



Infant Mortality Brief, 2000-2009
Summit County, Ohio
June 2013



Figure 8: Infant Mortality Rates per 1,000 Live Births by Birth Weight

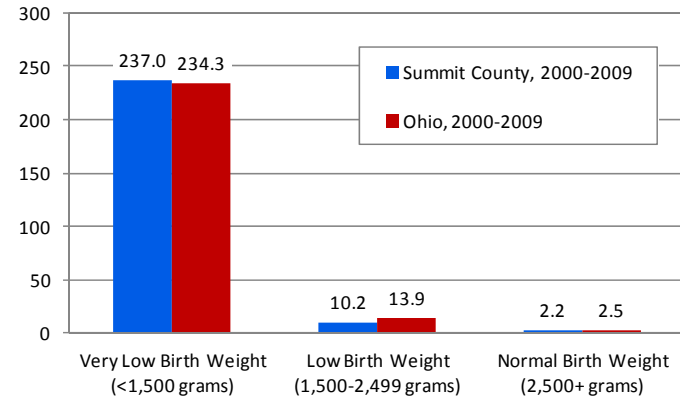
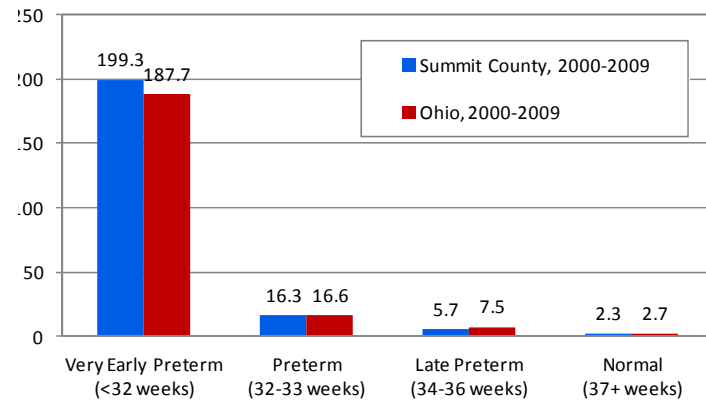
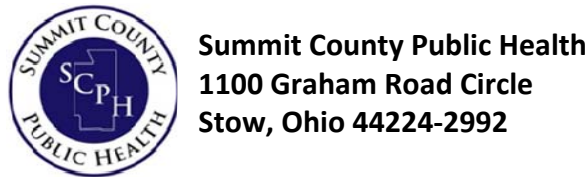


Figure 9: Infant Mortality Rates per 1,000 Live Births by Gestational Age at Birth



- Low birth weight (<2,500 grams) and prematurity (<37 weeks gestation) are leading risk factors for infant mortality.
- There was a clear inverse relationship between birth weight and infant mortality. In Summit County, the 2000-2009 average IMR was highest among infants born at a birth weight less than 1,500 grams (237 per 1,000).
- In Summit County, the 2000-2009 average IMR was highest among infants born at less than 32 weeks gestation (199.3 per 1,000) followed by infants born between 32 and 33 weeks gestation (16.3 per 1,000).

Developed by Summit County Public Health, Office of Epidemiology and Biostatistics; corresponding author: Dana Mowls, MPH



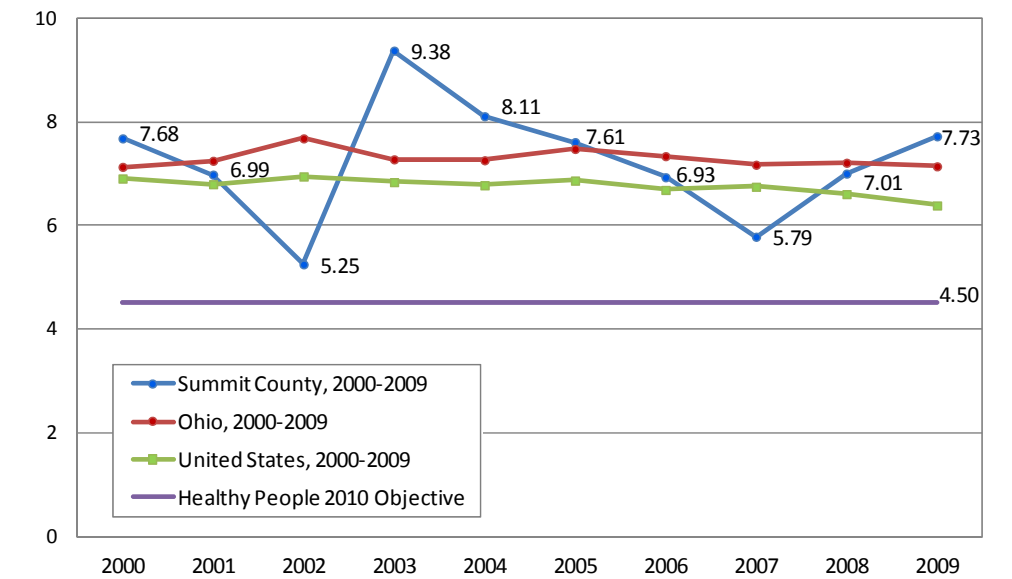
Key Data Findings

- From 2000 to 2009, 484 infants born as Summit County residents died before their first birthday.
- The 2000-2009 average infant mortality rate for Summit County was 7.2 per 1,000. This was slightly lower than the 2000-2009 rate for Ohio (7.3 per 1,000)
- Both the Summit County and Ohio rates were higher than the Healthy People 2010 objective of 4.5 per 1,000.
- Summit County's infant mortality rate had no apparent time trend from 2000 to 2009.
- The infant mortality rate for infants born to Non-Hispanic Black mothers was more than twice the rate of infants born to Non-Hispanic White mothers in Summit County.
- By Summit County census cluster, the rates of infant mortality ranged from 1.5 to 14.3 per 1,000.
- Central Akron and West Akron had the highest infant mortality rates.



Infant mortality is defined as the death of a child before their first birthday. The infant mortality rate (IMR), as defined by the Centers for Disease Control and Prevention, is the estimate of the number of infant deaths per 1000 live births. The reduction of infant deaths is a priority of both public health in general and of the Summit County Child and Family Health Services (CFHS) program. The Healthy People 2020 objective regarding infant mortality is to reduce the rate of all infant deaths to no more than 6 per 1,000 live births. The purpose of this data brief is to present infant mortality data for Summit County. Summit County and Ohio rates were calculated from the infant birth-death linked files for the period of 2000 to 2009. United States rates were obtained from the National Vital Statistics Reports on infant mortality. This brief was funded by Ohio Department of Health/Federal Government Bureau of Child and Family Health Services/Child Family Health Services Program.

Figure 1: Infant Mortality Rate per 1,000 Live Births



- From 2000 to 2009, there were 66,858 live births to mothers that were residents of Summit County.
- Among all live births from 2000 to 2009, 484 infants died before their first birthday.
- The average annual number of infant deaths from 2000 to 2009 was 48.4 in Summit County.
- There was no apparent pattern from 2000 to 2009 in the IMR for Summit County. There were no clear relationships to the US or Ohio IMRs over time, yet all were far from reaching the Healthy People 2010 objective of 4.5 infant deaths per 1,000 live births.

Figure 2: Infant Mortality Rates per 1,000 Live Births by Maternal Race/Ethnicity

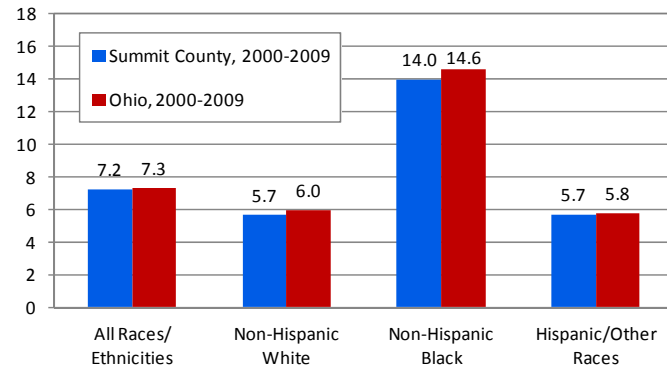
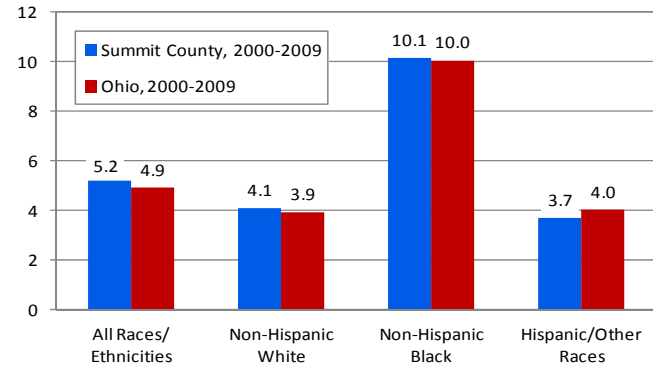


Figure 3: Neonatal Mortality Rates per 1,000 Live Births by Maternal Race/Ethnicity



- The 2000-2009 average IMR for Summit County was 7.2 infant deaths per 1,000 live births. This was slightly lower than the IMR for Ohio, yet far from reaching the Healthy People 2010 objective of 4.5 per 1,000. Of particular concern is the 2000-2009 average IMR for Non-Hispanic Blacks (14.0 per 1,000) which was more than twice that for Non-Hispanic Whites (5.7 per 1,000). From 2000-2009, the ratio of Non Hispanic Black to Non Hispanic White IMR ranged from 1.7 to 3.0 in Summit County with no apparent time trend (not shown).
- Neonatal mortality is the death of an infant that is less than 28 days of age. From 2000-2009, 72% of all infants deaths were considered neonatal deaths (not shown).
- The neonatal mortality rate (NMR) is the number of infant deaths that are less than 28 days of age per 1,000 live births. In Summit County, the NMR was slightly higher than the Ohio rate but again, both were far from the Healthy People 2010 objective of 2.9 neonatal deaths per 1,000 live births.

Figure 4: Infant Mortality Rates per 1,000 Live Births by Maternal Education

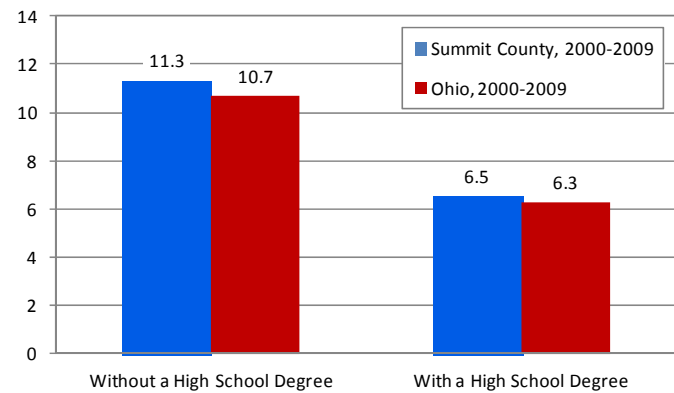
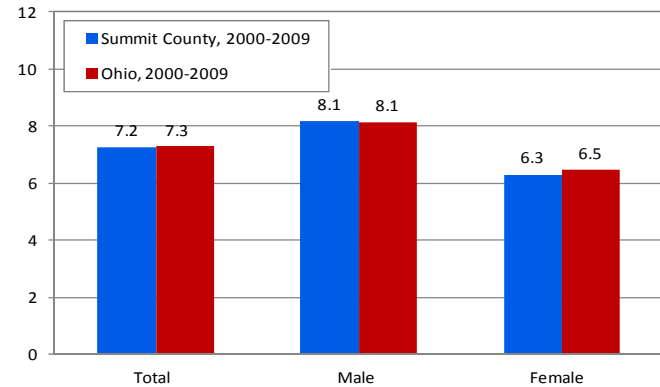


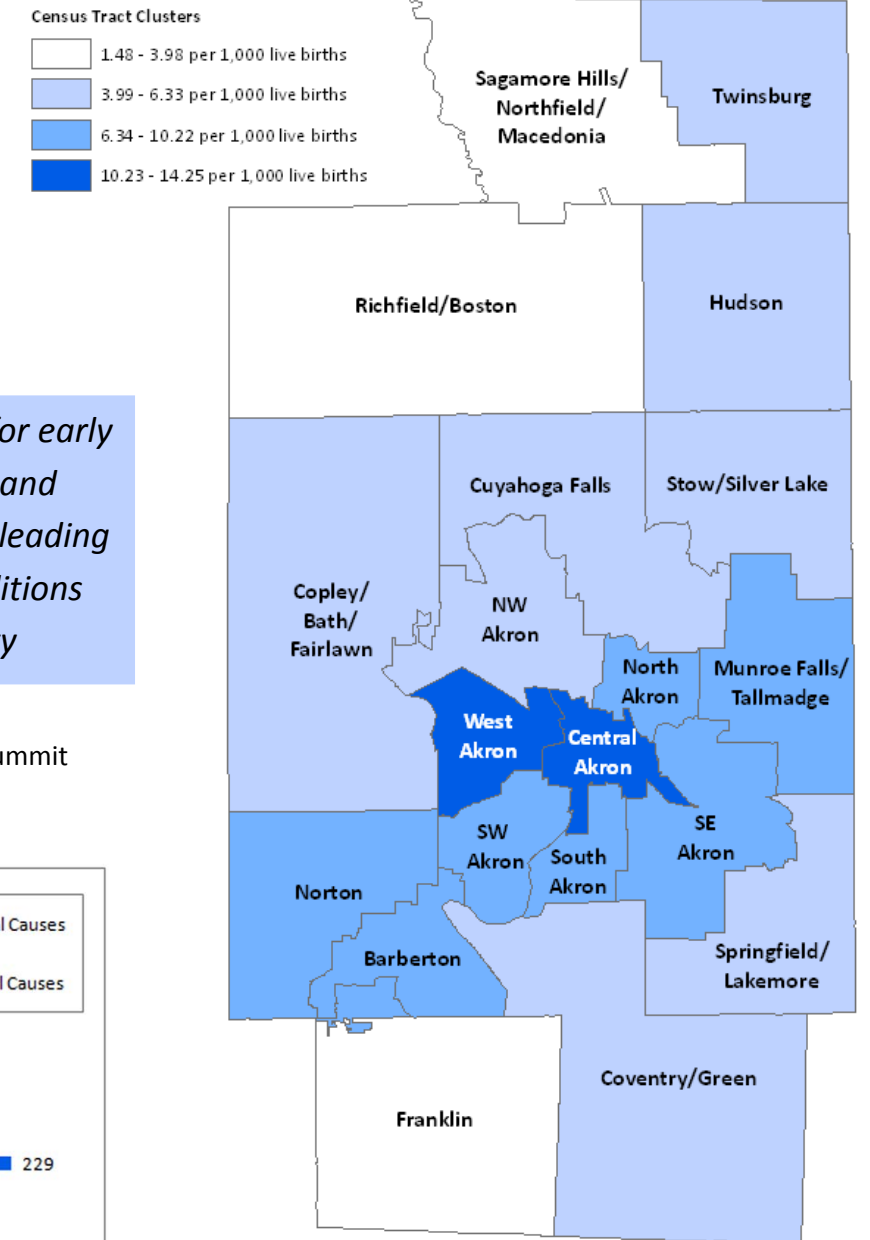
Figure 5: Infant Mortality Rates per 1,000 Live Births by Infant Gender



- Of the 484 infant deaths from 2000 to 2009, maternal education was documented among 98.1 % (n=475). Of the 66, 858 live births, maternal education was documented among 99.4% (n=66,423) (not shown).
- Similar to Ohio, the Summit County 2000-2009 average IMR for infants born to mothers without a high school degree (11.3 per 1,000) was higher than infants born to mothers with a high school degree (6.5 per 1,000).
- Of the total infant deaths from 2000 to 2009, a higher percentage were among male infants (57%) than female infants (43%) (not shown).
- The 2000-2009 average IMR for Summit County male infants (8.1 per 1,000) was higher than the IMR among female infants (6.3 per 1,000). This finding was consistent when examined across maternal race (not shown).

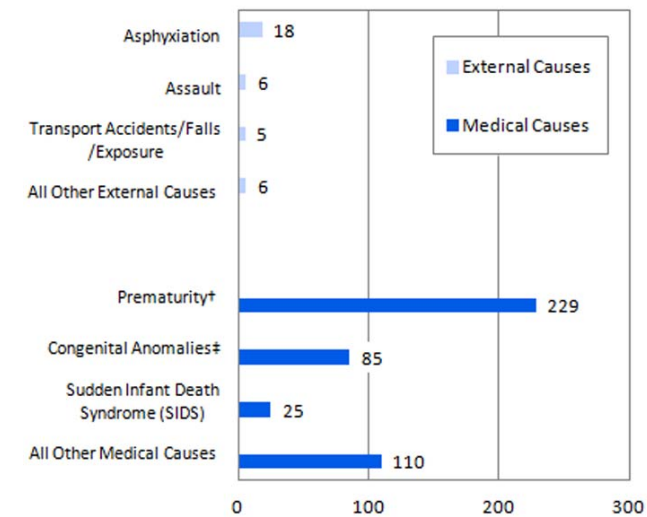
- The 2000-2009 average IMR by census tract cluster ranged from 1.5 to 14.3 infant deaths per 1,000 live births.
- The highest IMR by census tract cluster was in Central Akron with 14.3 infant deaths per 1,000 live births followed by West Akron with 12.1 infant deaths per 1,000 live births.
- The lowest IMR by census tract cluster was in Richfield/Boston with 1.5 infant deaths per 1,000 live births.

Figure 6: Infant Mortality Rates by Maternal Residence at Birth, Summit County, 2000-2009



In Summit County, the necessity for early and adequate pre-pregnancy and prenatal care is apparent, as the leading causes of infant death are conditions associated with prematurity

Figure 7: Leading Causes of Infant Death*, Summit County, 2000-2009, N=484



* Defined as the underlying cause of death documented on the death certificate
 † As defined by NCHS ; ‡ Includes congenital malformations, deformations and chromosomal abnormalities

- Of the total infant deaths from 2000 to 2009, the vast majority (93%) were due to medical causes.
- Of the 449 infant deaths due to medical causes, more than half (51%) had causes of death associated with prematurity (as defined by the National Center for Health Statistics).
- Of the 35 infant deaths due to external causes, more than half (51%) were due to asphyxiation which includes unsafe sleep practices.

In Summit County, the disparity in infant mortality is evident, as infants born to Non-Hispanic Black Mothers experience infant mortality at more than twice the rate of infants born to Non-Hispanic White mothers