

2013 Ohio Infant Mortality Data: General Findings

INFANT MORTALITY IN OHIO

Infant mortality is defined nationwide as the death of a live-born baby before his or her 1st birthday. Infant Mortality Rate is calculated as the number of babies who died during the first year of life per 1,000 live births. It can be expressed as Overall Infant Mortality Rate, White Infant Mortality Rate, and Black Infant Mortality Rate.

In 2013, 1,024 infants in Ohio died before their 1st birthday, compared to 1,047 in 2012.

Ohio's Infant Mortality Rate based on 2013 (most recently available) data:

- Overall: 7.4 infant deaths per 1,000 live births
- White: 6.0 infant deaths per 1,000 live births
- Black: 13.8 infant deaths per 1,000 live births

The 2013 national Infant Mortality Rate:

- Overall: 6.0 infant deaths per 1,000 live births
- White: 5.1 infant deaths per 1,000 live births
- Black: 11.2 infant deaths per 1,000 live births

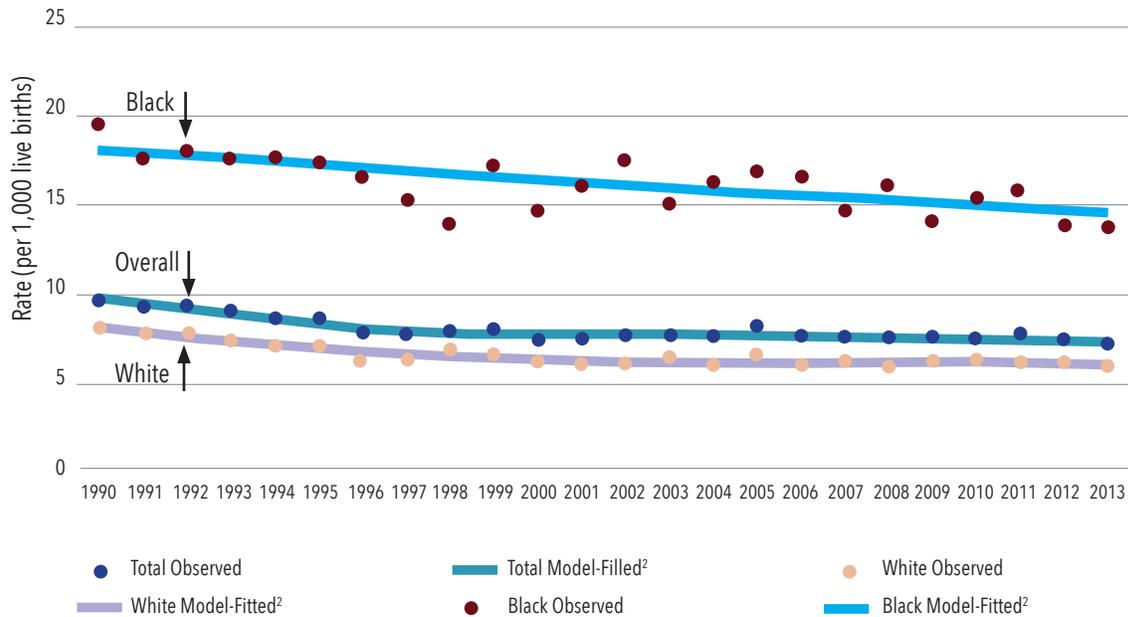
The national "Healthy People 2020"¹ Infant Mortality Rate objective:

- 6.0 infant deaths per 1,000 live births.

Ohio's 2013 Overall Infant Mortality Rate was 23 percent higher than the national rate. Ohio's White Infant Mortality Rate was at the "Healthy People 2020" objective. The racial disparity in infant deaths in Ohio was substantial, with black infants dying at more than twice the rate of white infants.

¹ "Healthy People 2020" is a national collaborative that provides science-based, national objectives for improving the health of Americans. It is managed by the federal Office of Disease Prevention and Health Promotion within the U.S. Department of Health and Human Services.

Ohio Infant Mortality Rates, Overall and by Race (1990-2013)



Source: Vital Statistics birth and mortality files, Ohio Department of Health

Ohio’s Overall Infant Mortality Rate decreased significantly from 1990 to 1997, with no significant change from 1997 to 2013. The Black Infant Mortality Rate decreased significantly from 1990 to 2013 but remains more than twice the White Infant Mortality Rate. Ohio’s White Infant Mortality Rate saw a statistically significant decrease from 1990 to 2000, with no significant change from 2000 to 2013.

² “Model-Fitted” Definition - Joinpoint software models were used to test whether an apparent change in trend was statistically significant using a Monte Carlo permutation method. The same methods were used to assess all races, Black, and White infant mortality trends. In all cases, the best fitting line for the observed data is presented

Ohio Neonatal, Postneonatal, and Infant Mortality (2007-2013)
(Per 1,000 Births)

	Group	Year	Number Neonatal Deaths*	Neonatal IM Rate	Number Postneonatal Deaths*	Postneonatal IM Rate	Total Number Infant Deaths	Overall Infant Mortality Rate	Number Births
Ohio	Total	2007	781	5.2	382	2.5	1,163	7.7	150,784
Ohio	Total	2008	755	5.1	389	2.6	1,143	7.7	148,592
Ohio	Total	2009	750	5.2	359	2.5	1,109	7.7	144,569
Ohio	Total	2010	725	5.2	343	2.5	1,068	7.7	139,034
Ohio	Total	2011	724	5.3	362	2.6	1,086	7.9	138,024
Ohio	Total	2012	720	5.2	327	2.4	1,047	7.6	138,284
Ohio	Total	2013	729	5.2	295	2.1	1,024	7.4	139,035
Ohio	White	2007	512	4.2	257	2.1	769	6.3	121,267
Ohio	White	2008	460	3.9	253	2.1	713	6.0	118,901
Ohio	White	2009	494	4.3	244	2.1	738	6.4	115,328
Ohio	White	2010	482	4.5	206	1.9	688	6.4	107,189
Ohio	White	2011	439	4.2	233	2.2	672	6.4	104,906
Ohio	White	2012	469	4.4	206	1.9	675	6.4	106,004
Ohio	White	2013	446	4.3	184	1.8	630	6.0	104,938
Ohio	Black	2007	261	10.1	123	4.7	384	14.8	25,959
Ohio	Black	2008	290	11.1	134	5.1	424	16.2	26,131
Ohio	Black	2009	251	9.9	111	4.4	362	14.2	25,433
Ohio	Black	2010	231	9.8	132	5.6	363	15.5	23,469
Ohio	Black	2011	256	11.0	115	5.0	371	16.0	23,252
Ohio	Black	2012	220	9.3	110	4.6	330	13.9	23,696
Ohio	Black	2013	244	10.1	90	3.7	334	13.8	24,158

Source: Ohio Department Of Health, Bureau Of Vital Statistics

*Neonatal Death – Death of live-born infant during first 27 days of life

*Post-neonatal Death – Death of infant between 28 days and 1 year of life

The majority of infant deaths were neonatal deaths while fewer than one-third were postneonatal deaths

OHIO INFANT MORTALITY TREND DATA

10-Year Average Annual Infant Mortality Rate, Ohio and by County (2004-2013)

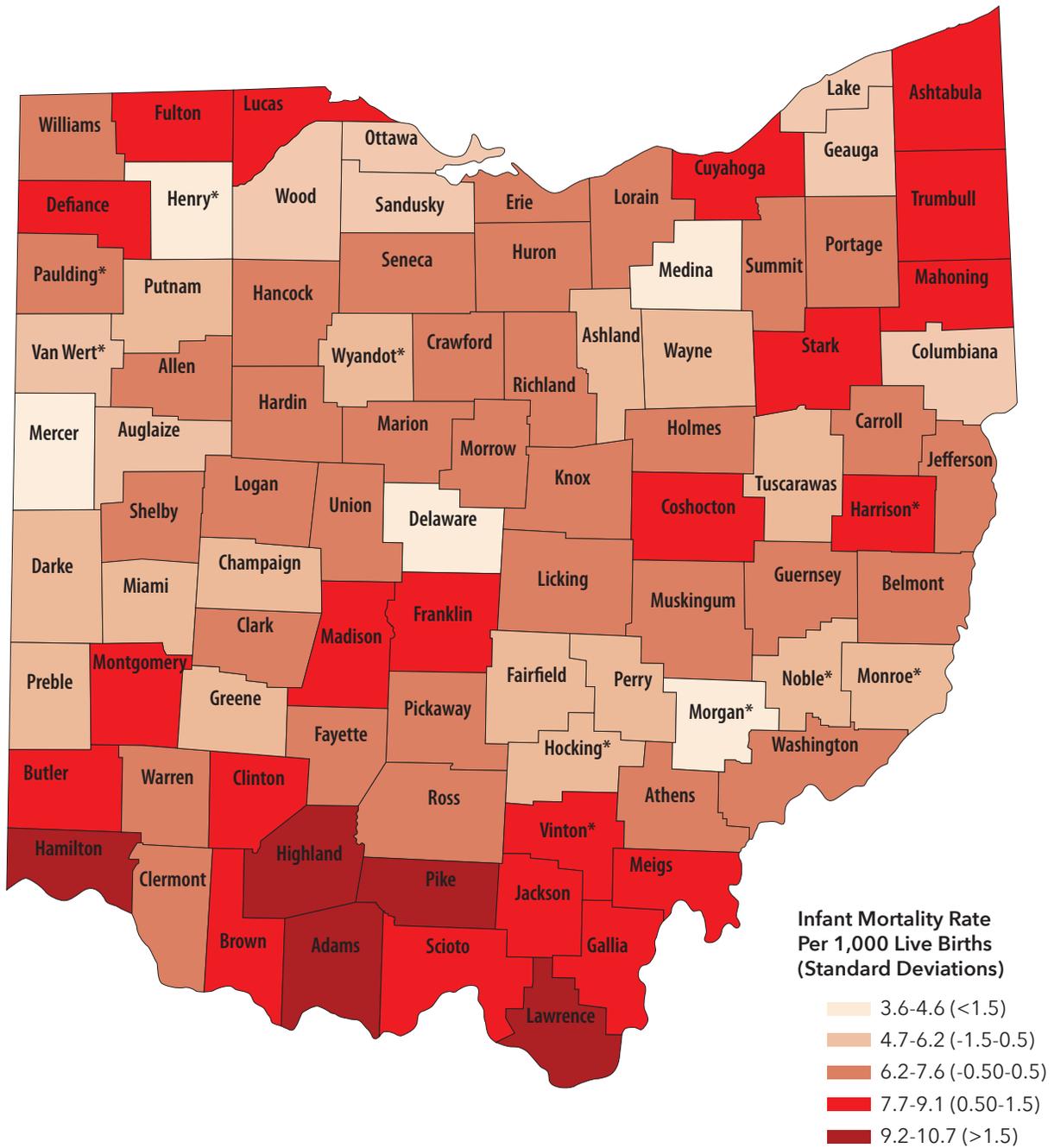
Area	Total Births	Total Deaths	Infant Mortality Rate
Ohio	1,445,942	11,176	7.7
Adams	3,714	38	10.2
Allen	13,669	102	7.5
Ashland	6,516	31	4.8
Ashtabula	12,095	105	8.7
Athens	5,651	38	6.7
Auglaize	5,866	36	6.1
Belmont	7,163	53	7.4
Brown	5,395	46	8.5
Butler	48,209	380	7.9
Carroll	3,042	21	6.9
Champaign	4,646	27	5.8
Clark	17,166	113	6.6
Clermont	25,904	166	6.4
Clinton	5,455	49	9.0
Columbiana	11,631	68	5.9
Coshocton	4,491	35	7.8
Crawford	5,011	33	6.6
Cuyahoga	158,000	1,506	9.5
Darke	6,579	34	5.2
Defiance	4,823	38	7.9
Delaware	22,612	104	4.6
Erie	8,184	62	7.6
Fairfield	17,189	102	5.9
Fayette	3,854	28	7.3
Franklin	181,119	1,533	8.5
Fulton	5,160	40	7.8
Gallia	3,973	36	9.1
Geauga	9,663	48	5.0
Greene	17,758	104	5.9
Guernsey	4,805	30	6.2
Hamilton	113,395	1,198	10.6
Hancock	9,299	61	6.6
Hardin	3,890	26	6.7
Harrison	1,687	13	*
Henry	3,533	16	*
Highland	5,651	54	9.6
Hocking	3,390	17	*
Holmes	7,942	53	6.7
Huron	7,943	50	6.3
Jackson	4,430	38	8.6
Jefferson	6,931	51	7.4
Knox	7,332	54	7.4
Lake	24,223	119	4.9
Lawrence	7,467	74	9.9

Source: Ohio Department Of Health, Bureau Of Vital Statistics

Area	Total Births	Total Deaths	Infant Mortality Rate
Licking	20,101	142	7.1
Logan	5,894	43	7.3
Lorain	35,109	249	7.1
Lucas	60,562	473	7.8
Madison	4,600	39	8.5
Mahoning	25,313	228	9.0
Marion	7,958	51	6.4
Medina	18,784	82	4.4
Meigs	2,664	21	7.9
Mercer	5,532	20	3.6
Miami	11,958	73	6.1
Monroe	1,555	8	*
Montgomery	69,849	544	7.8
Morgan	1,577	6	*
Morrow	4,075	30	7.4
Muskingum	10,674	76	7.1
Noble	1,480	7	*
Ottawa	3,839	21	5.5
Paulding	2,415	15	*
Perry	4,456	27	6.1
Pickaway	6,124	40	6.5
Pike	3,727	40	10.7
Portage	15,455	96	6.2
Preble	4,790	26	5.4
Putnam	4,818	25	5.2
Richland	15,090	109	7.2
Ross	8,898	67	7.5
Sandusky	7,444	43	5.8
Scioto	9,551	79	8.3
Seneca	6,602	50	7.6
Shelby	6,721	49	7.3
Stark	43,071	337	7.8
Summit	63,717	474	7.4
Trumbull	22,683	181	8.0
Tuscarawas	11,484	62	5.4
Union	6,489	44	6.8
Van Wert	3,610	17	*
Vinton	1,591	14	*
Warren	26,088	172	6.6
Washington	6,488	40	6.2
Wayne	15,686	92	5.9
Williams	4,430	29	6.6
Wood	13,672	81	5.9
Wyandot	2,774	17	*

*Rates based on fewer than 20 infant deaths are unstable and not reported

Infant Mortality Average 10-Year Rate by County (2004-2013)



* Rates based on fewer than 20 infant deaths are unstable
 Healthy People 2020 Goal : 6.0 infant deaths per 1,000 live births
 Source: Ohio Department of Health Bureau of Vital Statistics

Neonatal, Postneonatal and Infant Mortality, Ohio & Counties (2013) (Per 1,000 Births)

County	Number Neonatal Deaths**	Neonatal IM Rate	Number Postneonatal Deaths**	Postneonatal IM Rate	Total Number Infant Deaths	Overall IM Rate	Number Births
Ohio	729	5.2	295	2.1	1,024	7.4	139,035
Adams	4	*	1	*	5	*	335
Allen	3	*	3	*	6	*	1,275
Ashland	3	*	0	*	3	*	645
Ashtabula	4	*	3	*	7	*	1,093
Athens	3	*	2	*	5	*	538
Auglaize	2	*	1	*	3	*	534
Belmont	4	*	2	*	6	*	714
Brown	3	*	2	*	5	*	510
Butler	32	7.2	10	*	42	9.4	4,463
Carroll	2	*	0	*	2	*	276
Champaign	0	*	1	*	1	*	390
Clark	6	*	3	*	9	*	1,561
Clermont	11	*	1	*	12	*	2,282
Clinton	3	*	3	*	6	*	506
Columbiana	5	*	1	*	6	*	1,094
Coshocton	2	*	2	*	4	*	459
Crawford	1	*	2	*	3	*	453
Cuyahoga	100	6.7	32	2.1	132	8.9	14,920
Darke	3	*	1	*	4	*	626
Defiance	3	*	2	*	5	*	422
Delaware	13	*	1	*	14	*	2,194
Erie	8	*	0	*	8	*	818
Fairfield	5	*	3	*	8	*	1,727
Fayette	3	*	1	*	4	*	354
Franklin	113	6.0	42	2.2	155	8.3	18,771
Fulton	7	*	3	*	10	*	523

Source: Ohio Department Of Health Bureau Of Vital Statistics

* Rates based on fewer than 20 infant deaths are unstable and not reported

**Neonatal Death – Death of live-born infant during first 28 days of life

**Post-neonatal Death – Death of infant between 29 days and 364 days of life

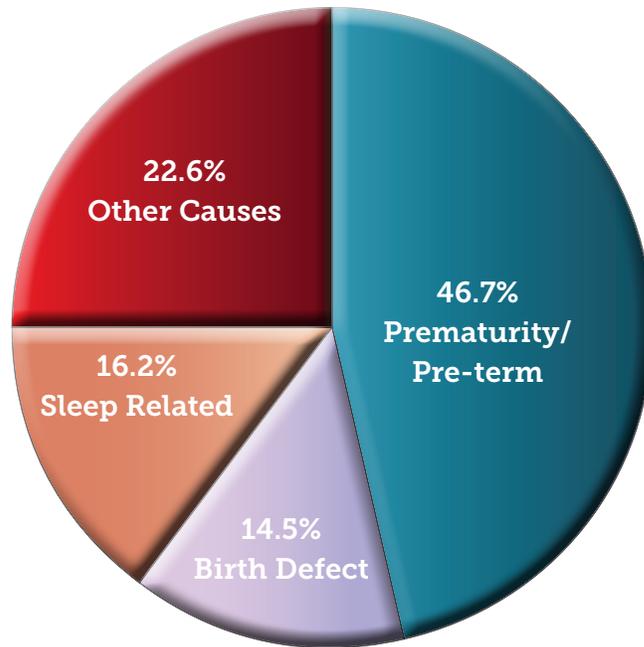
OHIO INFANT MORTALITY TREND DATA

County	Number Neonatal Deaths	Neonatal IM Rate	Number Postneonatal Deaths	Postneonatal IM Rate	Total Number Infant Deaths	Overall IM Rate	Number Births
Gallia	4	*	1	*	5	*	385
Geauga	2	*	1	*	3	*	908
Greene	5	*	4	*	9	*	1,780
Guernsey	2	*	1	*	3	*	452
Hamilton	72	6.7	23	2.1	95	8.8	10,796
Hancock	4	*	1	*	5	*	942
Hardin	3	*	1	*	4	*	397
Harrison	1	*	0	*	1	*	161
Henry	2	*	0	*	2	*	323
Highland	5	*	2	*	7	*	564
Hocking	1	*	0	*	1	*	322
Holmes	3	*	3	*	6	*	776
Huron	2	*	3	*	5	*	745
Jackson	2	*	4	*	6	*	457
Jefferson	1	*	3	*	4	*	663
Knox	2	*	1	*	3	*	711
Lake	7	*	2	*	9	*	2,333
Lawrence	5	*	2	*	7	*	702
Licking	5	*	4	*	9	*	1,901
Logan	3	*	0	*	3	*	570
Lorain	14	*	3	*	17	*	3,310
Lucas	27	4.8	13	*	40	7.1	5,669
Madison	2	*	1	*	3	*	422
Mahoning	13	*	9	*	22	9.1	2,409
Marion	5	*	2	*	7	*	773
Medina	5	*	4	*	9	*	1,720
Meigs	0	*	0	*	0	*	260
Mercer	1	*	0	*	1	*	590
Miami	4	*	3	*	7	*	1,183
Monroe	1	*	0	*	1	*	158
Montgomery	44	6.5	17	*	61	9.0	6,752

OHIO INFANT MORTALITY TREND DATA

County	Number Neonatal Deaths	Neonatal IM Rate	Number Postneonatal Deaths	Postneonatal IM Rate	Total Number Infant Deaths	Overall IM Rate	Number Births
Morgan	0	*	0	*	0	*	120
Morrow	1	*	0	*	1	*	368
Muskingum	5	*	2	*	7	*	1,012
Noble	1	*	1	*	2	*	150
Ottawa	1	*	1	*	2	*	315
Paulding	1	*	0	*	1	*	217
Perry	3	*	0	*	3	*	458
Pickaway	2	*	4	*	6	*	593
Pike	4	*	3	*	7	*	358
Portage	7	*	3	*	10	*	1,465
Preble	0	*	0	*	0	*	454
Putnam	3	*	0	*	3	*	465
Richland	2	*	2	*	4	*	1,431
Ross	4	*	4	*	8	*	827
Sandusky	4	*	0	*	4	*	647
Scioto	4	*	2	*	6	*	933
Seneca	4	*	2	*	6	*	599
Shelby	8	*	0	*	8	*	614
Stark	21	5.0	8	*	29	6.9	4,223
Summit	21	3.5	15	*	36	5.9	6,087
Trumbull	6	*	1	*	7	*	2,151
Tuscarawas	6	*	1	*	7	*	1,120
Union	1	*	2	*	3	*	603
Van Wert	0	*	0	*	0	*	344
Vinton	3	*	2	*	5	*	141
Warren	13	*	4	*	17	*	2,363
Washington	0	*	0	*	0	*	646
Wayne	5	*	3	*	8	*	1,618
Williams	2	*	1	*	3	*	435
Wood	7	*	3	*	10	*	1,383
Wyandot	0	*	1	*	1	*	268
Unknown	0	*	0	*	0	*	10

Infant Mortality by Leading Causes 2009-2013



Source: Ohio Child Fatality Review

Most infant deaths in Ohio in 2013 occurred when babies:

- Were born too early (pre-term births are those before 37 weeks gestation) which accounts for 46.7 percent of all infant deaths.
- Were born with a serious birth defect which accounts for 14.5 percent of all infant deaths.
- Died from sleep-related causes, including Sudden Infant Death Syndrome (SIDS), asphyxia and undetermined causes which account for 16.2 percent of all infant deaths.

Some risk factors, such as smoking, may have contributed to more than one of the above factors. It is estimated that 23-34 percent of SIDS infant deaths, and 5-7 percent of pre-term related infant deaths in the U.S. are attributable to smoking during pregnancy.

In March 2011, Governor John R. Kasich addressed infant mortality in Ohio in his first State of the State Address, making reducing low birth-weight babies a priority. In follow up, the Governor's Office of Health Transformation, working with Ohio Departments of Medicaid, Health, Mental Health & Addiction Services, and other human services agencies initiated an unprecedented package of reforms to save babies' lives by:



- Improving overall health system performance, including supporting the development of regional systems of prenatal care.
- Focusing resources where the need is greatest, such as in high-risk communities and populations.
- Preventing premature births, including reducing medically unnecessary scheduled deliveries prior to 39 weeks gestation.
- Preventing and early identification of birth defects.
- Preventing sleep-related deaths, including by promoting infant safe sleep practices.

In December 2014, Governor Kasich spoke at the 2014 Ohio Infant Mortality Summit and said that the current infant mortality rate is "clearly unacceptable." He announced that the Ohio Departments of Medicaid and Health would work together to surge resources into the neighborhoods with the highest incidence of pre-term birth and low birth-weight babies. His proposed executive budget and the final state budget approved by the Ohio General Assembly for the 2016-17 biennium contained initiatives to help reduce infant mortality through:

- Enhanced care management for women in high-risk neighborhoods.
- Engaging leaders in high-risk neighborhoods to connect women to healthcare services.
- Focusing evidence-based strategies to reduce maternal smoking.
- Expanding access to peer support programs for expecting mothers through "Centering Pregnancy" model of care.
- Expanding state's capacity to analyze and respond to infant mortality data.

For more information about all of these initiatives, read the Governor's Office of Health Transformation white paper titled "Reduce Infant Mortality" [here](#) or on its website at healthtransformation.ohio.gov. The following is an abbreviated chronology highlighting select initiatives to address infant mortality in Ohio over the past five-plus years.

Making Infant Mortality a Statewide Priority and Raising Awareness

2009: ODH convenes an Infant Mortality Task Force which recommends the establishment of a statewide collaborative to reduce infant mortality in Ohio. In response, ODH and its partners launch the Ohio Collaborative to Prevent Infant Mortality.



2011: Governor Kasich addresses infant mortality in Ohio in his first State of the State Address and makes reducing low birth-weight babies a priority.

2011: The Governor's Office of Health Transformation, working with Ohio Departments of Medicaid, Health, Mental Health & Addiction Services, and other human services agencies initiate an unprecedented package of reforms to improve overall health system performance for pregnant women and infants.

2012: ODH, as a member of the Ohio Collaborative to Prevent Infant Mortality, publicly releases for the first time Ohio's infant mortality data with the goal of raising public awareness.

2012: ODH and the Ohio Collaborative to Prevent Infant Mortality host the first biannual statewide Infant Mortality Summit with more than 900 attendees who are encouraged to host Summits in their own communities to initiate local conversations about how to reduce infant mortality.

2013: ODH hires a coordinator to manage the statewide Fetal Infant Mortality Review (FIMR) initiative. FIMR is a multi-disciplinary, multi-agency, community-based process that identifies local infant mortality issues through the review of fetal and infant deaths and develops recommendations and initiatives to reduce them.

2014: ODH and the National Healthy Mothers, Healthy Babies Coalition launches a new service called "text4baby", allowing expectant and new mothers to receive health information delivered to their mobile phone. An educational service, "text4baby" provides women with health information for them and their baby during pregnancy and through the baby's first year.

2014: ODH and the Ohio Collaborative to Prevent Infant Mortality host the second biannual statewide Infant Mortality Summit with more than 1,700 attendees. Governor Kasich tells audience that Ohio's Infant Mortality Rate is "simply unacceptable" and announces new initiatives to focus support and resources to mothers and babies most at-risk.



2014: Governor Kasich signs into law House Bill 394 which creates a Commission on Infant Mortality.

Improving Overall Health System Performance

2012: About half of all pregnancies in Ohio are unintended, with higher rates among women at risk of having a poor birth outcome, such as lower income women, African-American women and teens. Ohio Medicaid adopts a Medicaid Family Planning State Plan Amendment to expand eligibility for family planning services for women and men up to 200 percent of the federal poverty level.

2013: The 2012-13 state budget provides temporary Medicaid coverage enabling pregnant women to receive medical care while their Medicaid application is processed, accelerating quicker access to care for better birth outcomes.

2013: Ohio Medicaid negotiates new contracts with Medicaid managed care plans to include enhanced maternal care and inter-conception care requirements for women at highest risk for poor pregnancy outcomes.



2013: Ohio Medicaid managed care plans and hospital neonatal intensive care units (NICUs) forge partnerships focusing on transitioning infants from NICUs to the home setting, including opportunities for the managed care plans to bridge gaps in care during the transition.

2013: Ohio Medicaid promotes better birth outcomes and encourages appropriate postpartum visits as well as family planning services by holding managed care plans accountable for minimum performance standards on related measures.

2014: Medicaid benefits are extended to more low-income Ohioans, providing additional low-income pregnant women with better access to medical care which is associated with better birth outcomes.

2015: ODH selects four community health centers across the state to pilot an evidence-based healthcare delivery model for pregnant women called “Centering Pregnancy” which integrates maternal care, education and support to improve birth and infant health outcomes in high-risk communities.

Reducing the Incidence of Prematurity/Pre-Term Birth

2013: Prematurity/pre-term birth is the leading cause of newborn illness and mortality. Studies have shown that a hormone supplement of progesterone in the second and third trimesters of pregnancy for women with specific risk factors can reduce the incidence of pre-term birth. The 2014-15 state budget includes funding to develop protocols for incorporating progesterone treatment into clinical practice.



2013: The Progesterone Quality Improvement Project launches to improve birth outcomes for Medicaid recipients by encouraging wider use of progesterone treatment. This project increases funding so that prenatal care providers can better identify, screen and track outcomes for women who can benefit from progesterone treatment.

2013: Smoking during pregnancy remains one of the most common preventable risk factors for infant mortality. It increases the risk of miscarriage, premature birth, low birth weight and stillbirth. The 2014-15 state budget includes funding to connect women to the tools, training and assistance needed to quit smoking through their prenatal care providers.

2013: The Ohio Perinatal Quality Collaborative launches an initiative to ensure that all pregnant women at risk of delivering a baby between 24 and 34 weeks gestation receive antenatal corticosteroids, an evidence-based therapy shown to reduce mortality and morbidity among pre-term infants. This therapy is designed to promote lung development in newborn infants, and thus reduce the incidence of respiratory distress, a common reason for infant stays in neonatal intensive care.

2013: The Ohio Perinatal Quality Collaborative launches an initiative to increase early feeding of mother's milk to newborns since its protective properties are linked to a reduced risk of some infections and illnesses in newborns.

2015: ODH and the Ohio Hospital Association launch "Ohio First Steps for Healthy Babies" to encourage hospitals to promote and support breastfeeding by new mothers.

Increasing Public Awareness About Safe Sleep Practices

2013: Suffocation is the leading cause of injury-related death for babies before their 1st birthday. Babies who sleep on couches, in their parents' bed, or on their stomach are more likely to die from an unexpected, sudden cause. The 2014-15 state budget includes funding for a targeted campaign to educate parents, caregivers and healthcare providers about the ABCs of safe sleep practices. According to the American Academy of Pediatrics, babies should be placed **A**lone, on their **B**ack, in a **C**rib.



2013: In cases of sudden, unexpected infant deaths, accurate determination of the cause of death requires a review of the child's health history, a complete autopsy, and a thorough scene investigation. To improve consistent scene investigations throughout Ohio, ODH launches regional training for coroners, medical examiners and law enforcement jurisdictions to expand implementation of the Centers for Disease Control and Prevention's Sudden Unexpected Infant Death investigation protocol.

2014: The Ohio General Assembly passes Senate Bill 276 establishing the Safe Sleep Education Program to be administered by ODH. The new law requires hospitals with maternity units and freestanding birthing centers to implement an infant safe sleep screening procedure to assess whether an infant will have a safe crib or other suitable place to sleep after discharge. ODH provides free Cribs for Kids "Survival Kits" to families who meet financial eligibility guidelines.

2014: ODH sponsors the Ohio Sudden Infant Death Network's "Safe Sleep Community Forums" around the state to increase awareness and education to preventing infant mortality.

2015: The proposed executive budget for the 2016-17 biennium includes continued funding to support raising public awareness about infant safe sleep practices.

Prevention and Early Identification of Birth Defects

2013: Folic acid is crucial to prevent neural tube defects, which occur in 1 per 1,000 pregnancies. In addition, women who take folic acid supplements before and during early pregnancy are about 40 percent less likely to have a baby later diagnosed with autism. The 2014-15 state budget includes funding to increase public awareness and use of multivitamins and folic acid supplements by women.

2013: Critical Congenital Heart Disease (CCHD), a group of heart defects requiring surgery or other clinical interventions, accounts for five percent of all infant deaths in Ohio. While the majority of Ohio maternity hospitals already screen newborns for this disease, Governor Kasich signs Senate Bill 4 into law requiring hospitals and freestanding birthing centers to screen all newborns for CCHD for early diagnosis and treatment.



Specific Initiatives to Address Black Infant Mortality & Special Populations

2013: ODH partners with CityMatCH, a national organization that supports urban maternal and child health initiatives at the local level, to launch the Ohio Institute for Equity in Birth Outcomes. The partnership includes nine Ohio metropolitan communities to improve overall birth outcomes and reduce the racial and ethnic disparities in infant mortality. The nine communities account for 95 percent of Ohio's black infant deaths, and 49 percent of its white infant deaths.



2013: Women who have been diagnosed with gestational diabetes during pregnancy are more likely to develop Type 2 Diabetes Mellitus (T2DM), with up to 60 percent developing T2DM in the following 10 years. ODH launches an initiative to work with healthcare providers to increase postpartum screening rates for women with a history of gestational diabetes.

2013: In response to rising prescription drug abuse, including by pregnant women, the state launches the Maternal Opiate Medical Support Project (MOMS) to link such pregnant women with treatment which is associated with improved neurocognitive outcomes in infants of opiate-addicted mothers.

2013: As prescription drug abuse by pregnant women rises in Ohio, so does the number of babies born addicted to narcotics – known as Neonatal Narcotic Abstinence Syndromes (NAS). NAS produces jitteriness, fever, diarrhea, and poor feeding and if not treated may lead to seizures and even death. Ohio's six children's hospitals work together supported by a state grant to study NAS and best treatment strategies.

2014: Ohio's nine Ohio Institute for Equity in Birth Outcomes teams are trained to conduct Fetal Infant Mortality Reviews, a multi-disciplinary, multi-agency, community-based process that identifies local infant mortality issues through the review of fetal and infant deaths and develops recommendations and initiatives to reduce them.

2014: Ohio Institute for Equity in Birth Outcomes teams review local data and use it to identify evidence-based interventions to address highest risk populations in targeted areas. The teams develop evaluation plans to assess the effectiveness of interventions after implementation.

2015: Ohio Institute for Equity in Birth Outcomes teams are launching evidence-based interventions to address highest risk populations in targeted areas, and beginning to collect data for interventions evaluation plans.