RATE %	ACTUAL	RATE %	ACTUAL	RATE %
TOTAL BIRTHS IN HOSPITAL (live + still births)	965		4323		5198		9045		19531	
LIVE BIRTHS IN HOSPITAL	961		4300		5153		8973		19387	
NEONATAL MORTALITY	1	1.041	6	1.395	16	3.105	49	5.461	72	3.7
LBW - LIVE BIRTHS <2501 GM	32	3.33%	292	6.79%	413	8.01%	915	10.20%	1652	8.52%
LBW - NEONATAL MORTALITY	0	0.000	6	20.548	15	36.320	46	50.273	67	40.6
VLBW - LIVE BIRTHS<1501 GM	4	0.42%	30	0.70%	69	1.34%	215	2.40%	318	1.64%
VLBW - NEONATAL MORTALITY	0	0.000	6	200.000	14	202.899	40	186.047	60	188.679
ELBW - LIVE BIRTHS<1001GM	2	0.21%	15	0.35%	30	0.58%	105	1.17%	152	0.78%
ELBW - NEONATAL MORTALITY	0	0.000	5	333.333	13	433.333	35	333.333	53	348.7
ELBW2-LIVE BIRTH(500-1000)	2	0.21%	14	0.33%	22	0.43%	85	0.95%	123	0.63%
ELBW2 - NEONATAL MORTALITY	0	0.000	4	285.714	5	227.273	17	200.000	26	211.4
ELBW3-LIVE BIRTH(751-1000)	2	0.21%	7	0.16%	14	0.27%	37	0.41%	60	0.31%
ELBW3 - NEONATAL MORTALITY	0	0.000	2	285.714	1	71.429	5	135.135	8	133.3
FETAL MORTALITY > 499 GM	4	4.145	16	3.708	28	5.413	35	3.894	83	4.3
FETAL MORTALITY > 2500 GM	1	1.075	5	1.246	8	1.685	13	1.611	27	1.5
MATERNAL TRANSPORTS (% of total births+trans)	48	4.74%	80	1.82%	34	0.65%	7	0.08%	169	0.86%
NEONATAL TRANSPORTS (% of live births)	27	2.81%	79	1.84%	63	1.22%	116	1.29%	285	1.47%
NEONATAL MORTALITY AFTER TRANSPORTS (% of live births)	0	0.00%	3	0.07%	3	0.06%	3	0.03%	9	0.05%
LIVE BIRTHS OUTSIDE HOSP	3	0.31%	25	0.58%	25	0.48%	22	0.24%	75	0.39%



Electronic Birth Certificate

The New Jersey Electronic Birth Certificate (EBC) system is one of the most comprehensive perinatal data systems in the country. It contains birth record information and perinatal data for each birth that occurs in the birthing facilities in New Jersey.

The current EBC resides on each hospital's network and is voluntarily reported to the Cooperative for regional analysis. This analysis focuses on key risk factors and outcomes from more than 250 individual pieces of data on each delivery. The partnership between SNJPC and its member hospitals has led to improved use of EBC in internal QI systems and the development of needed programs region-wide.

In 2014 a new version of the EBC will be rolled out to NJ hospitals. The new Vital Information Platform (VIP) is the first major update to the birth data set since its implementation in 1992.

VIP will bring the NJ electronic birth system into compliance with federal standards and as a web-based system, will reduce technological burdens on hospital IT.

SNJPC staff will continue to support quality improvement and provide technical assistance to regional hospitals in the use of VIP.

Disclaimer

The EBC data in the following charts represents births that occur in Cooperative member facilities. Information is limited to those who delivered in or were transferred to a regional facility. This is hospital reported information and is not to be considered official or population based. These data are preliminary and are not considered official by the New Jersey Department of Health and may not be represented as such.

The accuracy of the data contained in this report is dependent upon the completeness and reliability of the information recorded by each EBC birth facility. Moreover, the accuracy of residence information is somewhat limited because it depends on information provided by the mother. A common source of residence error is confusion between mailing and residence address since it is possible to have a postal address with a city/county location that is different from the mother's actual residence.

Live Birth Analysis

As you review the data in this document you will see that the denominator used for factors has some variation. In order to present data in the most useful format SNJPC uses two different live birth denominators. When presenting hospital-based data (including the official Live Births number, Neonatal Mortality Rate, Fetal Mortality Rate and birthweight trends), we use Live Births in Hospitals. This number excludes outside births and was 19,387 for 2013. For population and patient behavior based data (birth and pregnancy characteristics, delivery and feeding method), SNJPC uses Total Live Births. This number includes outside births and was 19,462 for 2013.

Distribution of Births

The birthrate for South Jersey is depicted in Figure 1. The annual number of births peaked in 1990.

Consistent with statewide and national trends, births in southern New Jersey have steadily declined over the past few years with 19,387 births in 2013. These reductions have been linked to the recession and the trend has been led by a decrease in births to immigrant women, a group which continues to account for the disproportionate share of births nationally.

Although the number of births in the region fluctuated very little over the past 11 years, demographic shifts have precipitated changes in the perinatal healthcare delivery system. The regional consortia system supports the stakeholders in the hospitals and community to examine these changes and use data to support systemic changes and enhancements that reflect the needs of the community.

Live Births 1984 - 2013

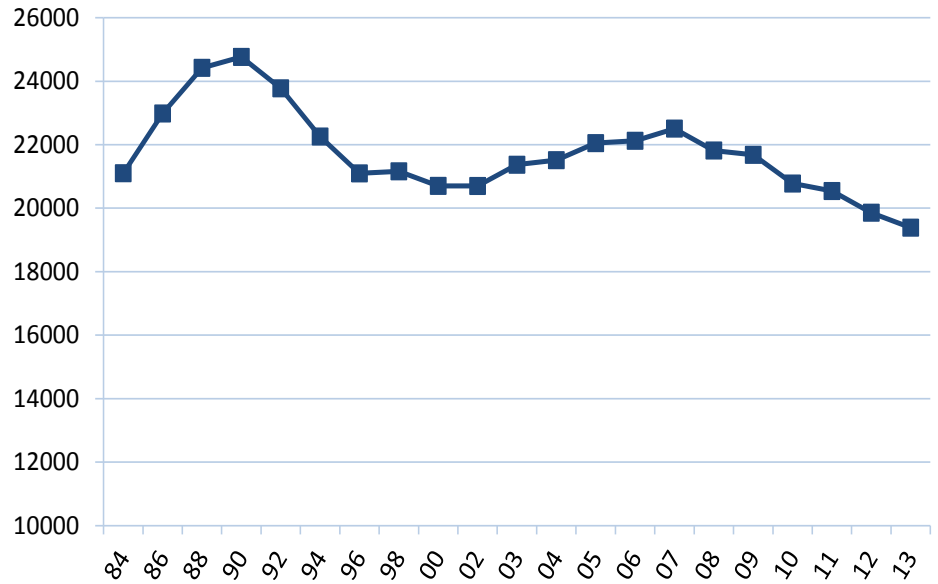


Figure 1

Characteristics of Births

County of Residence

Of the 18,906 births that occurred to residents of the Southern Region in 2013, two thirds (66%) were to residents of the region's northern counties (Burlington, Camden and Gloucester) (Figure 2). Non-residents accounted for 2.9% (n=556) of births in South Jersey.

Table I depicts the number of births in each county, comparing the two time periods of 2004 to 2008 and 2009 to 2013. The decline in livebirths on average was 7% but the distributions of these changes were quite varied. While the numbers of births decreased in all counties, the largest decrease occurred in Salem County; there were also significant decreases in Burlington and Gloucester counties.

2013 Births by County of Residence

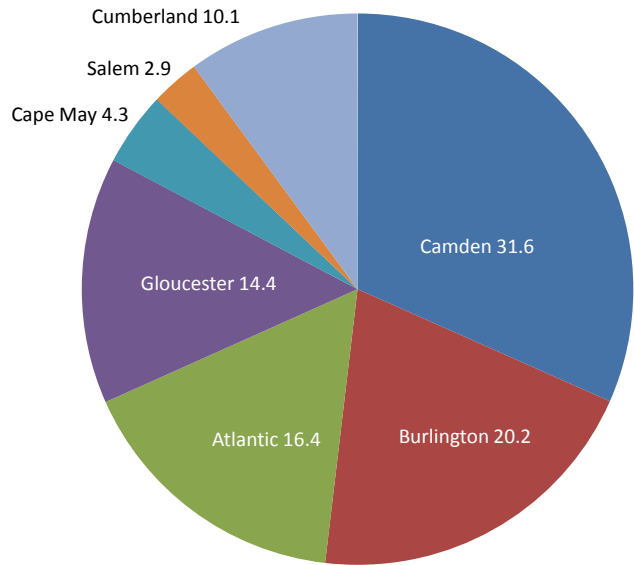


Figure 2

County Birth Totals Five-Year Averages 2004 - 2013

Hospital Births by County	2004-2008	2009-2013	%Change
Atlantic	3761	3587	-4.63%
Burlington	3168	2689	-15.12%
Camden	9139	8951	-2.05%
Cape May	529	520	-1.70%
Cumberland	2190	2073	-5.33%
Gloucester	2507	2104	-16.08%
Salem	682	525	-22.98%

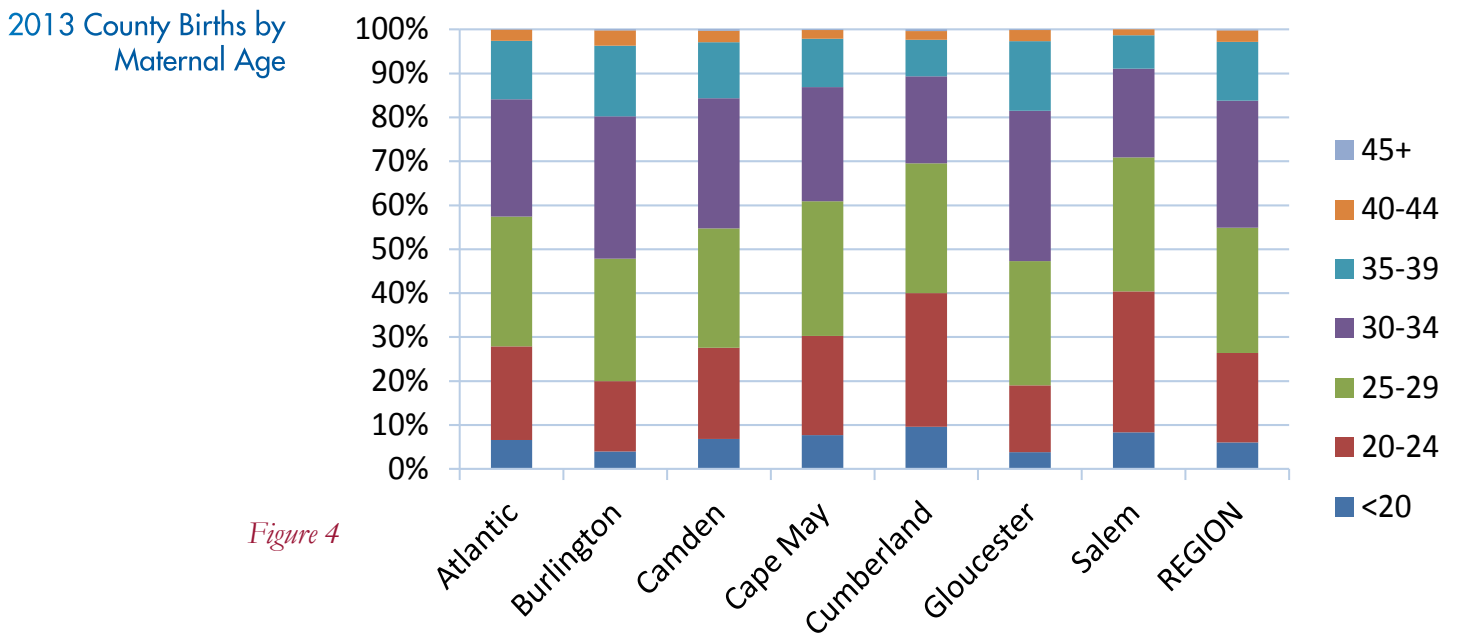
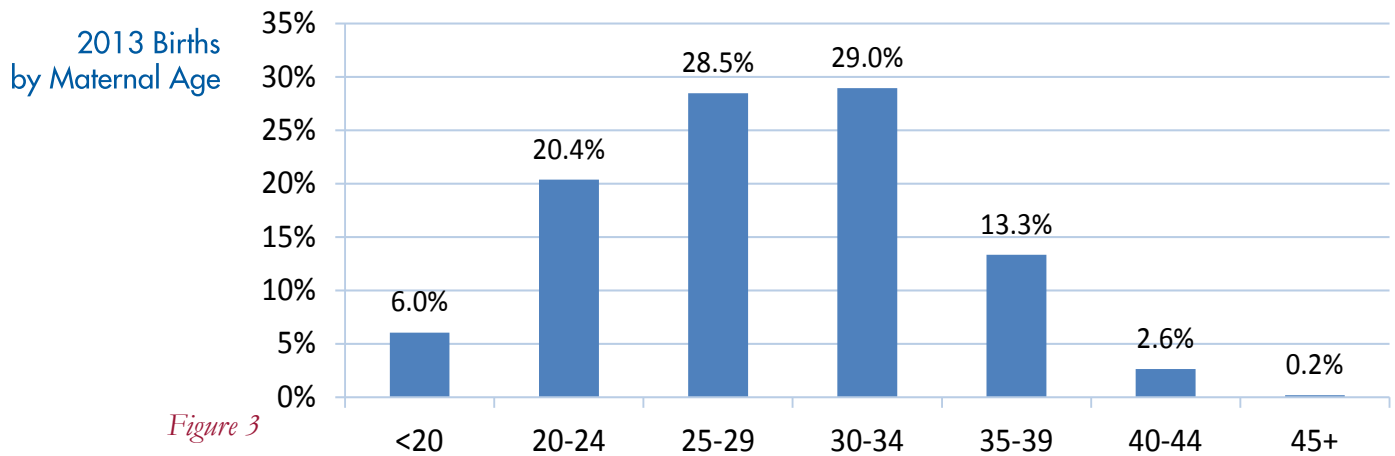
Table I

Maternal Age

In 2013, the highest percentage of births in the region occurred to mothers aged 30-34 years (29%), followed by 25-29 years (28.5%), 20-24 years (20.4%), 35-39 years (13.3%), under 20 years (6%), 40-44 years (2.6%) and 45 years and older (0.2%). (Figure 3)

(20%) while Cumberland County had the highest percentage of mothers under 20 (9.6%). Camden County had the most births in these two categories with 937 births to mothers over 35 and 411 births to mothers under 20.

Variation in the distribution of births by age group can be seen at the county level in Figure 4. Burlington County had the highest percentage of mothers over 35



Births to Teens

The percentage of births to teens (under age 18) in the southern region has been on the decline in the past 10 years, decreasing 53% from 3.8% in 2001 to 1.8% in 2013. (Figure 5)

The majority (70.7%) of teens giving birth were 18 and 19 years of age compared with 25.3% to 16 and 17 year-olds, and 4.0% to teens less than 16 years of age. (Figure 6)

Nationally there has been a decrease in teen births which is reflected in the data for southern New Jersey. Cumberland and

Salem counties have the highest rates of births to young mothers in New Jersey.

In partnership with regional, state and federal initiatives the number and capacity of programs for young mothers and teen pregnancy prevention activities are increasing in these areas. These programs seek to address both pregnancy and STDs among young people using model programs focused on education and prevention.

Teen Births as Percent of Total Births 17 and Younger

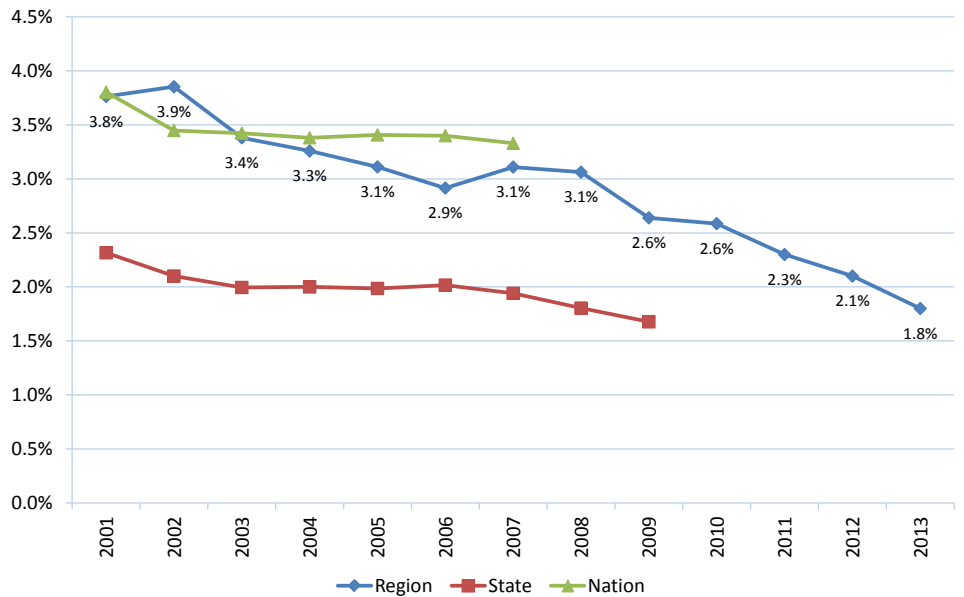


Figure 5

State Source: Center for Health Statistics, New Jersey Department of Health. <http://www4.state.nj.us/dhss-shad>. 4/28/14.
 Nation Source: Centers for Disease Control and Prevention. National Center for Health Statistics. VitalStats/nchs/vitalstats.htm. 4/28/14.

2013 Births to Teens by County

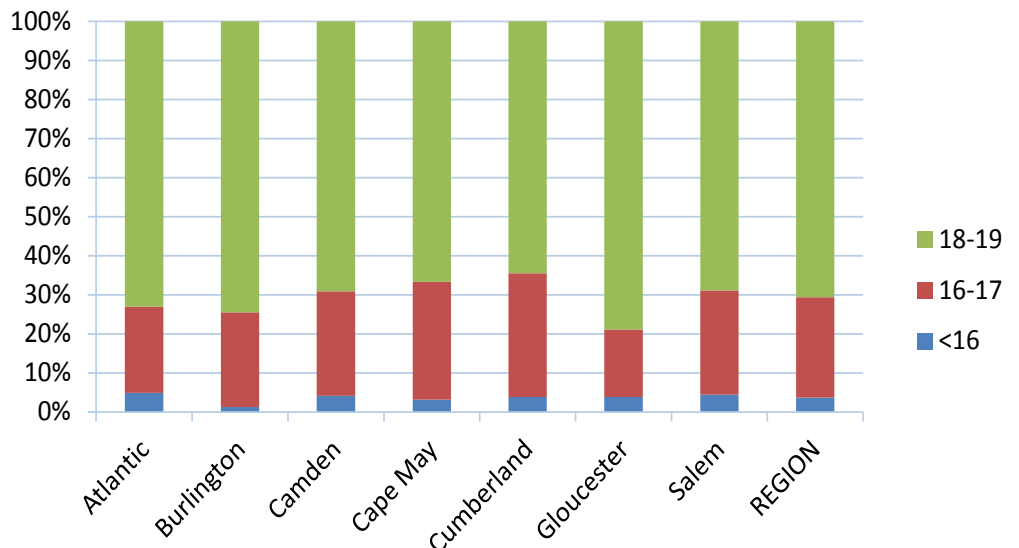


Figure 6

Pregnancy Characteristics

Prenatal Care

In 2013, 82% of all births were to women who began prenatal care in the first trimester, 14% were to women who began prenatal care in the second trimester, 2% were to women who began prenatal care in the third trimester, and 1% received no prenatal care (Figure 7). The Healthy People 2020 objective for First Trimester Entry to Prenatal Care is 77.9%. While the region has exceeded this objective, cities throughout the region continue to fail on this measure. SNJPC programs work with mothers, care providers, and community stakeholders to overcome barriers to access for all women in South Jersey.

Entry to Prenatal Care by Trimester
SNJPC Member Hospital Births

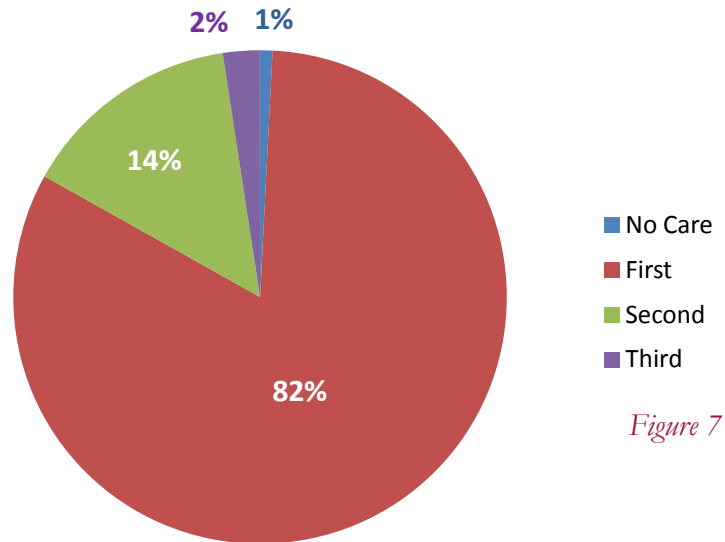


Figure 7

Plurality

In 2013, singleton births represented 96% of all births in the region, twin births represented 3.9%, and triplet births represented 0.2% of all births. There were no quadruplet births in 2013. (Table II)

The decline in higher order multiples is seen after 2005, with no births greater than triplets in the region. These births often result in preterm, extremely low birthweight deliveries and fetal losses; surviving infants often experience lifelong health problems related to prematurity. Improvements in reproductive technologies were critical to the reduction in these high-risk births.

Table II

Year	Singleton		Twin		Triplet		Quadruplet		Total Multiples		Change in % from Baseline
	N	%	N	%	N	%	N	%	N	%	
2004	20755	96.08	807	3.74	35	0.16	*	0.02	846	3.92	
2005	21352	96.21	810	3.65	27	0.12	*	0.02	841	3.79	-3%
2006	21340	95.79	881	3.95	56	0.25	0	0	937	4.21	7%
2007	21834	96.04	870	3.83	30	0.13	0	0	900	3.96	1%
2008	21155	96	834	3.78	48	0.22	0	0	882	4	2%
2009	21034	95.88	859	3.92	44	0.2	0	0	903	4.12	5%
2010	20202	96.16	785	3.74	21	0.1	0	0	806	3.84	-2%
2011	19844	95.51	888	4.27	45	0.22	0	0	933	4.49	15%
2012	19276	95.99	787	3.92	19	0.09	0	0	806	4.01	2%
2013	18662	95.89	767	3.941	33	0.17	0	0	800	4.11	5%

* <5 occurrences

Risk Assessment

Risk assessment is conducted during pregnancy to identify women who are at high risk for fetal or infant death or infant morbidity. Early identification and intervention are keys to prevention. Because of this, risk assessment is conducted at the first prenatal visit and updated throughout the course of prenatal care.

The goal of risk assessment is to prevent or treat conditions associated with poor pregnancy outcomes and to assure linkage to appropriate services and resources through referral.

Table III depicts some of the risk factors that were associated with VLBW births in 2013. Inadequate prenatal care, substance abuse, and multiple births (twins, triplets) are more likely to result in the birth of a VLBW infant. Maternal risks such as hypertension and pre-eclampsia can also be associated with decreased birth weight.

The association between no prenatal care and late entry to care, and the occurrence of low birthweight is also depicted in Table III. Although only 1% of pregnant women did not receive prenatal care, the no prenatal care rate for women delivering VLBW infants was 6%.

In data reflective of national reports, black women in South Jersey continue to have a higher proportion of low birthweight babies. Table III shows that while 19% of the births in the region were to black women, higher proportions (35%) of the VLBW births were black. Since low birth weight is closely associated with infant mortality, reducing the incidence of VLBW infants born to black women is essential to reducing the racial disparity that has long challenged the perinatal healthcare community.

Southern Region	ALL	<1501 grams	>1500 grams
<i>Live Births</i>	19462	326	19136
Mother's race: White	63%	47%	63%
Mother's race: Black	19%	35%	19%
Mother's ethnicity: Hispanic	21%	21%	21%
1st trimester entry to prenatal care	82%	80%	82%
No prenatal care	1%	6%	1%
Used tobacco during pregnancy	11%	19%	11%
Used alcohol during pregnancy	1%	1%	1%
Used drugs during pregnancy	3%	12%	3%
Plurality of 2 or more	4%	28%	4%
Mother's age less than 20 years	6%	6%	6%
Mother's age 35 years or greater	16%	17%	16%
Primigravida	28%	35%	28%
Maternal risk: Hypertension in pregnancy	2%	3%	2%
Maternal risk: Pre-eclampsia	1%	11%	1%

Table III

Method of Delivery

Unfortunately, New Jersey continues to be among the states with the highest cesarean birth rate. Figure 8 depicts the relationship between cesarean births and vaginal deliveries in South Jersey in the past years.

For the past several years, the New Jersey Hospital Association has sponsored a Perinatal Collaborative working to identify quality improvement strategies for perinatal health. Hospitals participating in this Collaborative have had the opportunity to share best practices across the spectrum of perinatal care. The reduction of inductions before 39 weeks was selected as a best practice in this initiative and many hospitals across the state have instituted “hard stops” for this procedure.

An examination of the births to mothers in SNJPC member hospitals based on the unified reporting standards in Cesarean Delivery: Comparing New Jersey Hospitals in January 2010 can be seen in Table IV.

The examination of these deliveries exposes opportunities to reduce C-sections for low risk mothers and infants. With over 80% of South Jersey mothers who had a prior C-section repeating this method of delivery, the consideration of VBAC by patients and physicians is an area that merits examination. (Table V).

Vaginal - Cesarean Births South Jersey 2004 - 2013

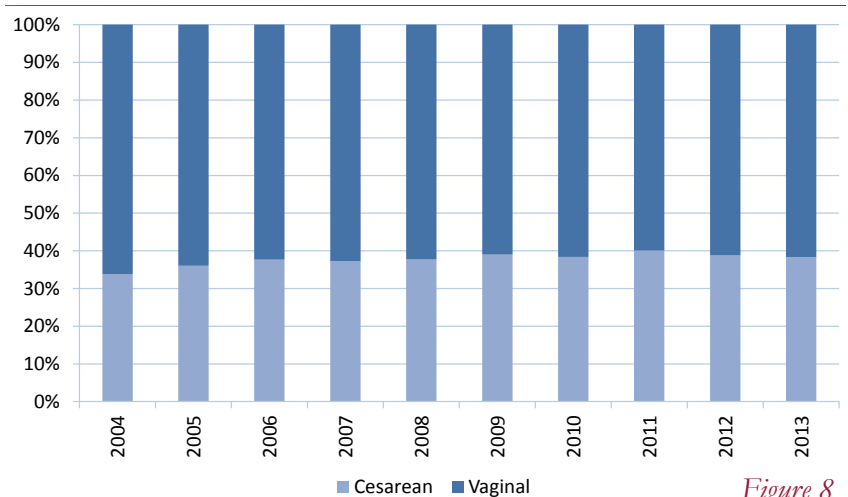


Figure 8

2004-2013

South Jersey Cesarean Births & Inductions of Women With Prior C-section

Year	Nullipara C-section	No Trial Repeat C-section	Induction <39 wks	Induction 39+ wks	Induction with C-section
2004	31.50%	79.20%	7.10%	9.60%	4.38%
2005	33.70%	81.40%	6.00%	9.70%	4.33%
2006	34.80%	83.60%	6.90%	9.20%	2.30%
2007	33.90%	84.00%	4.40%	7.60%	3.29%
2008	34.20%	86.90%	2.70%	8.10%	3.09%
2009	34.50%	84.70%	4.90%	6.80%	1.61%
2010	34.30%	84.50%	5.50%	12.60%	4.41%
2011	36.12%	83.96%	6.70%	13.27%	2.65%
2012	34.15%	83.07%	4.98%	14.93%	4.48%
2013	30.20%	82.97%	7.39%	14.57%	3.64%
Change over time	-4.13%	4.76%	4.08%	51.77%	-16.89%

VBAC Trends

Year	Failed VBAC	Successful VBAC
2004	37.90%	62.10%
2005	44.80%	55.20%
2006	42.20%	57.80%
2007	40.90%	59.10%
2008	45.50%	54.50%
2009	47.40%	52.60%
2010	41.50%	58.50%
2011	48.82%	51.18%
2012	42.51%	57.49%
2013	35.29%	64.71%

Table IV

Table V

ISSUES

South Jersey Cesarean Births, & Inductions

1. Nullipara cesareans for standard presenting women. (*First-time, live births, baby head down*) In 2013, the rate of these cesarean births was 30.2%. This rate had been steadily increasing over the previous decade and reached a high point of 36.1% in 2011.

2. Repeat cesareans without a trial of labor. (*Women who have had a previous cesarean birth who are scheduled for the procedure before the onset of labor*) In 2013, 83% of deliveries to women who had a prior cesarean were cesareans without a trial of labor. This type of delivery has been on the decline in South Jersey. Since 2008 there has been a 4% decrease in repeat c-sections.

3. Attempted vaginal births after cesarean births (VBACs) at 39+ weeks gestation that end in cesarean. These are defined as “failed” VBACs. In 2013, the rate of failed VBACs was 35.3%. This is the first time this rate has been below 40% since 2004.

4. Induction of labor before 39 completed weeks of gestation. Because of the concern about the problems encountered by babies who are born less than but near term, this is an issue which will be the focus of quality improvement activities in future years. In 2013 this rate was 7.4%.

5. Inductions that end in cesarean. In 2013, the rate of c-section after induction among women who had a prior c-section was 3.64%.

Cesarean Deliveries, First-time Mothers, Singleton, Full-Term, Head Down

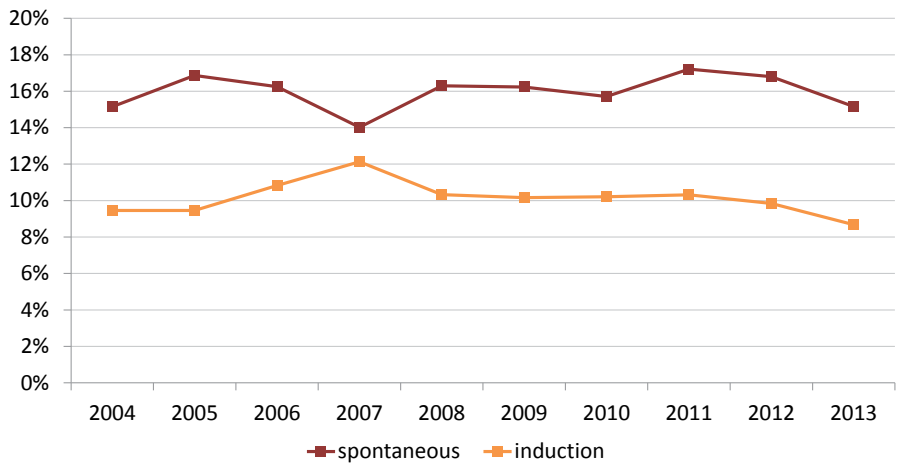


Figure 9

South Jersey Cesarean Births Trends

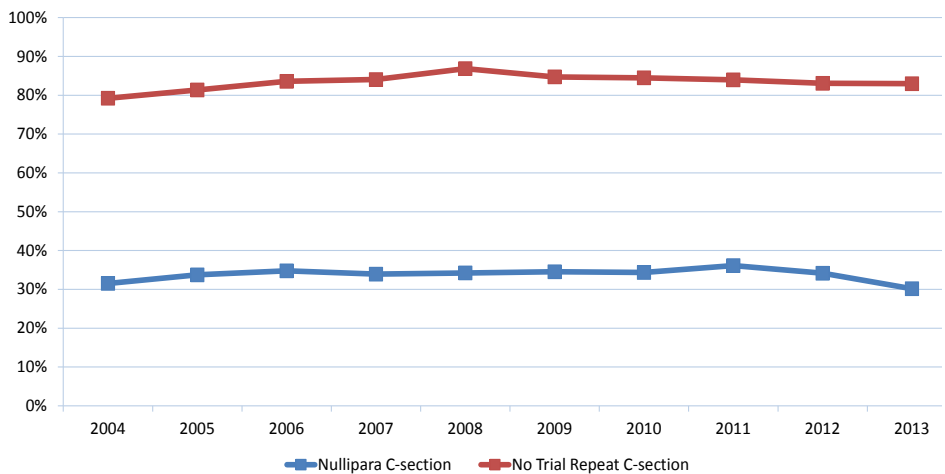


Figure 10

Newborn Feeding Method

Newborn feeding method refers to the type of feedings given to the newborn in the 24 hours prior to discharge from the hospital. Table VI and Figure 11 below show the trends in feeding methods for infants born in SNJPC member hospitals since 2004.

In 2013, 70% of women who gave birth in the SNJPC member hospitals breastfed their newborns (either exclusively or in combination with formula); 50.5% exclusively breastfed; 26.9% used formula; and 19.5% used a combination of

breastfeeding and formula. There has been a steady increase in breastfeeding and a decrease in the number of newborns who were fed exclusively with infant formula.

Feeding Method At Discharge

Year	Total Breastfeeding	Exclusive Breastfeeding	Formula	Combination
2004	61.9%	47.1%	36.4%	14.8%
2005	62.5%	46.4%	35.5%	16.1%
2006	63.4%	45.8%	34.4%	17.7%
2007	62.7%	43.9%	34.8%	18.8%
2008	63.6%	44.3%	33.8%	19.3%
2009	64.8%	43.5%	32.6%	21.3%
2010	64.2%	39.7%	33.0%	24.5%
2011	65.6%	43.9%	30.6%	21.7%
2012	69.0%	47.5%	28.3%	21.5%
2013	70.0%	50.5%	26.9%	19.5%
Change over time	13.09%	7.22%	-26.10%	31.76%

Table VI

Feeding Trends 2004 - 2013

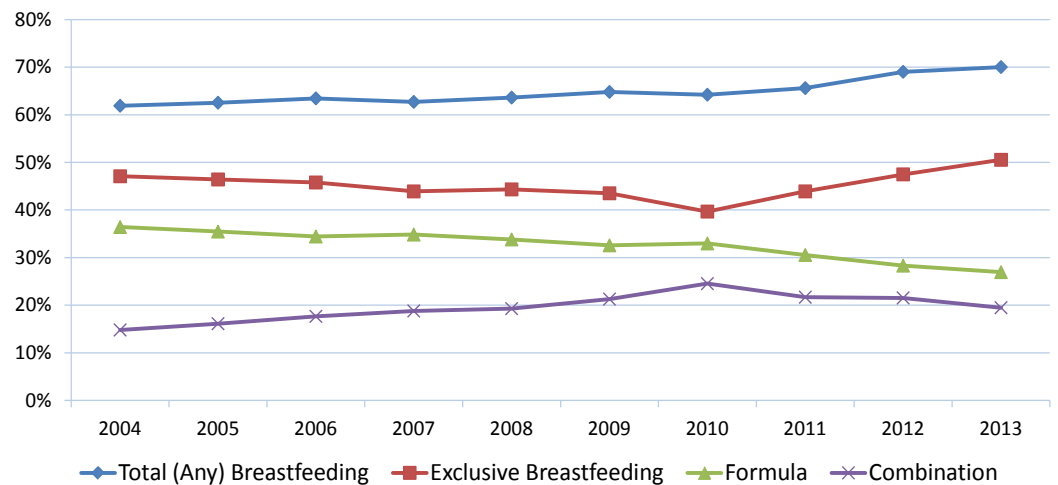


Figure 11

Exclusive Breastfeeding

Because of the many positive benefits of breastfeeding for child survival, growth and development, exclusive breastfeeding - which means that an infant receives only breast milk with no additional formula or water - is recommended by the World Health Organization for all infants. Despite its many benefits, many women do not breastfeed exclusively.

Over the last ten years the percentage of infants exclusively breast fed has increased. There have however been differences by race and ethnicity. Table VII depicts these trends over time. In 2013, the percentage of exclusive breastfeeding was highest for births to white mothers (54.6%). Increases in exclusive breastfeeding were seen in all race groups, with Black mothers increasing nearly 13.5% since 2004.

Some of the obstacles to exclusive breastfeeding can be overcome in the following ways:

Prevent and treat early problems. Most breastfeeding problems occur in the first 2 weeks of life. These problems all too often lead to very early infant supplementation and abandonment of exclusive breastfeeding.

Restrict commercial pressures. Aggressive marketing of infant formula often gives new mothers and families the impression that human milk is less modern and thus less healthy for infants than infant formula.

Provide timely and accurate information. Ensuring that women receive complete, accurate, timely, and consistent information is fundamental for any program promoting exclusive breastfeeding.

Establish good practices in health facilities. Distribution of free samples of infant formula, the use of glucose water, and separation of mother from newborn are obstacles to the establishment of good feeding in health services.

Adopting the Baby-friendly Hospital Initiative's "Ten Steps to Successful Breastfeeding" and enhancing the skills of healthcare providers to support exclusive breastfeeding would help to ensure the best start for infants. (<http://www.babyfriendlyusa.org>)

While Elmer Hospital remains the region's only officially designated Baby Friendly Hospital, the importance of breastfeeding has been integrated into care across the region. This is evident from the 13% increase in total breastfeeding in the past 10 years.

Exclusive Breastfeeding by Race and Ethnicity

Year	Black	White	Hispanic
2004	32.7%	53.9%	34.3%
2005	31.6%	53.0%	36.0%
2006	32.9%	52.0%	34.5%
2007	31.6%	49.4%	33.6%
2008	29.8%	49.6%	37.0%
2009	28.6%	49.2%	33.6%
2010	26.5%	43.5%	26.7%
2011	32.1%	47.9%	34.7%
2012	34.4%	51.8%	39.0%
2013	37.1%	54.6%	42.8%
Change over time	13.46%	1.30%	24.78%

Table VII

Infants Born Outside the Hospital

The regional database also tracks the number of infants born outside of hospitals. These are emergency births and include births at home, in transit or in the hospital emergency room. This number does not include planned home deliveries.

In 1988, the number of births outside the hospital rose sharply and continued until 1993 when the trend was reversed. This rate has remained very low for the past decade (Figure 12).

Although the majority of these infants are full-term, they are, as a group, at increased risk. The fetal and neonatal mortality risk is higher for these infants than those born in the hospital with appropriate care and support. Because of this, surveillance continues to determine preventable causes of these occurrences.

Outside Birth Trend

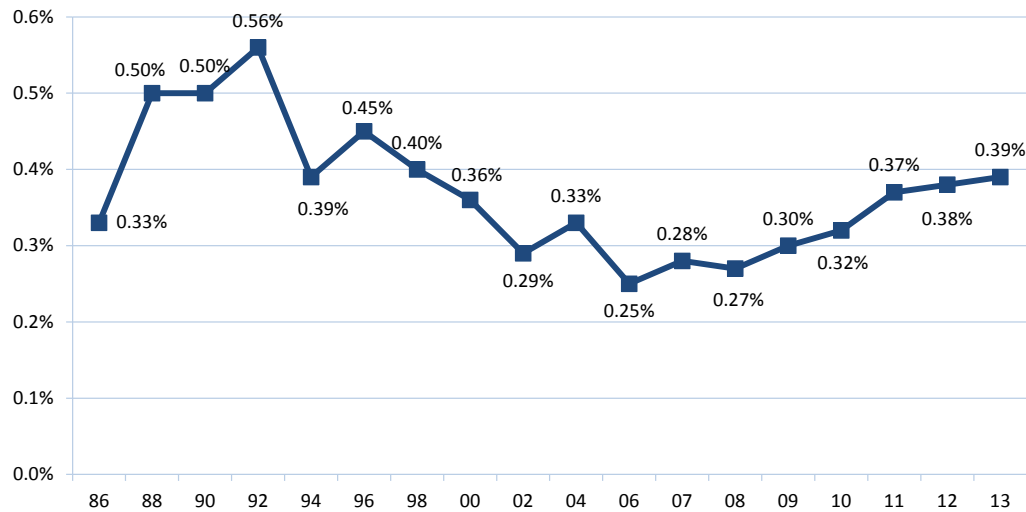


Figure 12

Birthweight Trends

As seen in Figure 13, a greater proportion of infants weighing less than 5.5 lbs. were born in 2013 than in the baseline year of 1984, (8.5% vs. 6.8%). Table VIII depicts the increased birth rates of the last 25 years for infants weighing 1501-2500 grams, 1001-1500 grams and those infants weighing less than 1000 grams at birth. Although we continue to depict regional progress since SNJPC's inception, a more relevant comparison is one that examines our current experience to that of the late 1990's.

Changes in medical management and the coordination provided by perinatal regionalization since 1995 set the stage for the increased birthrate of very small babies since the late 1990s. Technological and medical advances now permit the live birth of many tiny, premature infants who would have died prior to delivery just 15-20 years ago, when the SNJPC database was first developed.

In 2013, 318 (1.6%) of the babies born in member hospitals were categorized as VLBW (Very Low Birth Weight) because they weighed less than 1500 grams (3.3 lbs). This group of infants are the most vulnerable and have the most influence on the neonatal mortality rate. When examined over time, the birth rate of small infants has remained relatively stable since 1999.

Of particular interest is the subset of the tiniest infants who weigh under 1000 grams (just under 2lbs). These babies are referred to as Extremely Low Birth Weight (ELBW). Figure 14 shows the birthweight trends for these small infants from the baseline year to the present. Although there have been changes year to year, an examination of 10 years of data shows the average birthrate of ELBW infants is 0.9%. In 2013, 152 infants, (.8% of the total births in the region) weighed less than 1000 grams.

Figure 14

Birthrate of LBW Infants 1984-2013

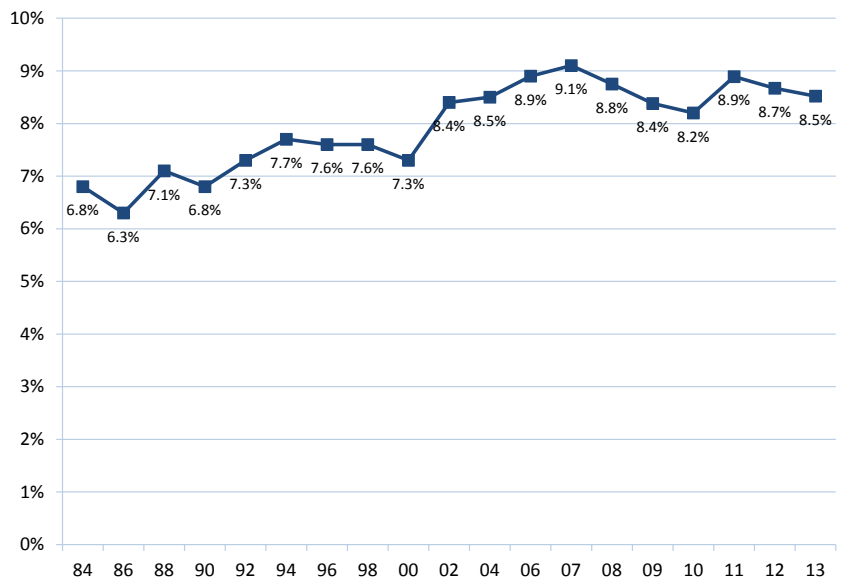


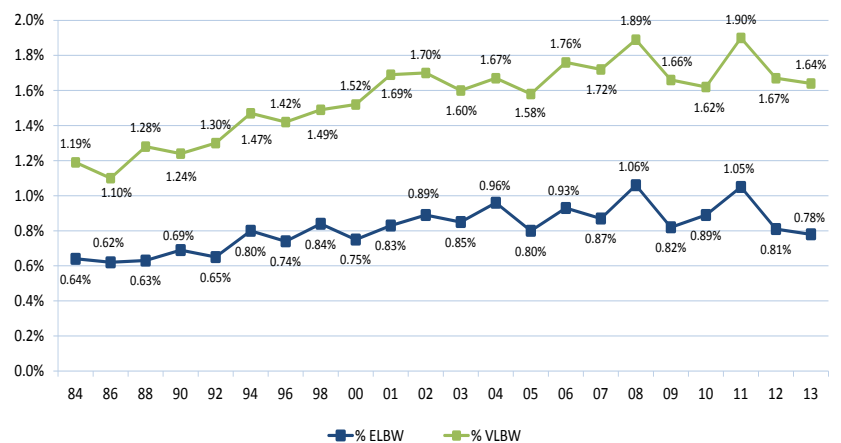
Figure 13

Birthweight Distribution

Weight Group	Baseline	2013	%Change
All Weights	21102	19387	-8.13%
<2501 g (LBW)	6.80%	8.52%	25.29%
<1501 g (VLBW)	1.19%	1.64%	37.82%
<1001 g (ELBW)	0.64%	0.78%	21.88%

Table VIII

ELBW/VLBW Birthrate Comparison



Neonatal Mortality

The regional neonatal mortality rate trend since 1984 can be seen in Figure 15.

At 3.71 deaths per 1000 live births, the 2013 neonatal mortality rate (NMR) is the lowest NMR for the region since we have been tracking these data and 52% lower than the baseline year of 1984. Since 2000, the NMR has been less than 6.5 per 1000 and the average NMR for infants of all weights over the past ten years is 5.26 deaths per 1000 live births.

Since low birth weight is the single most important factor contributing to neonatal mortality, SNJPC monitors the relationship between the incidence of LBW and NMR. Despite the increase in the incidence of low birth weight infants since 1984, the neonatal mortality has decreased for every birth weight category above 500 grams. Several categories exhibit dramatic decreases.

As can be seen in Table IX, the mortality rate for LBW, VLBW and ELBW infants has decreased on average by 50%.

The information concerning specific subsets of tiny infants helps explain these trends. 2013 saw a 64% reduction in the mortality rate for smaller infants weighing between 1 and 1.5 lbs. (500-750g), when compared to the baseline year. During the same period, the mortality rate for the subgroup of infants weighing between 1.5 and 2 lbs (750-1000g) decreased 62% from 351 to 133 per 1000 live births from 1984 to 2013. (Table X)

Neonatal Mortality 1984-2013

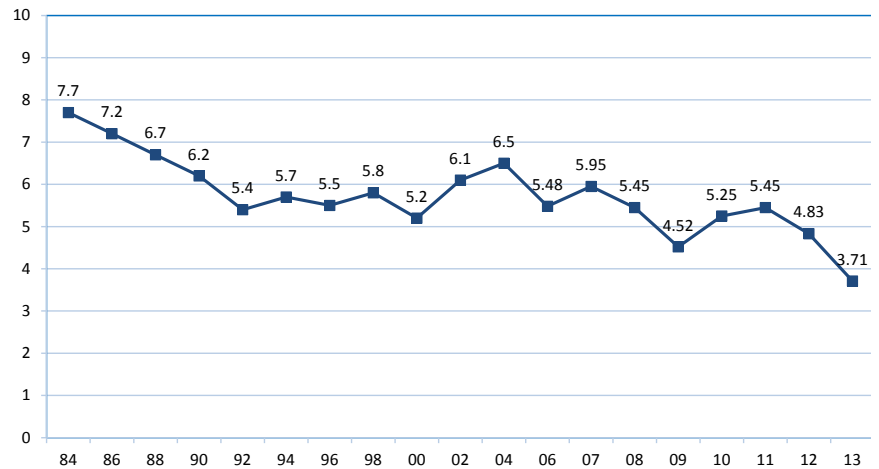


Figure 15

Neonatal Mortality Rate Birthweight Distribution

Weight Group	Baseline	2013	%Change
Overall	7.68	3.71	-51.69%
<2501 g (LBW)	86.53	40.56	-53.13%
<1501 g (VLBW)	424.6	188.68	-55.56%
<1001 g (ELBW)	666.67	348.68	-47.70%

Table IX

Neonatal Mortality Rate Trends

Weight Group	1984	2013	%Change
Overall	7.68	3.71	-51.69%
1501 -2500 g	15.24	5.25	-65.55%
1001-1500 g	145.3	42.17	-70.98%
751-1000 g	350.88	133.33	-62.00%
500-750 g	785.71	285.71	-63.64%

Table X

Fetal Mortality

In addition to programs aimed at reducing neonatal mortality, the Cooperative has also coordinated educational and consultation activities directed at reducing the fetal mortality rate (FMR).

The FMR is reported in two ways: deaths of all fetuses weighing more than 500 grams and the subset of fetal deaths in later pregnancy, when the fetus weighs more than 2500 grams.

In 2013 the fetal mortality rate for births over 500 grams was 4.27 a decrease of 29% since 1984 but has been fairly stable since 2000. The average FMR since 2000 was 4.16 per 1000 births; the range was 3.59 per 1000 births in 2007 and 5.47 in 2009.

Since 1986, the FMR among infants weighing more than 2500 grams, a marker of late pregnancy complications and management, decreased 32%. In 2013 the rate for this group was 1.52 losses per 1000 births,

Fetal Mortality Rate

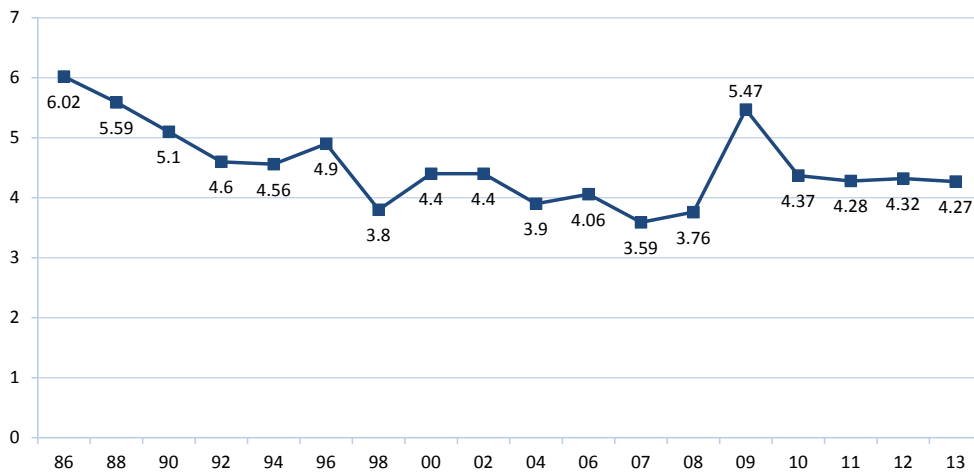


Figure 16

Fetal Mortality Rate >2500 1986-2013

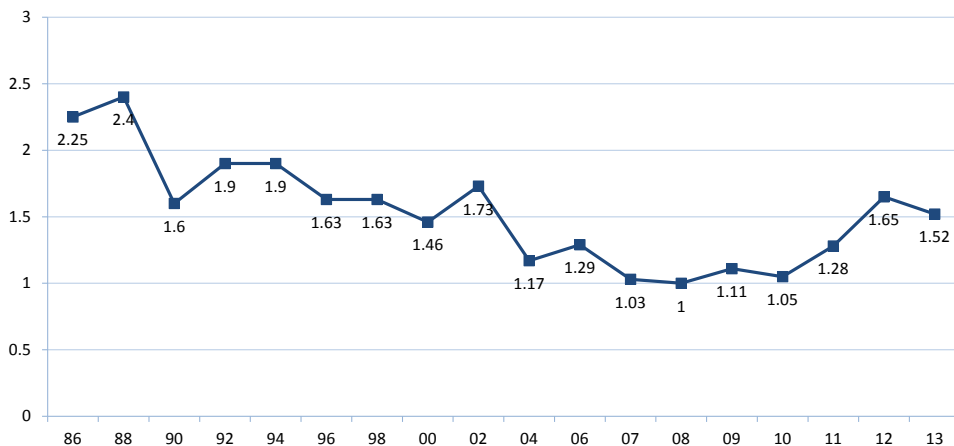


Figure 17

Transport Patterns

Neonatal Transports

In 2013, 285 infants were transported from South Jersey hospitals for neonatal intensive care (Figure 18). The effectiveness of the maternal transport system, which ensures that mothers deliver in hospitals prepared to care for their infants at any weight, is seen in the fact that only 28% of these transported infants weighed less than 1500 grams. Additionally 50% of the transported infants weighed more than 2500 grams. Many of the larger term or close to term infants who were transported required surgery or other specialized care in New Jersey and neighboring states.

Neonatal Transports

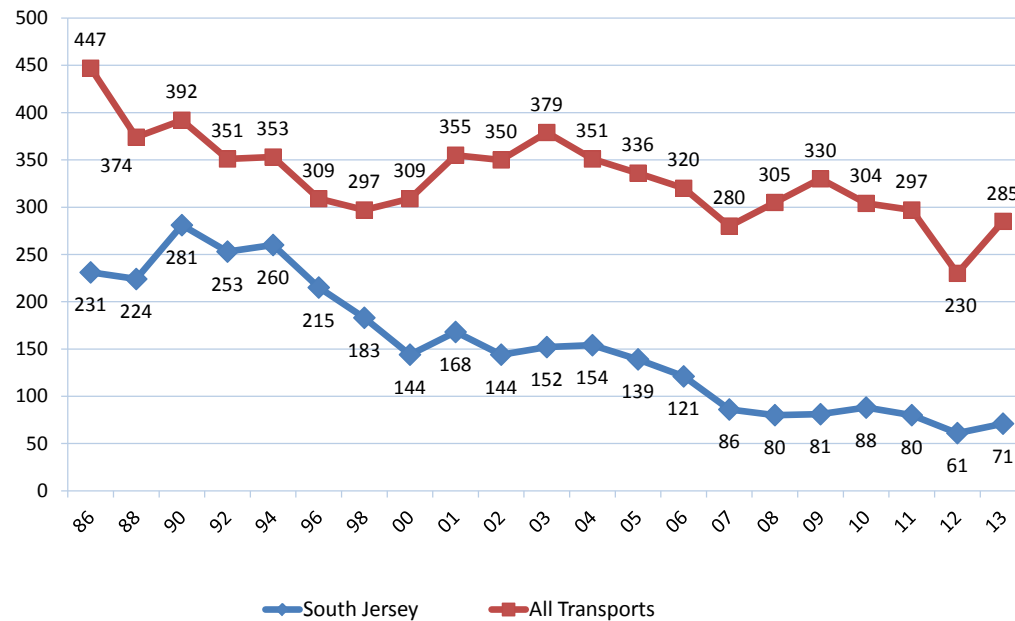


Figure 18

Maternal Transports

Maternal transport patterns have contributed to the reduction in the mortality rate for ELBW infants. Survival rates for tiny infants, those weighing less than 1500 grams, improve when they are born at a hospital with a Neonatal Intensive Care Unit (NICU).

In 2013, 235 pregnant women were transported to high-risk perinatal centers. The proportion of these transports going to South Jersey RPCs has consistently exceeded 89%. (Figure 19). Seventy six percent (76%) of the mothers transported to these perinatal centers were 32 weeks gestation or less. This trend corresponds with the decreased incidence of small babies born in hospitals without NICUs and the increased survival of tiny infants.

One of the consistent findings in the SNJPC Regional Database Report is the effectiveness of the regional maternal transport system in assuring that few infants weighing less than 2 lbs are born at community hospitals without NICUs. Although every CPC (Community Perinatal Center) Intermediate and CPC Basic hospital is appropriately staffed and equipped to stabilize and care for tiny infants, having to transport these babies to a hospital with a NICU is a risk that can be avoided if the mothers can be transported prior to delivery.

Early identification, referral and transport of high-risk mothers helped to insure the majority of the smallest infants who benefit the most from specialized neonatal care are born at hospitals with these services. Figure 20 depicts the great change in where these infants are born since the first year these data were collected, when only 68% of the infants weighing 1 and 2 lbs. were born at hospitals with NICUs. In 2013, 87% of the tiniest infants were born at Regional Perinatal Centers (RPCs) and CPCs-Intensive.

Maternal Transports

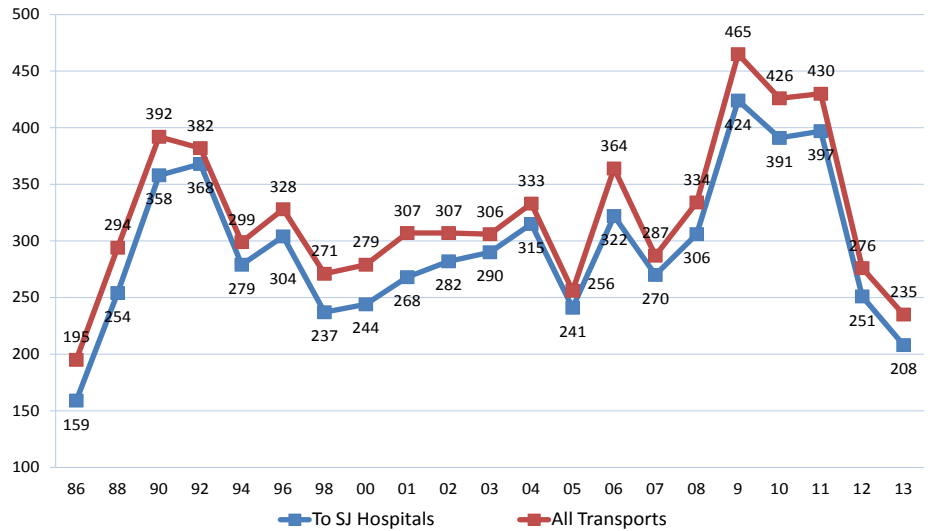


Figure 19

500-1000 gm Born at RPC & Intensive

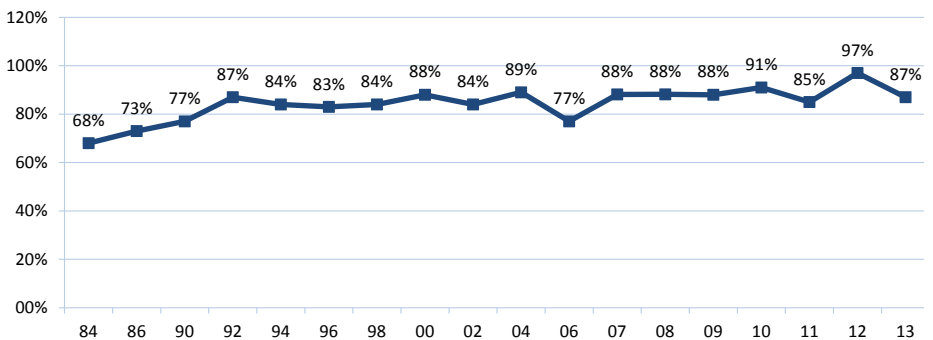


Figure 20

Definitions

Live Births

Births of infants who take at least one breath regardless of gestational age or weight. Unless otherwise indicated, "births" in this document refers to live births.

Total Births

Live births of any gestation and fetal deaths greater than 19 weeks gestation.

Birth Rate

Annual number of births to women at SNJPC member hospitals.

Birth Weight

The first weight of the newborn obtained after delivery. Birth weight is recorded in grams.

Extremely Low Birth Weight (ELBW)

Birth weight of less than 1,000 grams, which is approximately 2 pounds 3 ounces.

Gestational Age

Clinical estimate of the length of time from the first day of the mother's last normal menstrual period to the date of delivery.

Induction

Labor brought on by medical intervention.

Low Birth Weight (LBW)

Birth weight of less than 2,500 grams, or approximately 5 pounds, 8 ounces.

Newborn Feeding Method

The type of feedings (breast, formula, or both) given in the 24 hours prior to discharge from the hospital.

Nullipara

A woman who has not previously delivered a live infant.

Teen Birth

Birth to a mother under 20 years of age.

Tobacco, alcohol, and drug use during pregnancy

Use of these substances as self-reported by mother.

Trimester of Pregnancy:

The first trimester includes the first 12 weeks of pregnancy, the second trimester encompasses the 13th through the 27th weeks and the third trimester is the period after the 27th week through delivery.

Vaginal Birth After Previous Cesarean (VBAC)

Vaginal delivery of a woman who has previously had a cesarean delivery.

Very Low Birth Weight (VLBW)

Birth weight of less than or equal to 1,500 grams, or approximately 3 pounds, 5 ounces.

Fetal Death:

Death of a fetus prior to birth and after 19 weeks gestation.

Neonatal Death:

Death of an infant within the first 27 days of life.

Perinatal Mortality

The sum of fetal deaths of 20 or more weeks gestation plus neonatal deaths.

Post Neonatal Death

Death of an infant aged 28 days to one year of life.



2013 Regional Perinatal Database for South Jersey

Making possible data-driven interventions to
improve the health status of mothers and babies



MAIN OFFICE

Southern New Jersey Perinatal Cooperative
2500 McClellan Avenue, Suite 250
Pennsauken, NJ 08109

856.665.6000
856.665.7711 fax

snjpc.org

SATELLITE OFFICES

Atlantic City 609.345.6420
Camden City 856.963.1013

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