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neocando
NORTHEAST OHIO COMMUNITY AND NEIGHBORHOOD DATA FOR ORGANIZING

Birth (vital statistics) Indicators

I. Definitions

Total births include live births only. All birth data used in calculations are based on live births.

Low birth weight births are defined as babies less than 2500 grams (5.5 lbs) at birth.

The **low birth weight birth rate per 1000 live births** is calculated as:

$$\frac{\text{low birth weight births}}{\text{births with valid birth weight}} \times 1000$$

Very low birth weight births are defined as babies with weights of less than 1500 grams (3.3 lbs) at birth.

The **very low birth weight birth rate per 1000 live births** is calculated as:

$$\frac{\text{very low birth weight births}}{\text{births with valid birth weight}} \times 1000$$

The **rate of births to teen mothers** is defined as the number of births to teen females in a particular age group (10-14 or 15-19) per 1000 teen females in the same age group.

The **teen birth rate per 1000 teens aged 10-14** is calculated as:

$$\frac{\text{births to teens aged 10-14}}{\text{females aged 10-14}} \times 1000$$

The **teen birth rate per 1000 teens aged 15-19** is calculated as:

$$\frac{\text{births to teens aged 15-19}}{\text{females aged 15-19}} \times 1000$$

The **births to unmarried mothers per 1000 live births** are calculated as:

$$\frac{\text{births to unmarried mothers}}{\text{births with valid marital status}} \times 1000$$

Adequacy of prenatal care is determined using the Kessner Index. For prenatal care to be adequate according to the Kessner Index, care must begin in the first trimester and the total

number of visits must equal or exceed that which would be expected for the infant's gestational age at birth.

Births with adequate prenatal care per live 1000 births are calculated as:

$$\frac{\text{births with adequate prenatal care}}{\text{births with valid data*}} \times 1000$$

***NOTE**: The births used in this calculation include only births where both the number of visits and the month care began are known.*

Prenatal care begun in first trimester per 1000 live births is calculated as:

$$\frac{\text{births with prenatal care beginning in 1st trimester}}{\text{births where month care began is known}} \times 1000$$

Births with no prenatal care per 1000 live births are calculated as:

$$\frac{\text{births with no prenatal care}}{\text{births with valid number of visits}} \times 1000$$

Fertility Rate is defined as the number births to females aged 15-44 per 1000 females aged 15-44.

The **fertility rate** is calculated as:

$$\frac{\text{births to females aged 15-44}}{\text{females aged 15-44}} \times 1000$$

Premature births are defined as babies born before 37 weeks of gestation

Premature births per 1000 live births are calculated as:

$$\frac{\text{Premature births}}{\text{births with valid gestational weight}} \times 1000$$

Educational attainment of birth mothers is provided for the following education levels: **< 9 years, 9-11 years, 12 years, College (1-3 years), College (4+).** These educational attainment categories are mutually exclusive. In addition, the categories have been combined to create: **birth mothers with < 12 years of education** and **birth mothers with 12 or more years of education**.

Percent of birth mothers w < 9 years is calculated as:

$$\frac{\text{births to mothers w < 9 years}}{\text{births with valid education level}} \times 100$$

II. Precautions and Information regarding use of data

1990-2005 Births vs. 2006 and Later Births – We implemented several changes beginning with the 2006 Birth data. Because of these changes, the data prior to 2006 may not be comparable to data for 2006 and later.

1) In 2006 Ohio implemented the 2003 Revision of the US Standard Certificate of Birth, for more information see http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm. Several indicators are affected by this change from the earlier 1989 Revision, including ***births with adequate prenatal care, prenatal care begun in first trimester, births with no prenatal care, and educational attainment of birth mothers***. **Education:** Categories for mother's education were revised in 2006. Prior to 2006, mother's education was categorized according to the number of years of school attended. Starting in 2006, revised categories do not provide number of years of education, but rather the highest degree attained. We re-classified the 2006 categories to make them comparable to the categories used previously. **Prenatal Care:** Beginning with data year 2006, substantive changes in both question wording and the sources for the prenatal care information based on the 2003 revision of the birth certificate have resulted in data that are not comparable with the previous 1989 revision that was in use through 2005. The wording of the prenatal care item was modified to ''Date of first prenatal visit'' from ''Month prenatal care began.'' In addition, the 2003 revision process resulted in recommendations that the prenatal care information be gathered from the prenatal care or medical records, whereas the 1989 revision did not recommend a source for these data. These data elements also have significantly higher numbers of missing values in 2006 and 2007 compared to previous years.

2) **Premature Births:** Prior to 2006, we determined premature births based on the clinical estimate of gestational age of the newborn. Beginning in 2006, we began using "combined estimate of gestation", which is a combination of the calculated gestational age based on the reported date of last menstrual period, and if the calculated age is not available, then the clinical estimate is used. The new method is more consistent with National Center for Health Statistics methods.

3) **Updated Geocoding;** Our geocoding methods were updated beginning with the 2006 data. This may result in more complete counts by census tract, neighborhood, municipality, etc. The overall county totals should not be affected by this change.

Confidentiality: In order to avoid the possible disclosure of any confidential information of birth mothers or their newborns, we are required by the Ohio Department of Health (ODH) to suppress data if the counts or rates do no meet certain thresholds. The code used to show suppression in NEO CANDO 2010+ is **'**' or '-99'**. The rules for suppression are as follows:

1) Any birth related indicator (i.e. total births, low birth weight births, etc) with a count of less than 5 (and its corresponding rate) in any geographic area (i.e. census tract, neighborhood, county);

2) In order to adhere to specific ODH policy, we also suppress rates when the difference between the numerator and denominator is less than 10. For example, if there are 10 births in a geographic area and 9 of them are births to unmarried mothers, we would suppress the rate of births to unmarried mothers. While we cannot provide the rates, the user does have some information – rate suppression indicates that the rate is high. In

this case the user knows this particular area must have a high rate of births to unmarried mothers if it is suppressed.

Other Precautions and Information: Births are assigned to the place of residence of the mother, as indicated on the Birth certificate. For example, total births in Cuyahoga County include only those births where the mother lived within Cuyahoga County. If a mother gave birth in Cuyahoga County but lived in Lorain County, the birth would be recorded in Lorain County. Births of Ohio residents, occurring in other States, are included in Ohio data.

Our total births by County may differ from the total births reported on the Ohio Department of Health's web site and in their printed reports. Some birth records are not provided to the Center due to a particular court action. For example, birth records relating to adoption proceedings are often not included in the annual birth file. Also, the Center geocodes the data to assign the census tract, city, county, and other geographic identifiers to the records. The county assigned during geocoding and the county provided by the Ohio Department of Health do not always match.

The birth file includes only live births, miscarriages and stillbirths are not included.

Rates per 1000 are commonly used when reporting vital statistic related indicators at the national and state levels. Most of the vital related indicator rates in NEO CANDO 2010+ are per 1000. The exceptions are the educational attainment indicators, which are reported as rates per 100 or percents. In most cases, the denominator used in calculating these rates is the number of births. However the denominator used in calculating the teen birth rates is the teen female population. The denominator used in calculating the fertility rates is females aged 15-44. The variable names in NEO CANDO 2010+ will indicate what denominator is used when calculating the rate.

The number of births used in the denominator to calculate rates may vary by indicator. For example, the denominator used in calculating adequacy of prenatal care includes only those births where the number of visits, the timing of the first prenatal visit, and the weeks of gestation have valid data. Alternatively, the denominator used to calculate the rate of births to unmarried mothers is those births where the marital status code is valid. The two denominators may vary.

III. Data source and suggested citation

Source of Vital Statistics Data: These data were provided by the Ohio Department of Health, through the Ohio Public Health Information Warehouse. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions from these data.

Update Schedule: Annually in October (this varies)

Years Available: Earliest year available – 2010

Geographic Coverage: 8 County Cleveland-Akron Consolidated Metropolitan Statistical Area (CMSA), which includes Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and

Summit Counties, and the following counties: Ashland, Columbiana, Erie, Huron, Mahoning, Richland, Stark, Trumbull and Wayne Counties

Suggested Citation: The data in the Neighborhood Data Warehouse come from a variety of data sources. All indicators are processed by the Center on Poverty and Community Development. We suggest the following citation format:

[Name of indicator], [geography of indicator],[time period of indicator]. [Data source of indicator]. Summary statistics processed by the Center on Poverty and Community Development, Jack, Joseph and Morton Mandel School of Applied Social Sciences, Case Western Reserve University. Accessed through the NEOCANDO Neighborhood Data Warehouse, [date accessed]. http://neocando.case.edu

An example would be:

Children under age 6 tested for lead with elevated blood lead level, 2015, City of Cleveland. Ohio Department of Health. Summary statistics processed by the Center on Poverty and Community Development, Jack, Joseph and Morton Mandel School of Applied Social Sciences, Case Western Reserve University. Accessed through the NEOCANDO Neighborhood Data Warehouse, May 24, 2018. http://neocando.case.edu