

Cleveland Regional Perinatal Network
11001 Cedar Ave., Suite 320 B
Cleveland Ohio 44106
216-844-3391
www.crpn.net

Region V
Regional Perinatal Center Program
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Perinatal Data Use Team
Performance Monitoring Report
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Produced by
Marcita Galindez, MPA
Researcher, Epidemiology, Surveillance and Informatics
Christopher Kippes, MS
Director of Epidemiology, Surveillance and Informatics
Cuyahoga County Board of Health
Cuyahoga County Board of Health
Marilyn Benjamin RN, MSN
Project Director, Cleveland Regional Perinatal Network

Region V Perinatal Data Use Consortium: Marilyn Benjamin, Cleveland Regional Perinatal Network; Katie Belding-Braun, Ashtabula County Health Department; Kathryn Boylan, Elyria City Health District; David Bruckman, City of Cleveland Department of Public Health; Marc Collin, MD, MetroHealth Medical Center; Kay Duffy, Lake County General Health District; Monica Fundzak, MetroHealth Medical Center; Sharon Groh-Wargo, MetroHealth Medical Center; Marcita Galindez, Cuyahoga County Board of Health; Christine Kettunen, Ashtabula County Health Department; Christopher Kippes, Cuyahoga County Board of Health; Jeffrey Lange, Lorain County Community College; Lisa Matthews, MomsFirst Project; Nikki Polis, University MacDonald Women's Hospital; Margaret Sherer, Geauga County Health Department; Cynthia Struk, Visiting Nurse Association; Mary Wynne-Peaspanen, Family Planning Association of Northeast Ohio.

Introduction/Overview

Purpose of the Report. The Regional Perinatal Center Program has three main objectives and they are: (1) to monitor outcomes and performance within perinatal regions and regional perinatal health care systems; (2) to increase professional and consumer knowledge regarding data and related quality improvement interventions; (3) and to serve as a regional planner facilitating the improvement of a seamless, community based perinatal system that serves all pregnant women and newborns. As a recipient of the 2008 Regional Perinatal Center Program (RPC) grant, the Cleveland Regional Perinatal Network (CRPN) is required by the Ohio Department of Health (Division of Family and Community Health Services, Bureau of Child and Family Health Services) to submit a Performance and Outcome Measures Report by December 31, 2007. This first report serves two purposes: to identify areas needing improvement in Perinatal Region V by comparing the region to state and national performance measures; and to establish baseline data of county and regional performance measures to guide programmatic efforts and monitor future improvements.

The Ohio Department of Health's Information Warehouse and the Ohio Department of Health's Health Statistics were the two main sources of data for this report. Other data/reports sources are listed following the Spreadsheet. The Cleveland Regional Perinatal Network and Cuyahoga County Board of Health take no responsibility for errors in the data and any conclusions drawn in this report do not reflect the opinions or policies of the Ohio Department of Health. Comments can be directed to the Project Director at Marilyn.Benjamin@uhhospitals.org, or 216-844-3391, or mailed to the address on the report cover.

Demographic features. Perinatal Region V is located in Northeast Ohio and consists of Ashtabula, Cuyahoga, Geauga, Lake, and Lorain Counties. The region had 24,868 births in 2005, accounting for 16.7% of the state's live births and 18.4% of the state's infant deaths. Cuyahoga County contains the largest urban area, the city of Cleveland, and accounts for about 3/4ths of the region's births and infant deaths. Issues affecting perinatal health vary from county to county. Ashtabula and Geauga Counties are more rural areas where the populations face shortages in health services and cultural barriers to care; Cuyahoga County residents contend with issues of urban poverty and Black/White health disparities; Lake and Lorain residents deal with the challenges of an underserved Hispanic population and increasing unemployment. Medicaid births in the region range from 47% (Ashtabula County) to 11% (Gauga County). The low percentage of Medicaid births in Geauga County is misleading due to the county's Amish population's reluctance to utilize government services. Cuyahoga County reported 41% Medicaid births, Lorain had 37%, and Lake had 19% Medicaid births. Over 10% of the residents of Cuyahoga and Lorain Counties, and 9% of Ashtabula County residents live below the federal poverty level.

High risk hospital services are not evenly distributed throughout the region. All three (3) of the Level III hospitals and two (2) of the five (5) Level II hospitals that provide high risk hospital services, such as neonatology and maternal fetal medicine specialty care, are located in Cuyahoga County. Two (2) Level II hospitals are in Lorain County, and one (1) Level II is in Lake County. Despite the proximity of Level III and II services in Cuyahoga County and Level II hospital care available in Lorain County, neither Cuyahoga nor Lorain have met any of the Healthy People 2010 maternal child health

indicator goals. Additionally, there are nine (9) Level I community hospitals and one Amish birthing center in our region. Most of the hospitals in the region are affiliated with one of the larger health systems. The two largest health systems in the region are University Hospitals Health System and Cleveland Clinic Health System. In Lake County, there are two hospitals that comprise the Lake Hospital System. MetroHealth Medical Center is the Cuyahoga County publicly funded hospital. Designated perinatal professionals, representing the nursing, medicine and nutrition fields from University Hospitals and MetroHealth Medical Center (both Level III facilities) function as the Cleveland Regional Perinatal Network team to lead the initiatives of the Regional Perinatal Center Program.

Region V Perinatal Data Use Consortium. The Regional Perinatal Center Program facilitates data activities through the Region V Perinatal Data Use Consortium. The Data Use Consortium (DUC) engages local professionals and leaders in a process to advance data knowledge and application in order to improve the quality of perinatal care across systems. Data utilization highlights problem areas, opportunities for improvement, and measures movement toward goals. The Region V DUC was convened in 2002 by the Cleveland Regional Perinatal Network and currently consists of 17 multidisciplinary leaders from 12 agencies, including tertiary hospitals, home health, institutions of higher learning, and representatives from at least one health department from each county in the region. Since the inception of the Data Use Consortium, researchers from Cuyahoga County Board of Health have played a key role in preparing regional reports for DUC meetings and the RPC Performance & Outcome Measures Report. In addition to other data sources, the Data Use Consortium (DUC) utilizes data provided by the Cuyahoga County Board of Health from matched birth and death and fetal death records, obtained from the Ohio Department of Health, to identify Perinatal Periods of Risk (PPOR) for each of the region’s counties. The DUC has benefited from training in the use of the PPOR methodology provided by the Ohio Department of Health, Bureau of Child and Family Health Services. PPOR is a method that examines combined fetal and infant (feto-infant) mortality data, by dividing it into time period and birthweight categories in order to identify specific problem areas.

Region V PPOR Map (1998-2000)
Total Feto-Infant Deaths 719
Total Feto-Infant Death Rate 8.9

Maternal Health & Prematurity

500-1499 grams	275 (number)		
	3.4 (rate)		
1500+ grams	186 (number)	97 (number)	161 (number)
	2.3 (rate)	1.2 (rate)	2.0 (rate)
	Maternal Care (Fetal Deaths)	Newborn Care (Neonatal Deaths)	Infant Health (Infant Deaths)

Data to Action Projects.

Fetal Death. The PPOR maps have illustrated that the majority of the region's fetoinfant deaths occurred in the Maternal Health and Prematurity category, from deaths of fetuses and infants considered Very Low Birth Weight. Prematurity continues to be the largest cause of fetal and infant death in the region, with many community resources directed to prevention and treatment. A great deal of progress has taken place in efforts to reduce mortality in Newborn Care area, and there is much state and community activity focused on improving outcomes in Infant Care. As a result of the Periods of Perinatal Risk analysis, the Maternal Care category, which is late fetal demise of large fetuses, was identified as a largely ignored, but significant area needing improvement. In examining PPOR maps for the 1998-2000 period, deaths of fetuses over 28 weeks gestation, weighing over 1500 grams, emerged as the second highest contributor to the fetoinfant death rate in the region. Since there had been so little focus on this area, the DUC launched a Fetal Death Project in 2005, led by the MetroHealth staff. Chart reviews were initiated, using a national data collection tool, to identify risk factors associated with fetal death and to compile the results for dissemination. Findings to date, such as obesity as a risk factor, can be used to help structure prevention programs. Future efforts will include abbreviating the data collection tool so that it could be more easily adopted by other institutions, and assisting with establishing fetal death review committees in the region's hospitals.

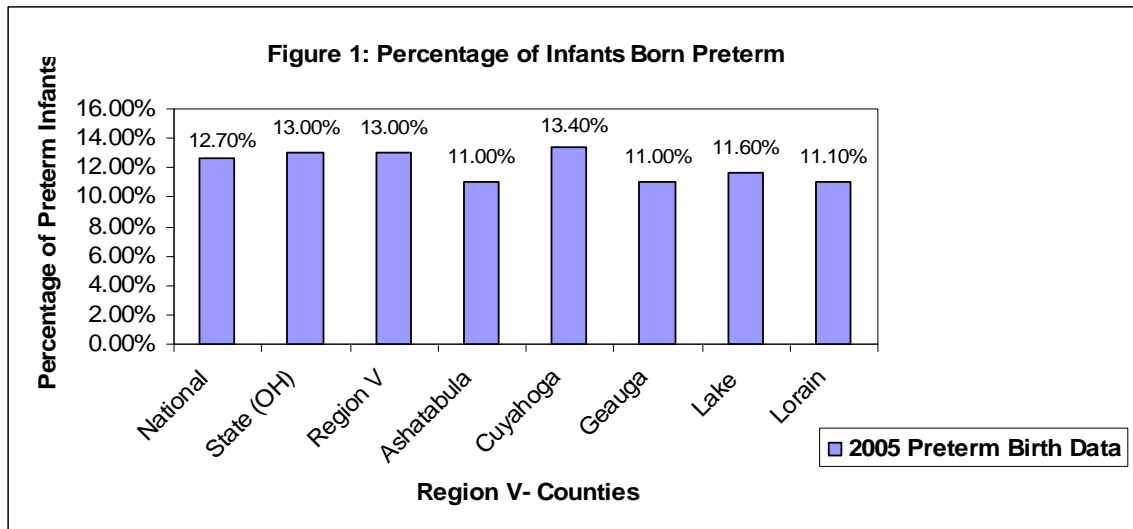
Perinatal Depression. The Cleveland Healthy Family/Healthy Start (MomsFirst) Depression Project, which began in 2002, documented major gaps in identification, referral, and perinatal depression services in the Cleveland area. While 21% of antepartum women and 14% postpartum women, in a sample of African American women residing in the city of Cleveland, scored at risk for depression on the Edinburgh Postnatal Depression Scale, only 2% were receiving mental health services. Depression can put pregnancy at risk for poor outcome, and is one of the most pervasive and untreated health problems of women. Through funding partnerships, the CRPN began a program in 2005 to implement recommendations from the original study, which has included training providers in depression screening, developing educational materials, and convening stakeholders for system improvement. The materials and training program developed for Cuyahoga County are being widely used across the county and have been included in the state wide Help Me Grow pilot projects.

The Region V Data Use Consortium, and the Regional Perinatal Center team, acknowledge the support of Cuyahoga County Child and Family Health Services, the Cuyahoga County Board of Health and the MomsFirst Project, City of Cleveland Department of Public Health, for providing opportunities to take data to action. Although both current Data to Action projects began in Cuyahoga County, the goal is to expand both programs across the region.

Key Findings

Preterm Births

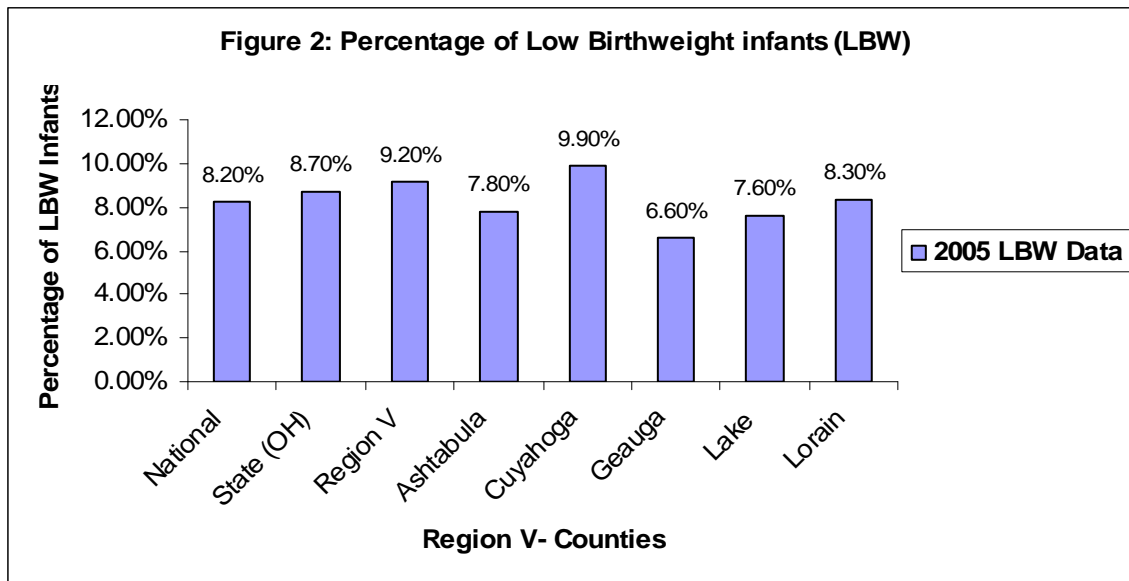
- Preterm birth also known as prematurity is defined as an infant born before 37 weeks of gestation. Prematurity is important and continues to be a major concern because premature infants are born before their organ system has completely matured.
- Preterm infants, are often small, with a low birthweight (less than 2,500 grams or 5 ½ pounds). These infants may need assistance with breathing, eating, fighting infection, and staying warm. According to the National Vital Statistic's report (volume 56, no.6), in 2005, the national average preterm birthweight was 12.7% and the state of Ohio's average for preterm birth weight was 13.0%.
- The average preterm birthweight for Region V is above the national average, but the same as the state. The percentage of infants born preterm by residence varied from county to county with the percentage for Cuyahoga County being 2% higher than the rest of the counties in the region (See Figure 1):
- The March of Dimes is invested in their nationwide campaign to reduce prematurity. Efforts to support the March of Dimes prematurity campaign in our region include, but are not limited to, promoting prematurity prevention educational materials and active participation in the Northeast Ohio Division Program Services Committee.



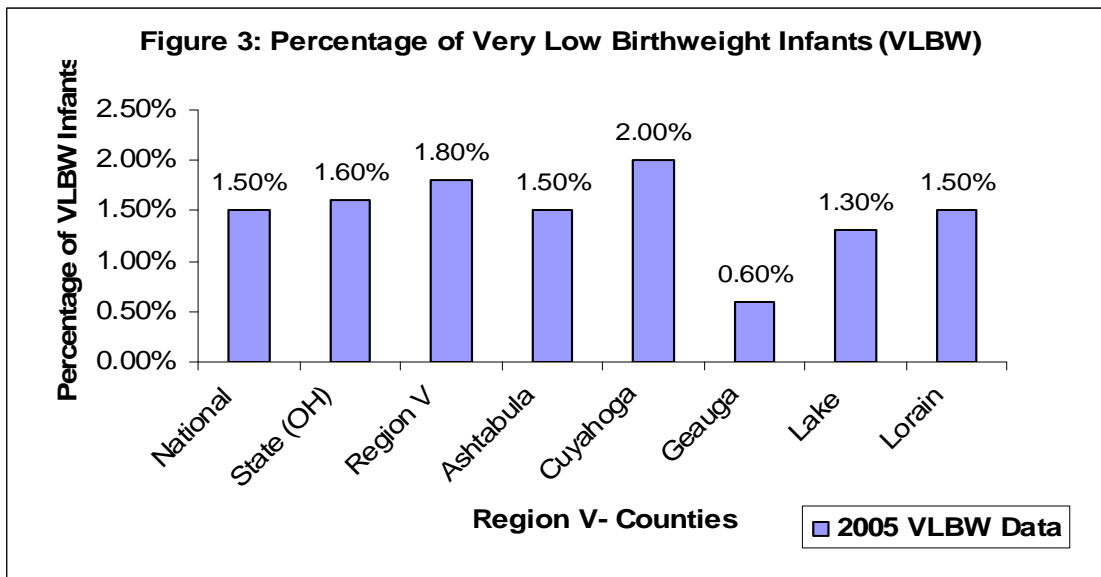
Low Birthweight Births (LBW)

Very Low Birthweight (VLBW)

- Low birthweight (LBW) is defined as infants with a weight less than 2500 grams; and very low birthweight (VLBW) is determined when infants weigh less than 1500 grams at birth.
- While LBW and VLBW are associated with preterm births, some low birthweight babies are born at full term but are small for their gestational age. In 2005, the national average for LBW was 8.2% and the state of Ohio's average for LBW was 8.7%.
- The average for LBW for Region V was higher than both the national and state averages at 9.2%. In Region V, the percentage of infants born at LBW varied from county to county. Cuyahoga County was more likely to deliver a LBW baby in 2005 compared to the other counties in the region and Geauga County had the lowest LBW percentage (See Figure 2):

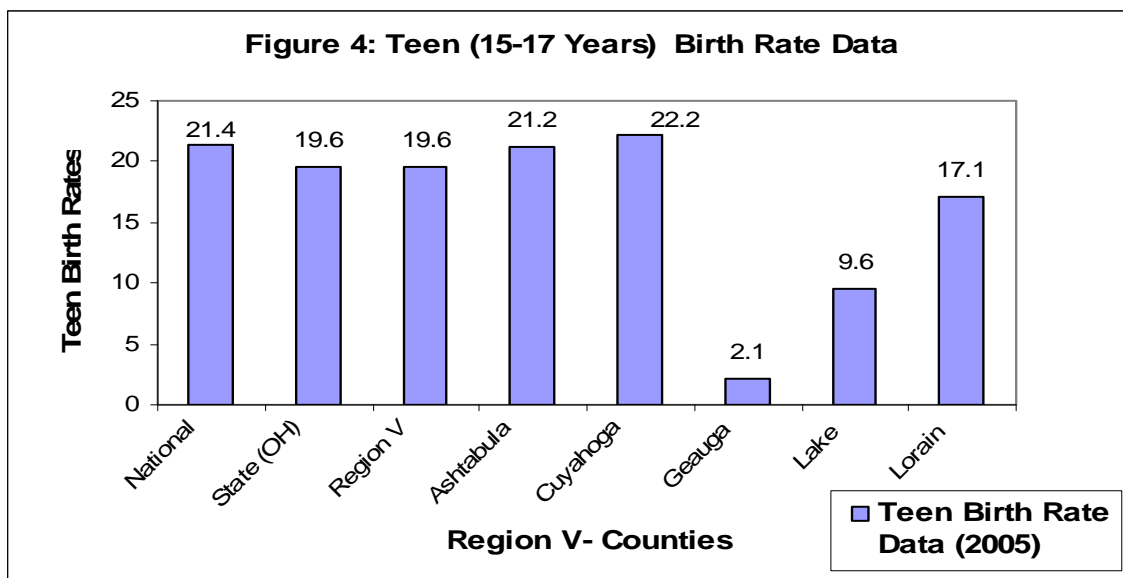


- The pattern for very low birthweight infants (VLBW) also varied from county to county with Cuyahoga and Geauga counties following the same trend as in LBW. The state and national percentages were 1.6% and 1.5% respectively.
- Additionally, the overall average of VLBW infants for the region, in 2005, was slightly higher than both the state and the national average at 1.8% (See Figure 3).
- Professional guidelines and public health recommendations state that 90% of all VLBW infants should be born at a hospital facility with a high level of neonatal intensive care technology. These recommendations are supported by research that illustrates that infants born at a hospital with appropriate neonatal intensive care unit are more likely to live through the first year and less likely to have serious long term complications.
- In Region V in 2005, Cuyahoga County (84.8%), Lake County (60.6%) and Lorain (82.1%) had the majority of their VLBW infants born in Level III facilities. (Ashtabula and Geauga percentages were not reported for 2005, but reported previous 3 year averages of 69.8% and 80.8%, respectively.) Since several Level II hospitals in the region have developed high risk care as part of their service plans, some of the region's VLBW infants are being born and cared for at II + facilities.
- In comparison, the state had 70.3% of VLBW births in Level III facilities.



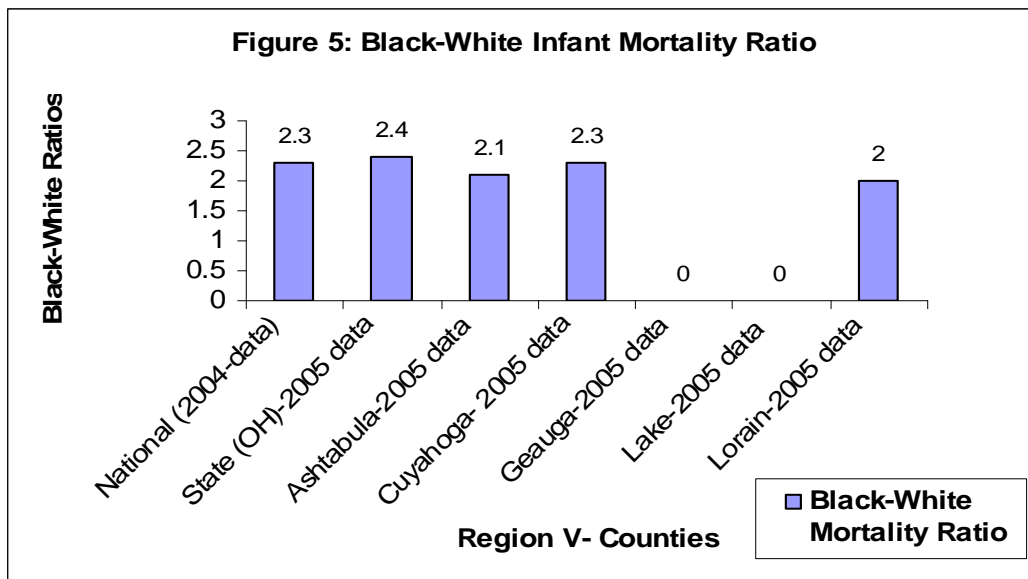
Births to Teens

- The rate of birth to teens is the number of births per 1,000 women aged 15 through 17 years of age.
- Teen parenthood prior to age 18 is associated with poorer psychological functioning, lower levels of educational attainment and high school completion, and less stable employment than those with similar background who postpone childbirth (Constantine, N. and Nevarez, C. p.2). Although teen mothers who stay in school are just as likely to graduate as non-mothers, those who drop out before or shortly after childbirth are only half as likely to graduate as non-mother drop outs (Constantine, N. and Nevarez, C. p.2).
- According to Constantine and Nevarez “*No Time for Complacency: Teen Births in California*” report, in 2000, the annual taxpayer cost for each birth to a school age mother (age 17 years or younger) is \$3,108 per year, and the average cost associated with each birth to teen mothers age 15-19 years is \$2,129 (p. 4-5).
- In 2005, the national birth rate for teens (15-17 years) was 21.4 and the state of Ohio’s birth rate was 19.6 (See Figure 4).
- In Region V, the birth rate to teens (15-17 years) varied from county to county. For this region, Cuyahoga County (22.2) and Ashtabula County (21.2) were more likely to experience higher birth rates to teens 15-17 than the state in 2005. Cuyahoga County teen (15-17) birth rate was slightly higher than the national rate. Region V and the state of Ohio experience the same birth rate to teens (15-17) in 2005 (19.6).
- The teen birth rate (15-17 years) was dramatically lower in Geauga County (2.1) and Lake (9.6) compared to the other counties in the region.



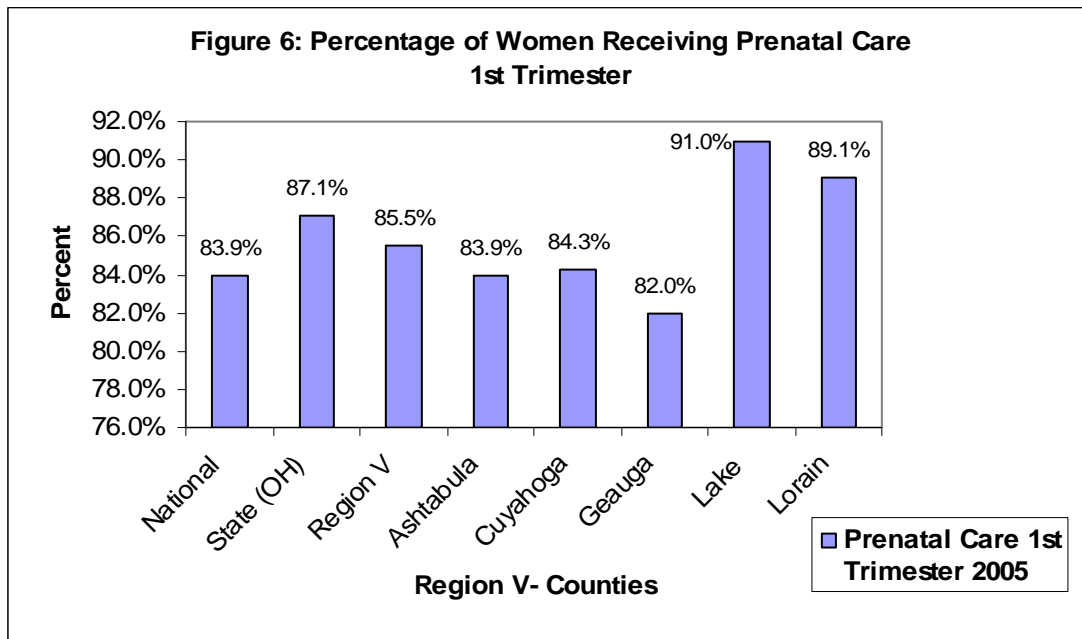
Black and White Mortality Ratio

- The Black and White mortality ratio is the ratio of the black infant mortality rate to white infant mortality rate.
- African American women have consistently had higher rates than whites of low birth weight and preterm babies, the leading causes of infant mortality or death in an infant's first year of life. This news is not extraordinary considering the long list of other well documented health disparities, including life expectancy and various disease incidence rates.
- According to the National Vital Statistic's report (volume 55, no.14) the national black-white infant mortality ratio for 2004 was 2.3 and the state of Ohio's black-white infant mortality ratio for 2005 was 2.4 (See Figure 5).
- Black-white infant mortality ratio varied from county to county. The 2004 national black-white infant mortality ratio was the same as Cuyahoga county's 2005 black-white infant mortality ratio (2.3) (See Figure 5).
- Geauga and Lake Counties have very small black populations thus making it difficult to evaluate this indicator for these counties and for the region.



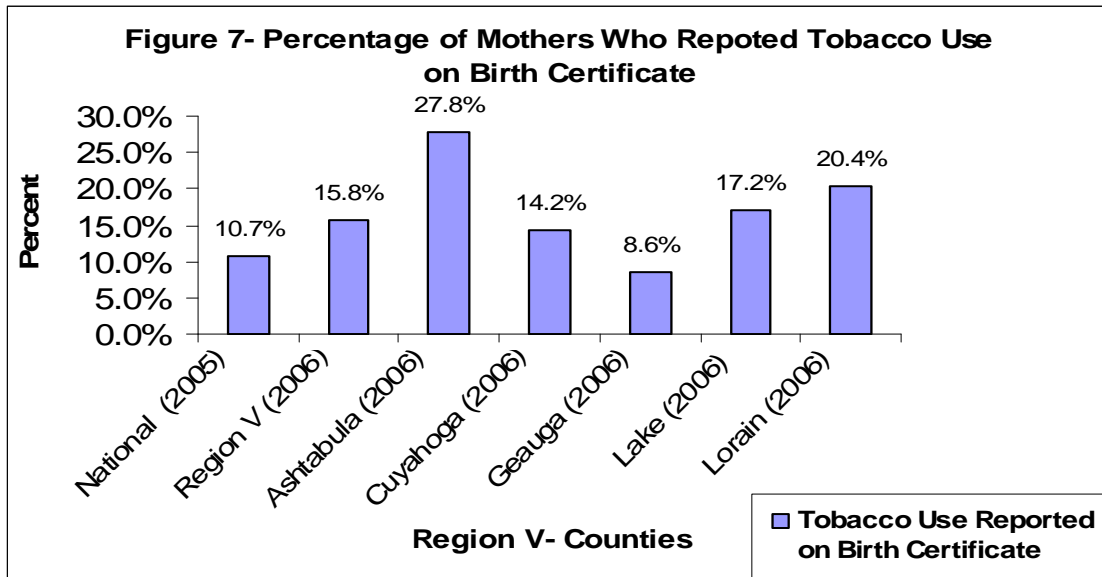
Prenatal Care

- Prenatal care in the first trimester is the percentage of all births where prenatal care was initiated in months 1-3, among those with known month of entry.
- Infants of mothers who do not get prenatal care are three times more likely to have a low birthweight infant and the infant is five times more likely to die than those born to mothers who receive care (www.4women.gov).
- In 2005 national percentage of women receiving prenatal care in their first trimester was 83.9% and the state of Ohio's percentage was 87.1%.
- The percent of women receiving prenatal care varied from county to county. In 2005, 85.5% of Region V's expectant mothers received prenatal care in their first trimester. All of the counties in this region have percentages that are close to the national percentage (See Figure 6). However, Lake County residents have a percentage that is slightly higher than the state's.
- Ashtabula, Cuyahoga and Geauga Counties have percentages that are similar to the nation (See Figure 6). However Lake and Lorain Counties have percentages that were at least 5% higher than the other counties in the region.



Tobacco Use during Pregnancy

- Tobacco Use during Pregnancy is the use of any tobacco product by the mother during pregnancy.
- Tobacco use during pregnancy has been associated with serious health risks for both the mother and the fetus such as: low birthweight infants, placenta previa and placenta abruption. Placental problems contribute to the slightly increased risk of stillbirth that is associated with smoking (www.marchofdimes.com).
- In 2005, national percentage of births with tobacco use reported on the birth certificate was 10.7% (National Vital Statistics, volume 56, no.6). The percentage of births with tobacco use reported on the birth certificate varied from county to county. Comparatively, the percentage was 5% higher for Region V in 2006 (See Figure 7).
- Ashtabula County had the highest percentage of women who reported smoking during pregnancy (27.8%) while Geauga County had the lowest (8.6%). The percentages for the other three counties in the region were all higher than the nation percentage.



Conclusion. This first Performance Monitoring Report will serve as the baseline from which future reports will be built and perinatal health monitored. The Regional Perinatal Center Program works with agencies and programs, such as; Invest in Children, MomsFirst, Medicaid Managed Care, Help Me Grow, Child and Family Health Services, Ohio Infant Mortality Reduction Initiative, March of Dimes, neighborhood health centers, public health agencies, community mental health boards, mental health agencies, maternity hospitals, and many others across the region, to further projects targeting the region's biggest areas of concern. Programs across the region work to improve access to care, link families to resources, prevent SIDS and sleep related infant deaths, promote healthy lifestyles, identify and refer those in need of specialty care, and provide state of the art care for those who need it. While progress is made in some areas, excesses in prematurity, low birthweight births, fetal death, and racial disparities persist. The Regional Perinatal Center will continue to partner with the region's agencies to help identify the causes of these poor indicators, in order to improve them.

In Region V, the Regional Perinatal Center Program provides organizational leadership for the Data Use Consortium in promoting access to and utilization of data; gives structure and support to the Cleveland Regional Perinatal Network team so that RPC objectives can be actualized, and promotes regional collaboration, taking data to action, in order to improve the quality of perinatal health care in the region.