



Infant Mortality

What is Infant Mortality?

The death of a baby before his or her first birthday is defined as infant mortality. The infant mortality rate is the number of babies who died in the first year of life, per 1,000 live births. This rate is considered an important indicator of the overall health of a society.

Why are Babies Dying?

Most infant deaths occur when babies are:

- Born too small and too early (preterm births are those before 37 weeks gestation).
- Born with a serious birth defect.
- Victims of Sudden Infant Death Syndrome (SIDS).
- Affected by maternal complications of pregnancy.
- Victims of injuries (e.g., suffocation).

These top five leading causes of infant mortality together accounted for 61 percent of all infant deaths in Ohio from 2006 to 2009.

Some risk factors, such as smoking, may lead to more than one of the conditions in the list above. It is estimated that 23-34 percent of SIDS, and 5-7 percent of preterm-related deaths are attributable to prenatal smoking in the US².

There are also many non-medical contributors to the death of babies. Poverty, under-education, under-resourced neighborhoods, poor nutrition, and race are only a few of the conditions associated with medical

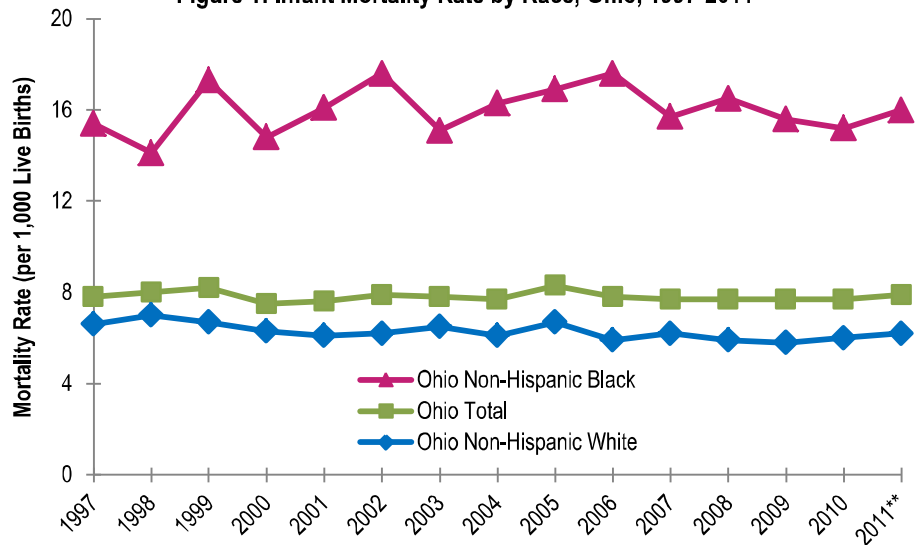
Unacceptable Disparities

There is a substantial difference in how infant mortality impacts babies of different races. Ohio's black babies are dying at more than twice the rate of white babies.

- Ohio's death rate for white infants in 2010 was 6.0, compared to 15.2 for black infants (Figure 1).
- While the large variation in the rates of black deaths from year to year is due to the presence of small counts, the disparity has been consistent.

This difference in the death rate for black babies compared to white babies is also found in the US as a whole. Eliminating the disparity is a goal at the national, state and local levels.

Figure 1: Infant Mortality Rate by Race, Ohio, 1997-2011



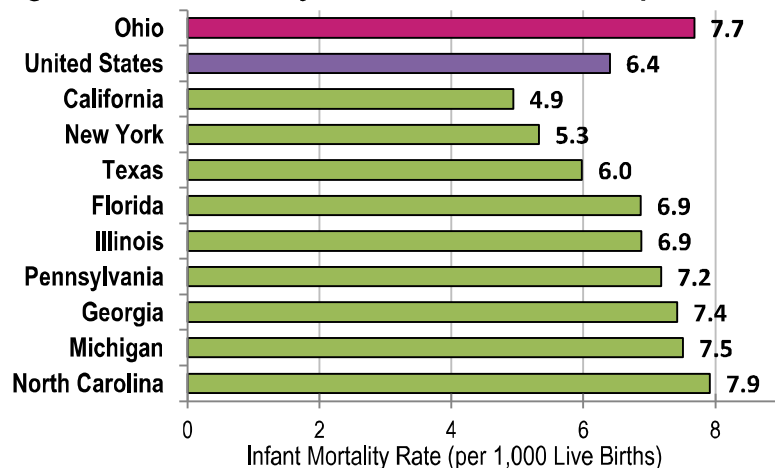
Source: Ohio Department of Health Vital Statistics **2011 Ohio data are preliminary

How is Ohio Doing?

- In 2011, 1,088 infants in Ohio died before their first birthday.
- Ohio's 2010 infant mortality rate was 7.7 per 1,000 live births, and the preliminary 2011 rate is 7.9. Both are higher than the preliminary national rates of 6.1¹.
- Ohio's infant mortality rate has remained stagnant for over a decade (Figure 1).
- At the same time, the US infant mortality rate experienced a slight but statistically significant decline from 2007 through 2010¹.
- Comparing the ten most populous states, all have lower infant mortality rates than Ohio, except North Carolina (Figure 2).
- California has one of the country's lowest rates and it is 1.6 times lower than Ohio's.

The Healthy People 2020 objective is to 6.0 per 1,000. This objective has been selected as a national Leading Health Indicator.

Figure 2: Infant Mortality in the US and 10 Most Populous States, 2009



Source: National Center for Health Statistics

- The Ohio Collaborative to Prevent Infant Mortality (OCPIM) <http://tinyurl.com/OhioCPIM>, a diverse group of public health officials, policy makers, advocates, providers, and other stakeholders, formed in 2009 to prevent infant mortality throughout Ohio.
 - Workgroups to address specific issues include coordinated healthcare, disparities/racism, data/metrics/quality improvement, education/outreach and public policy
- Ohio has accepted the Association of State and Territorial Health Officials (ASTHO) President's Challenge, the *Healthy Babies Initiative*, to improve birth outcomes by reducing infant mortality and prematurity in the US. The goal is to decrease prematurity by 8 percent by 2014.
- The Ohio Department of Health and Medicaid have joined together to form a state team to participate in HRSA's Collaborative Improvement and Innovation Network (COIN) along with other states in our region. COIN provides a platform across state lines to facilitate collaborative learning and adoption of proven quality improvement principles and practices.
- The Governor's Office of Health Transformation is investing \$350,000 to create a "Community HUB" to ensure care coordination for high-risk expectant mothers in Southeast Ohio. A low birth weight/prematurity pathway was developed in collaboration with OCPIM.
- Evidence-based smoking cessation counseling has been supported in WIC clinics and CFHS prenatal direct care sites, where almost 30 percent of expectant mothers smoke.
- The state and partners are developing a comprehensive media campaign to spread a unified message to decrease SIDS and other sleep related infant deaths in Ohio, which account for the majority of infant deaths after the 28th day of life. The messages being spread include the following:
 - Place infants for sleep wholly on the back for every sleep, nap time and night time.
 - Use a firm sleep surface. A firm crib mattress is the recommended surface.
 - Room sharing without bed sharing is recommended. The infant's crib should be in the parents' bedroom, close to the parents' bed.
 - Keep soft objects, loose bedding and bumper pads out of the crib.
 - Do not smoke during pregnancy. Avoid exposure to secondhand smoke.
- Ohio has expanded Medicaid eligibility for family planning services to women and men who are otherwise ineligible for the program.
- New changes allow a child or pregnant woman to receive medical care covered by Medicaid while their application is officially processed.
- Infant mortality is one of four health improvement priorities in Ohio's state health improvement plan, which was finalized by ODH and partners from across the state in 2012.
- Researchers found that infants born to women who conceived less than six months after giving birth had a significantly higher risk for being born prematurely and of having a low birth weight, compared with infants born to mothers who waited 18 months to two years between pregnancies.

The Ohio Perinatal Quality Collaborative (OPQC) is a statewide, multi-stakeholder network dedicated to improving perinatal health in Ohio.⁴ Successes and new quality improvement initiatives include the following:

Obstetric

- Efforts to prevent scheduled births prior to 39 weeks of gestational age resulted in an estimated 26,300 births moving from <39 weeks to 39 weeks or greater gestation, thereby preventing an estimated 789 NICU admissions as of October 2012. OPQC is expanding this project to all maternity hospitals in Ohio.
- Identifying, screening, treating and tracking of outcomes for women eligible for hydroxyprogesterone caproate (17P) supplementation, a safe, low-cost and effective treatment that can be easily administered to reduce preterm birth.
- Increasing the use of antenatal corticosteroids (ANCS), an evidence-based therapy that reduces mortality and morbidity among preterm infants, for women at risk of delivering a baby between 24 and 34 weeks gestation. To date, the goal that eligible women receive at least one ANCS dose before delivery (≥90% of the time), has been met by participating hospitals.

Neonatal

- Efforts focused on reducing bloodstream infections resulted in a sustained 20 percent decrease among premature infants with 22 to 29 weeks gestation in 24 neonatal intensive care units (NICUs). Bacterial infections for premature infants significantly increase the risk for prolonged hospitalization, significant morbidities and death.
- Adding an intervention in an effort to further reduce bloodstream infections in premature infants through increasing the use of human milk. Human milk contains antibodies that help to fight germs in a number of different ways.

References:

1. National Center for Health Statistics. National Vital Statistics Reports (NVSR). 2012;61(6). Deaths: Preliminary Data for 2011.
2. Dietz PM, England LJ, Shapiro-Mendoza CK, Tong VT, Farr SL, Callaghan WM. Infant morbidity and mortality attributable to prenatal smoking in the United States *Am J Prev Med* 2010;39(1):45-52.
3. <http://www.marchofdimes.com/printableArticles/10803.html>
4. <https://opqc.net/>



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