

2017 Ohio Infant Mortality Data: General Findings

Number of Infant Deaths Declined in Ohio in 2017 While Disparity Continued

In 2017, 982 Ohio infants died before their first birthday (Table 1, Figure 1). By comparison, Ohio registered 1,024 deaths in 2016. From 2016 to 2017, the number of white infants who died decreased by 60, the number of black infants who died increased by 15, and the number of Hispanic infants who died remained the same.

Infant mortality is defined as the death of a live-born baby before his or her first birthday. An infant mortality rate is the number of babies who died during the first year of life per 1,000 live births. Ohio’s target is to achieve fewer than 6.0 infant deaths per 1,000 live births in every racial and ethnic group which aligns with the national Healthy People 2020 objective established in 2010.¹ Ohio’s infant mortality rate for all races declined from 7.4 in 2016 to 7.2 in 2017 (Table 1, Figure 2). While the state’s infant mortality rate for white infants was lower in 2017 than in 2016 or 2015, the rate for black infants was higher, with black infants dying at three times the rate as white infants (Table 1, Appendix B). Neonatal deaths (occurring during the first 27 days of life) account for most of the black/white infant mortality disparity (Appendix B).

The leading causes of infant death in Ohio continue to be prematurity-related conditions, congenital anomalies, obstetric conditions, external injury, and Sudden Infant Death Syndrome (Appendix A). Appendix C summarizes key initiatives addressing prematurity as the leading cause of infant mortality in Ohio.

Table 1: Ohio Infant Mortality by Race and Ethnicity (2015-2017)

	2015		2016		2017	
	Infant Deaths	IMR*	Infant Deaths	IMR*	Infant Deaths	IMR*
All Races**	1,005	7.2	1,024	7.4	982	7.2
Race						
White	580	5.5	610	5.8	550	5.3
Black	367	15.1	369	15.2	384	15.6
American Indian	2	****	2	****	0	****
Asian/Pacific Islander	16	3.7^	18	3.8^	20	4.2
Ethnicity						
Hispanic	42	6.0	54	7.3	54	7.2
Non-Hispanic***	963	7.3	970	7.4	928	7.2

Source: Ohio Department of Health, Bureau of Vital Statistics

* Infant mortality rate per 1,000 live births.

** The total for all races includes infant deaths of unknown race.

*** Non-Hispanic deaths include those of unknown or missing ethnicity.

**** Rates based on fewer than 10 infant deaths are unstable and not reported.

^ Rates based on fewer than 20 infant deaths should be interpreted with caution.

¹Healthy People 2020 is a national collaborative established in 2010 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.

Figure 1: Trends in Ohio Infant Deaths, by Race (2000-2017)

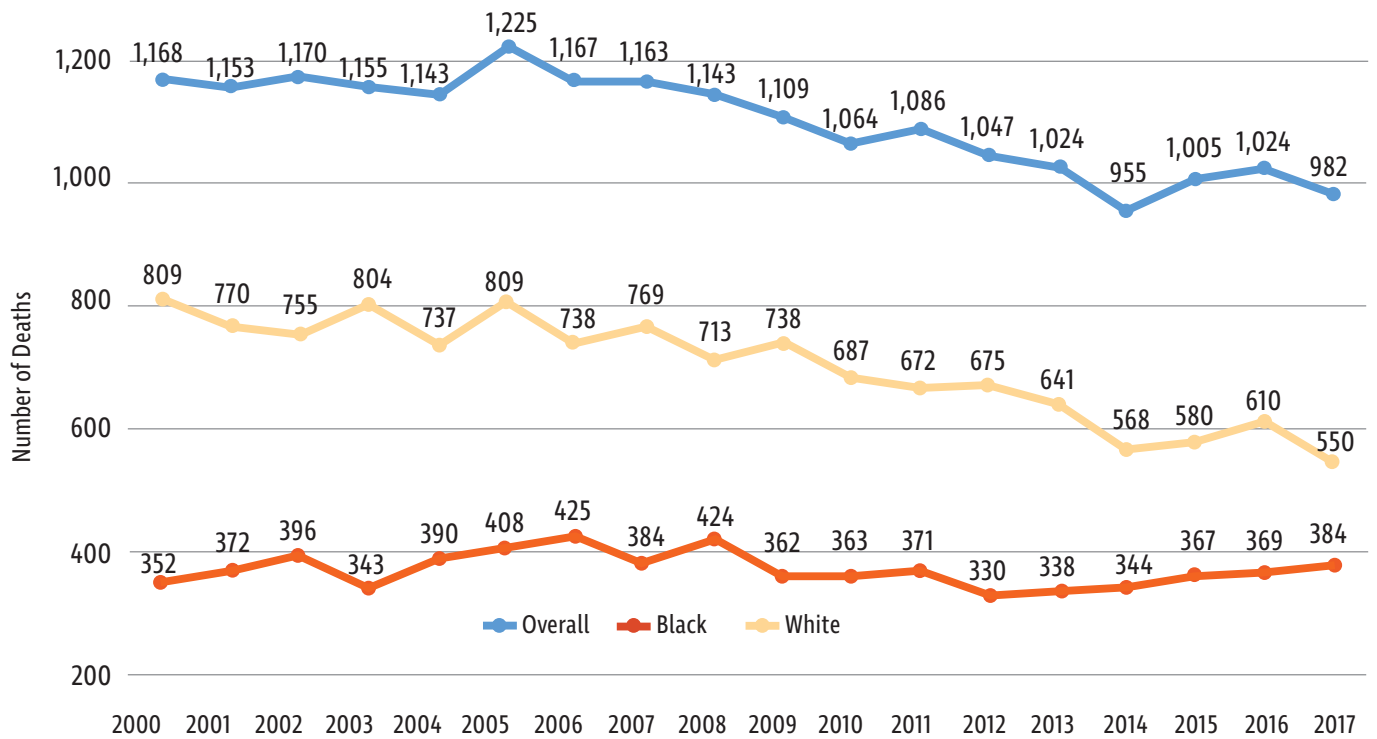
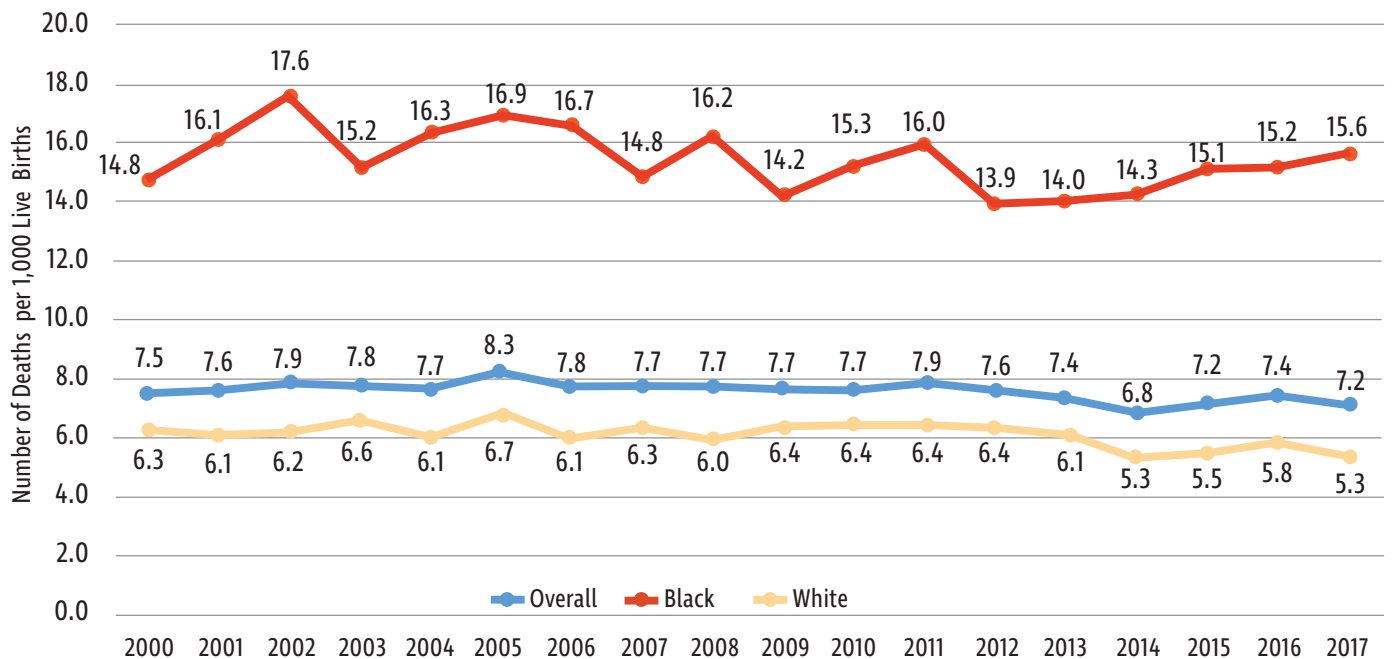


Figure 2: Trends in Ohio Infant Mortality Rates, by Race (2000-2017)



Source: Ohio Department of Health, Bureau of Vital Statistics.

Table 2: Ohio Neonatal, Postneonatal, and Infant Mortality, by County (2017)

Area	Neonate Deaths***	Neonatal Mortality Rate	Postneonate Deaths****	Post Neonatal Mortality Rate	Total Infant Deaths	Infant Mortality Rate	Total Births
Ohio*****	684	5.0	298	2.2	982	7.2	136,895
Adams	1	*	1	*	2	*	334
Allen	9	*	2	*	11	8.9**	1,241
Ashland	0	*	0	*	0	*	566
Ashtabula	5	*	3	*	8	*	1,168
Athens	4	*	0	*	4	*	485
Auglaize	2	*	1	*	3	*	591
Belmont	4	*	0	*	4	*	607
Brown	5	*	1	*	6	*	480
Butler	14	3.1**	9	*	23	5.1	4,471
Carroll	1	*	0	*	1	*	289
Champaign	3	*	0	*	3	*	427
Clark	4	*	6	*	10	6.2**	1,619
Clermont	8	*	5	*	13	5.6**	2,321
Clinton	1	*	2	*	3	*	502
Columbiana	5	*	1	*	6	*	1,029
Coshocton	2	*	2	*	4	*	462
Crawford	5	*	1	*	6	*	482
Cuyahoga	88	6.0	30	2.1	118	8.1	14,560
Darke	5	*	2	*	7	*	647
Defiance	3	*	1	*	4	*	456
Delaware	9	*	2	*	11	5.2**	2,120
Erie	2	*	2	*	4	*	785
Fairfield	15	8.2**	2	*	17	9.3**	1,821
Fayette	1	*	1	*	2	*	304
Franklin	116	6.2	39	2.1	155	8.2	18,800
Fulton	2	*	0	*	2	*	498
Gallia	2	*	2	*	4	*	361
Geauga	2	*	2	*	4	*	934
Greene	3	*	5	*	8	*	1,728
Guernsey	1	*	3	*	4	*	443
Hamilton	77	7.1	20	1.9	97	9.0	10,780
Hancock	2	*	4	*	6	*	927
Hardin	1	*	0	*	1	*	388
Harrison	1	*	0	*	1	*	152
Henry	2	*	1	*	3	*	321

Table 2: Ohio Neonatal, Postneonatal, and Infant Mortality, by County (2017) *Continued*

Area	Neonate Deaths***	Neonatal Mortality Rate	Postneonate Deaths****	Post Neonatal Mortality Rate	Total Infant Deaths	Infant Mortality Rate	Total Births
Highland	2	*	2	*	4	*	525
Hocking	1	*	1	*	2	*	316
Holmes	1	*	1	*	2	*	683
Huron	3	*	1	*	4	*	711
Jackson	1	*	0	*	1	*	412
Jefferson	2	*	5	*	7	*	634
Knox	4	*	2	*	6	*	723
Lake	3	*	3	*	6	*	2,202
Lawrence	2	*	1	*	3	*	615
Licking	5	*	2	*	7	*	1,900
Logan	2	*	1	*	3	*	533
Lorain	12	3.8**	9	*	21	6.6	3,185
Lucas	31	5.7	22	4.0	53	9.7	5,457
Madison	5	*	0	*	5	*	445
Mahoning	15	6.1**	2	*	17	6.9**	2,453
Marion	4	*	3	*	7	*	747
Medina	2	*	0	*	2	*	1,717
Meigs	1	*	0	*	1	*	284
Mercer	4	*	1	*	5	*	643
Miami	7	*	2	*	9	*	1,160
Monroe	0	*	1	*	1	*	115
Montgomery	36	5.3	17	2.5**	53	7.8	6,754
Morgan	1	*	0	*	1	*	161
Morrow	1	*	0	*	1	*	359
Muskingum	3	*	3	*	6	*	1,015
Noble	0	*	0	*	0	*	139
Ottawa	1	*	1	*	2	*	336
Paulding	0	*	1	*	1	*	219
Perry	0	*	1	*	1	*	420
Pickaway	2	*	1	*	3	*	580
Pike	1	*	0	*	1	*	350
Portage	5	*	6	*	11	8.1**	1,351
Preble	1	*	2	*	3	*	455
Putnam	1	*	0	*	1	*	433
Richland	6	*	3	*	9	*	1,336
Ross	2	*	2	*	4	*	862

Table 2: Ohio Neonatal, Postneonatal, and Infant Mortality, by County (2017) *Continued*

Area	Neonate Deaths***	Neonatal Mortality Rate	Postneonate Deaths****	Post Neonatal Mortality Rate	Total Infant Deaths	Infant Mortality Rate	Total Births
Sandusky	1	*	0	*	1	*	606
Scioto	4	*	2	*	6	*	881
Seneca	2	*	0	*	2	*	573
Shelby	0	*	1	*	1	*	634
Stark	25	6.2	13	3.2**	38	9.5	4,015
Summit	28	4.7	16	2.7**	44	7.4	5,917
Trumbull	18	8.6**	7	*	25	11.9	2,099
Tuscarawas	6	*	4	*	10	8.6**	1,158
Union	5	*	1	*	6	*	664
Van Wert	0	*	1	*	1	*	363
Vinton	0	*	0	*	0	*	151
Warren	12	5.2**	0	*	12	5.2**	2,295
Washington	1	*	2	*	3	*	632
Wayne	9	*	2	*	11	7.1**	1,548
Williams	0	*	1	*	1	*	402
Wood	1	*	2	*	3	*	1,398
Wyandot	0	*	0	*	0	*	225

Source: Ohio Department of Health, Bureau of Vital Statistics.

* Rates based on fewer than 10 infant deaths are unstable and not reported.

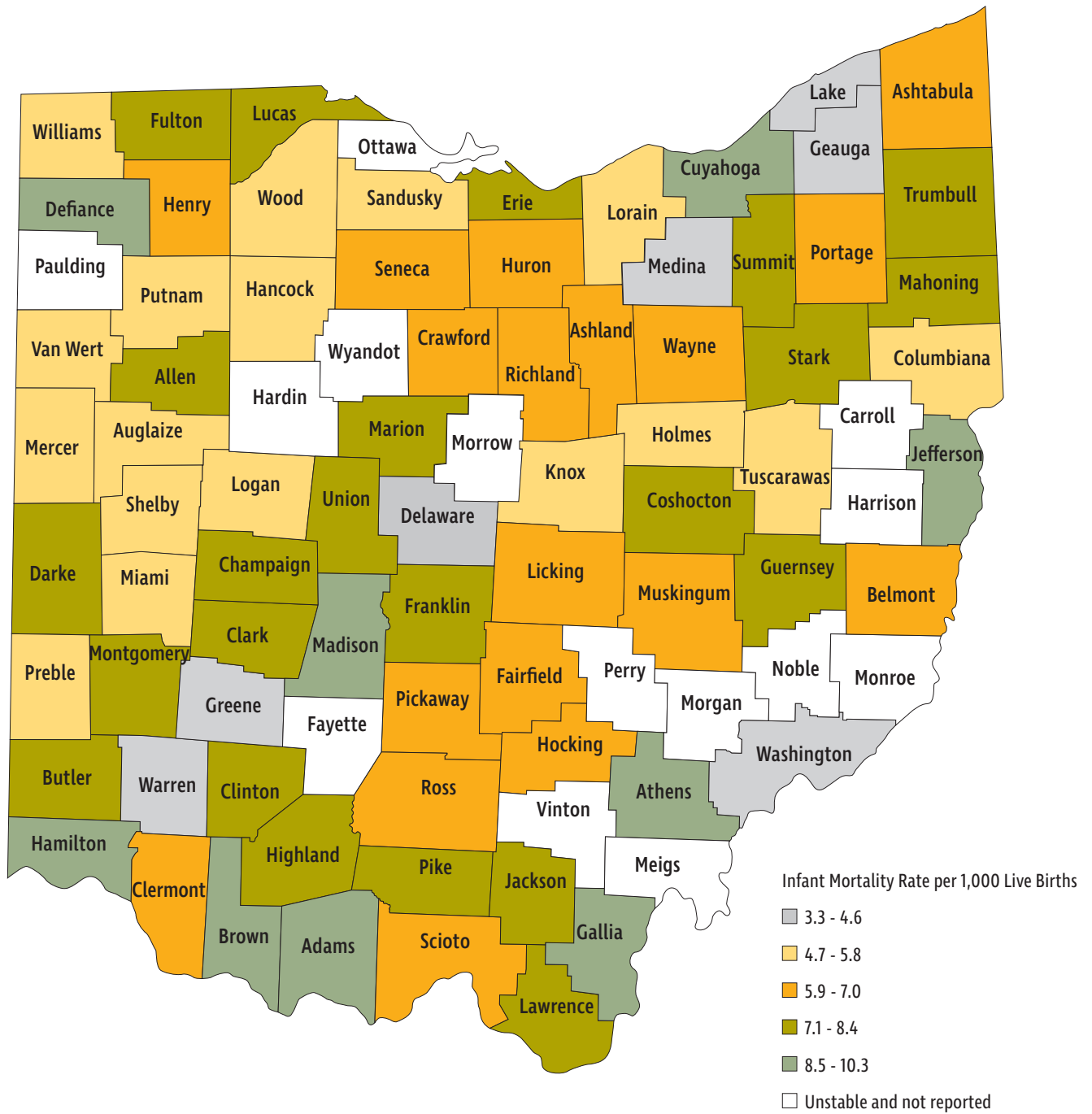
** Rates based on fewer than 20 infant deaths should be interpreted with caution.

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

**** Postneonatal Death – Death of infant aged 28 days through 364 days of life.

***** The total for Ohio includes 5 births with unknown county of residence.

Figure 3: Ohio Infant Mortality Average 5-Year Rate, by County (2013-2017)



Source: Ohio Department of Health, Bureau of Vital Statistics.

Table 3: Ohio 5-Year Average Infant Mortality Rate, by County (2013-2017)

	Total Deaths	Total Births	Infant Mortality Rate
Ohio ***	4,990	692,954	7.2
Adams	17	1,658	10.3**
Allen	46	6,323	7.3
Ashland	19	3,046	6.2**
Ashtabula	36	5,554	6.5
Athens	23	2,631	8.7
Auglaize	14	2,803	5.0**
Belmont	23	3,323	6.9
Brown	22	2,459	8.9
Butler	168	22,473	7.5
Carroll	8	1,391	*
Champaign	15	1,996	7.5**
Clark	58	7,943	7.3
Clermont	72	11,559	6.2
Clinton	19	2,534	7.5**
Columbiana	28	5,359	5.2
Coshocton	17	2,322	7.3**
Crawford	15	2,400	6.3**
Cuyahoga	656	74,151	8.8
Darke	24	3,149	7.6
Defiance	19	2,159	8.8**
Delaware	49	10,881	4.5
Erie	33	3,974	8.3
Fairfield	54	8,574	6.3
Fayette	8	1,684	*
Franklin	778	94,470	8.2
Fulton	20	2,493	8.0
Gallia	16	1,868	8.6**
Geauga	18	4,567	3.9**
Greene	41	9,029	4.5
Guernsey	18	2,302	7.8**
Hamilton	487	54,263	9.0
Hancock	27	4,648	5.8
Hardin	7	1,902	*
Harrison	8	791	*
Henry	10	1,536	6.5**

Table 3: Ohio 5-Year Average Infant Mortality Rate, by County (2013-2017) *Continued*

	Total Deaths	Total Births	Infant Mortality Rate
Highland	23	2,749	8.4
Hocking	11	1,564	7.0**
Holmes	21	3,653	5.7
Huron	22	3,738	5.9
Jackson	15	2,123	7.1**
Jefferson	34	3,310	10.3
Knox	20	3,662	5.5
Lake	51	11,258	4.5
Lawrence	26	3,372	7.7
Licking	61	9,873	6.2
Logan	15	2,717	5.5**
Lorain	94	16,662	5.6
Lucas	222	28,033	7.9
Madison	19	2,118	9.0**
Mahoning	95	12,138	7.8
Marion	31	3,727	8.3
Medina	32	8,859	3.6
Meigs	7	1,232	*
Mercer	17	2,973	5.7**
Miami	29	5,984	4.8
Monroe	5	697	*
Montgomery	249	33,404	7.5
Morgan	2	733	*
Morrow	8	1,859	*
Muskingum	36	5,123	7.0
Noble	4	692	*
Ottawa	8	1,690	*
Paulding	6	1,083	*
Perry	9	2,163	*
Pickaway	19	3,022	6.3**
Pike	13	1,747	7.4**
Portage	45	7,175	6.3
Preble	11	2,201	5.0**

Table 3: Ohio 5-Year Average Infant Mortality Rate, by County (2013-2017) *Continued*

	Total Deaths	Total Births	Infant Mortality Rate
Putnam	11	2,221	5.0**
Richland	43	6,909	6.2
Ross	27	4,268	6.3
Sandusky	18	3,266	5.5**
Scioto	27	4,437	6.1
Seneca	19	2,939	6.5**
Shelby	15	3,072	4.9**
Stark	160	20,927	7.6
Summit	214	30,269	7.1
Trumbull	85	10,522	8.1
Tuscarawas	29	5,812	5.0
Union	25	3,230	7.7
Van Wert	10	1,728	5.8**
Vinton	8	734	*
Warren	54	11,845	4.6
Washington	10	3,050	3.3**
Wayne	50	7,827	6.4
Williams	12	2,122	5.7**
Wood	33	6,932	4.8
Wyandot	6	1,244	*

Source: Ohio Department of Health, Bureau of Vital Statistics.

* Rates based on fewer than 10 infant deaths are unstable and not reported.

** Rates based on fewer than 20 infant deaths should be interpreted with caution.

*** The total for Ohio includes 51 births and 1 death with unknown county of residence.

Table 4: Ohio Neonatal, Postneonatal, and Infant Mortality, by Race and Ethnicity (2013-2017)

Race	Year	Neonate Deaths	NMR	Postneonate Deaths	PMR	Total Infant Deaths	IMR	Births
White	2013	454	4.3	187	1.8	641	6.1	104,938
	2014	406	3.8	162	1.5	568	5.3	106,371
	2015	379	3.6	201	1.9	580	5.5	106,028
	2016	429	4.1	181	1.7	610	5.8	104,957
	2017	375	3.6	175	1.7	550	5.3	103,709
Black	2013	245	10.1	93	3.8	338	14.0	24,158
	2014	252	10.4	92	3.8	344	14.3	24,133
	2015	252	10.4	115	4.7	367	15.1	24,288
	2016	255	10.5	114	4.7	369	15.2	24,316
	2017	278	11.3	106	4.3	384	15.6	24,542
All Races	2013	729	5.2	295	2.1	1,024	7.4	139,035
	2014	692	5.0	263	1.9	955	6.8	139,514
	2015	667	4.8	338	2.4	1,005	7.2	139,312
	2016	713	5.2	311	2.3	1,024	7.4	138,198
	2017	684	5.0	298	2.2	982	7.2	136,895
Hispanic (Regardless of Race)	2013	44	6.8	13	2.0*	57	8.8	6,489
	2014	32	4.6	11	1.6*	43	6.2	6,885
	2015	30	4.3	12	1.7*	42	6.0	6,974
	2016	38	5.1	16	2.2*	54	7.3	7,425
	2017	42	5.6	12	1.6*	54	7.2	7,473

Source: Ohio Department of Health, Bureau of Vital Statistics.

*Rates based on fewer than 20 infant deaths should be interpreted with caution.

Neonatal deaths occur during the first 27 days of life while postneonatal deaths occur at 28 through 364 days of life. Neonatal deaths are the largest contributor to the overall infant death rate with postneonatal deaths making up less than a third of infant deaths. While the overall number of black infant deaths increased in 2017 by 15, the number of black neonatal deaths increased by 23 and the number of postneonatal deaths decreased by 8. Therefore, the increase in black infant deaths from 2016 to 2017 can be attributed to a larger number of neonatal deaths. In 2017, The number of both neonatal and postneonatal deaths decreased in the white population. Refer to Appendix B for more information on trends in neonatal and postneonatal mortality by race.

APPENDIX A

Leading Causes of Infant Death in Ohio

The leading causes of infant death in Ohio are prematurity-related conditions (e.g. premature birth, low birth weight, respiratory distress syndrome, and neonatal hemorrhage), congenital anomalies, obstetric conditions (e.g. premature rupture of membranes, incompetent cervix, placental separation and hemorrhage), external injury (e.g. unintentional injuries, homicide, and injuries of undetermined intent), and Sudden Infant Death Syndrome (SIDS). Figure 4 depicts the leading causes of death as a percentage of all infant deaths. Sleep-related deaths may fit into SIDS, external injury, or other causes category depending on the exact cause of death. "Other" causes of infant death includes neoplasms, anemias, and other conditions not otherwise specified.

Table 5: Top 5 Causes of Infant Deaths in Ohio (2013-2017)

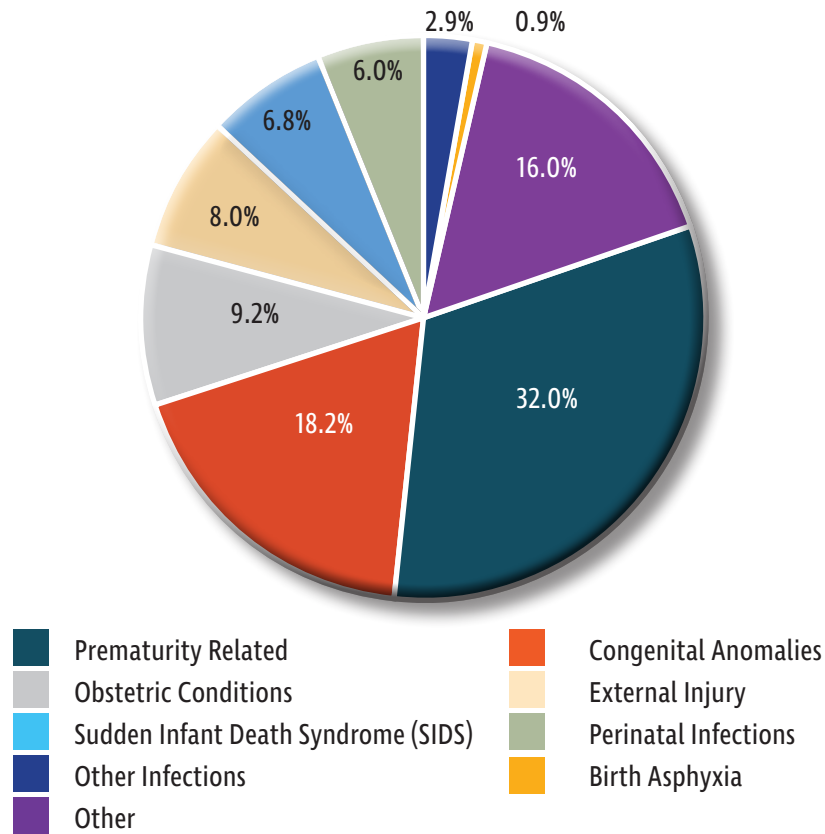
Cause	Year				
	2013	2014	2015	2016	2017
Prematurity Related	298	291	273	311	314
Congenital Anomalies	204	192	184	193	179
Obstetric Conditions	90	90	93	77	90
External Injury	72	56	100	69	79
Sudden Infant Death Syndrome (SIDS)	90	71	87	75	67

Source: Ohio Department of Health, Bureau of Vital Statistics.

Note: Causes of death are based on the modified Dollfus classification system for infant mortality.

In this system, causes of death are grouped by shared etiologies rather than shared organ systems in order to better be able to identify preventive measures.

Figure 4: Proportion of Cause of Infant Death in Ohio (2017)



Source: Ohio Department of Health, Bureau of Vital Statistics.

APPENDIX B

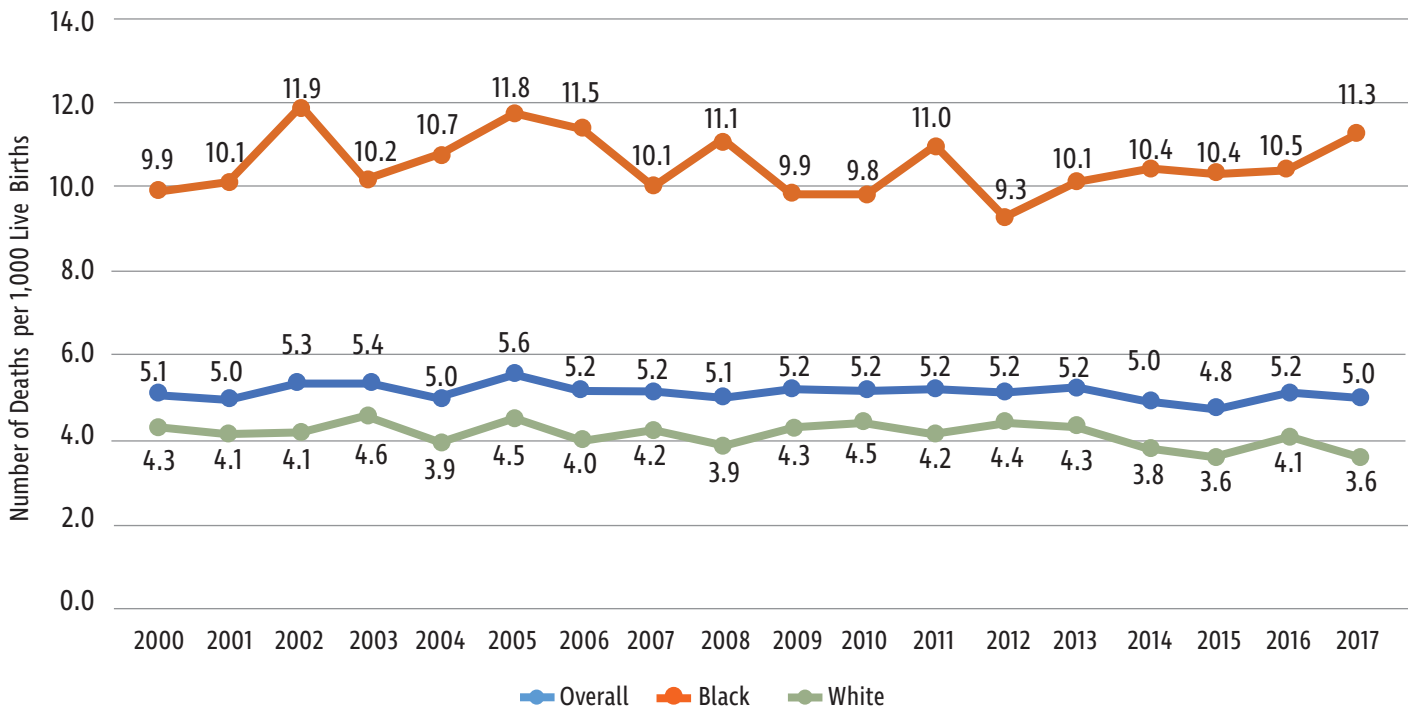
Spotlight: Disparities in Birth Outcomes

While the overall infant mortality rate in Ohio has decreased since 2000, there has been no significant improvement in the black infant mortality rate. In 2017, black infants were three times more likely to die than white infants with neonatal deaths accounting for most of this disparity.

Neonatal Infant Mortality Rate

Neonatal infant mortality is defined as the death of a live-born infant during the first 27 days of life. Ohio's neonatal infant mortality rate was 5.1 in 2000; 5.2 in 2010; and 5.0 in 2017 (Figure 5). While neonatal deaths decreased overall (5.2 in 2016 to 5.0 in 2017) and among white infants (4.1 to 3.6), the decreases were not significant. It increased among black infants (10.5 in 2016 to 11.2 in 2017). Neonatal mortality is associated with prematurity (preterm birth before 37 weeks gestation), low birth weight, birth defects, and health problems originating in the perinatal period, such as infections or birth trauma.

Figure 5: Trends in Ohio Neonatal Mortality, by Race (2000-2017)



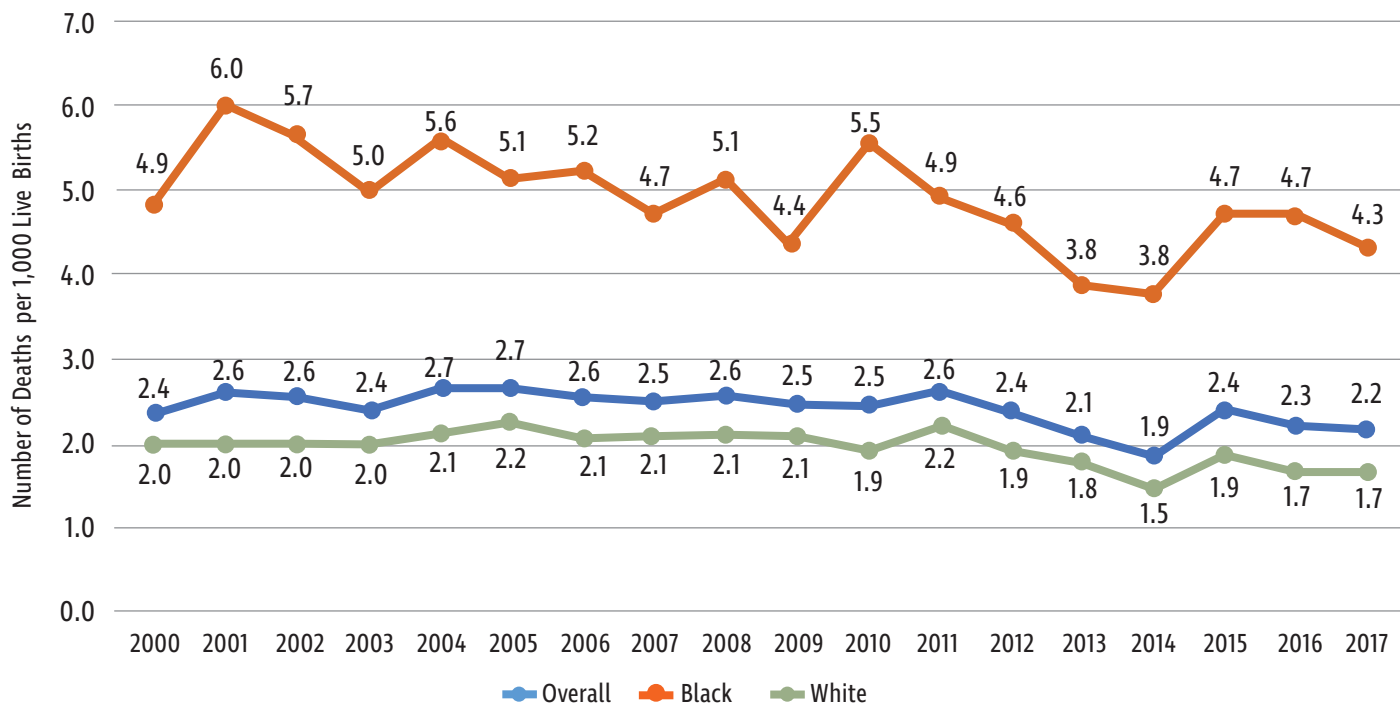
Source: Ohio Department of Health, Bureau of Vital Statistics.

Postneonatal Infant Mortality Rate

Postneonatal infant mortality is defined as the death of an infant between 28 days and 364 days of life. Ohio's postneonatal mortality rate was 2.4 in 2000; 2.5 in 2010; and 2.2 in 2017 (Figure 6).

Postneonatal mortality has decreased since 2000 for all races combined (an average of 1 percent per year), for the black population (1.5 percent per year), and for the white population (1 percent per year).

Figure 6: Trends in Ohio Postneonatal Mortality, by Race (2000-2017)



Source: Ohio Department of Health, Bureau of Vital Statistics.

Causes of Infant Death

When looking at causes of death, the biggest disparity is in prematurity related causes of death (rate of 5.5 per 1,000 live births in black vs. 1.6 in white). Refer to Appendix C for ODH activities aimed at preventing prematurity. Other causes of death with a large disparity are obstetrical conditions, Sudden Infant Death Syndrome (SIDS), and perinatal infections (Table 6, Figure 7).

The proportion of causes of infant death varies by race (Figure 7). Prematurity-related conditions, obstetric conditions and SIDS account for a larger portion of deaths in black infants than they do in white infants. Congenital anomalies make up a greater proportion of white infant deaths than they do of black infant deaths.

Table 6: Causes of Infant Death by Race, Ohio, 2017

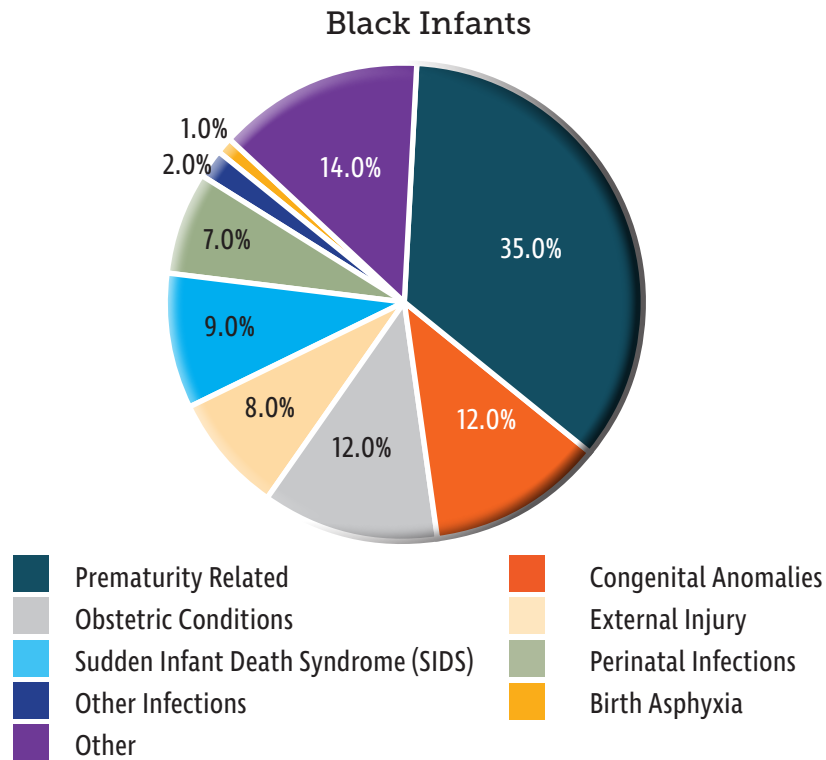
Dollfus Cause of Death	All Races		Black		White	
	Number	Rate per 1,000	Number	Rate per 1,000	Number	Rate per 1,000
Prematurity-Related	314	2.3	136	5.5	164	1.6
Congenital Anomalies	179	1.3	46	1.9	121	1.2
Obstetric Conditions	90	0.7	47	1.9	37	0.4
External Injury	79	0.6	30	0.4	44	0.4
Sudden Infant Death Syndrome (SIDS)	67	0.5	34	1.4	32	0.3
Perinatal Infections	59	0.4	26	1.1	32	0.3
Other Infections	28	0.2	9	0.4	18	0.2
Birth Asphyxia	9	0.1	4	0.2	4	0.0
Other	157	1.2	52	2.1	98	0.9

Source: Ohio Department of Health, Bureau of Vital Statistics.

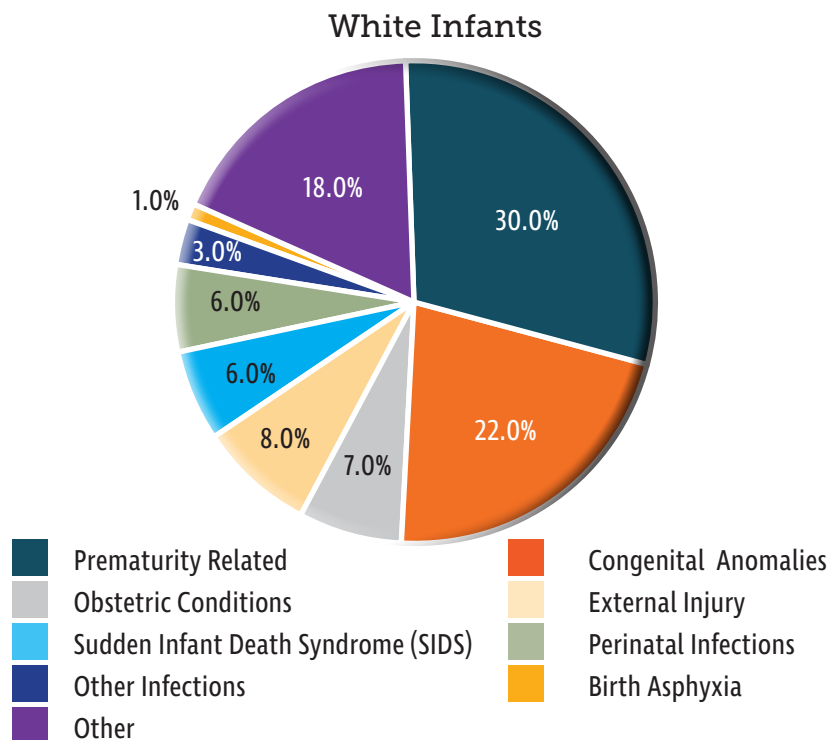
Note: Causes of death are based on the modified Dollfus classification system for infant mortality.

In this system, causes of death are grouped by shared etiologies rather than shared organ systems in order to better be able to identify preventive measures.

Figure 7: Proportions of Causes of Infant Death in Ohio by Race, 2017



Source: Ohio Department of Health, Bureau of Vital Statistics.



Source: Ohio Department of Health, Bureau of Vital Statistics.



Local Ohio Equity Institute Teams Addressing Disparities in Birth Outcomes

The Ohio Department of Health partnered with CityMatCH, a national organization that supports urban maternal and child health initiatives at the local level, to form the Ohio Institute for Equity in Birth Outcomes (known simply as the Ohio Equity Institute, or OEI) in 2013. Local OEI teams were formed in nine Ohio counties/metropolitan areas to improve overall birth outcomes and reduce racial disparities in infant mortality: Butler Co., Cleveland/Cuyahoga Co., Columbus/Franklin Co., Cincinnati/Hamilton Co., Toledo/Lucas Co., Youngstown/Mahoning Co., Dayton/Montgomery Co., Canton/Stark Co., and Akron/Summit Co. These counties were selected because of their poor birth outcomes, and because they account for most black infant deaths in Ohio (90 percent of black deaths in 2017). These counties also have high rates of preterm birth (Figure 8), the largest contributor to infant mortality in Ohio.

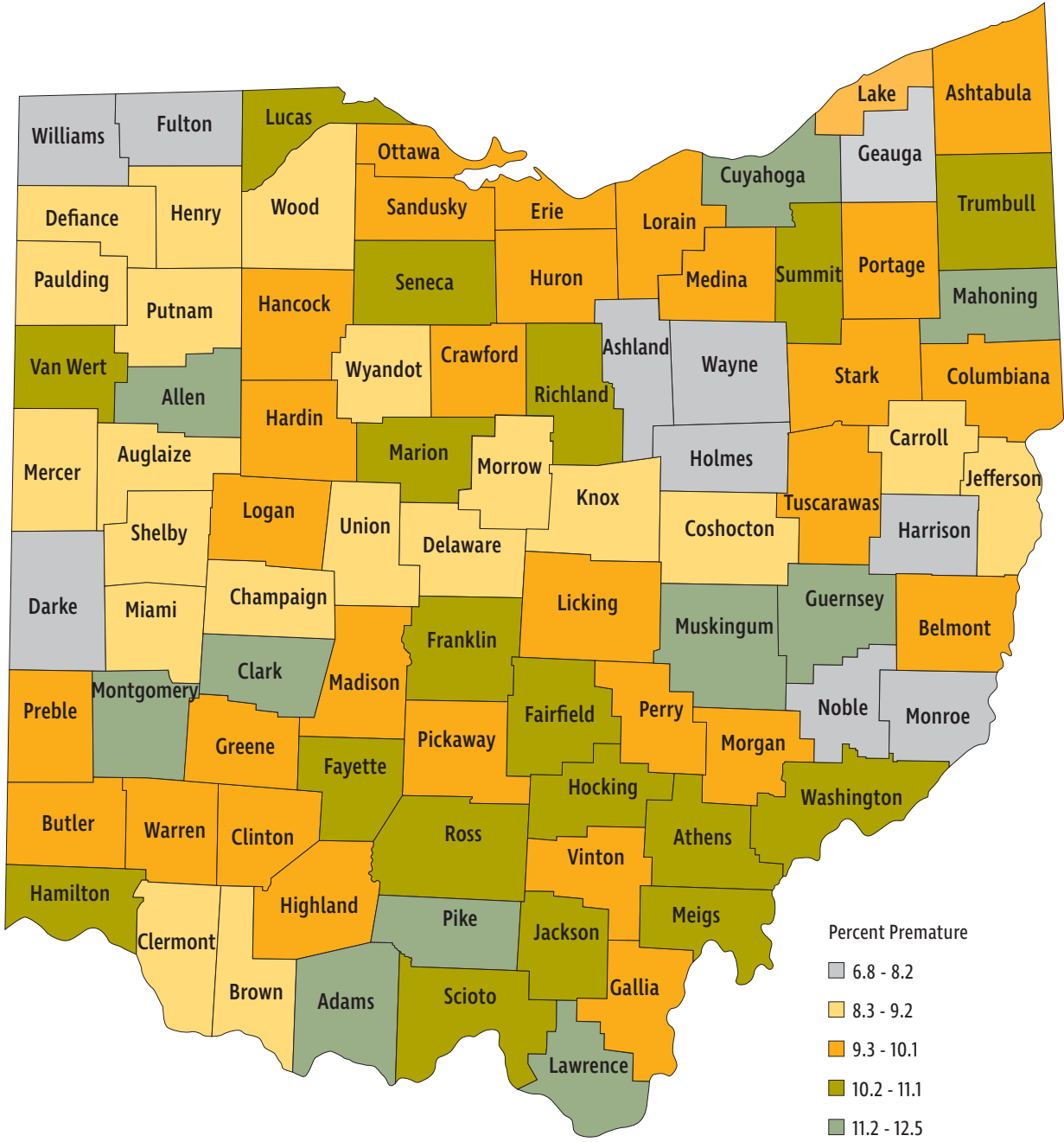
OEI 2.0 launched on October 1, 2018. This targeted structure was developed to ensure that the program addresses the biggest drivers of infant mortality and the population most at risk for poor birth outcomes. Through a competitive grant solicitation, local entities were charged with implementing the following program components:

- Upstream: Facilitate the development, adoption, or improvement of policies and/or practices which impact the social determinants of health related to preterm birth and low birth weight in each county.
- Downstream: Local community health workers, known as Neighborhood Navigators, identify and connect a portion of each county's priority prenatal population to clinical and social services. It is expected that these Neighborhood Navigators will collectively serve more than 4,600 women during State Fiscal Year 2019.

The priority prenatal population for Neighborhood Navigators is defined by the criteria below:

- Pregnant
- Household income does not exceed 200 percent of the Federal Poverty Limit
- Possess at least one of the following risk factors:
 - Previous preterm birth
 - Previous low birth weight delivery
 - Under age 25
 - User of tobacco products in home
 - History or unstable housing or homelessness
 - Current diagnosed medical condition
 - History of child abuse or neglect
 - Demonstrated need for substance abuse treatment
 - History of depression or other diagnosed mental health concerns

Figure 8: Percent of Births that are Premature (< 37 weeks gestation) by County, Ohio, 2013-2017



Source: Ohio Department of Health, Bureau of Vital Statistics.

APPENDIX C

Addressing Prematurity to Reduce Infant Mortality in Ohio

Prematurity-related conditions such as preterm birth (before 37 weeks of pregnancy have been completed), low birth weight and respiratory distress syndrome are the leading cause of infant death in Ohio. Ohio's prematurity infant mortality rate has not changed significantly in the past decade. Several research studies estimate that 30-40 percent of prematurity-related conditions are due to genetics.² Addressing the contributing factors to other prematurity-related infant deaths has the potential to save the lives of many Ohio babies.

INCREASING USE OF PROGESTERONE TREATMENT FOR WOMEN AT RISK FOR PRETERM BIRTH

Progesterone is a hormone medication that has the potential to reduce the incidence of preterm birth, especially infants born before 32 weeks of pregnancy have been completed when rates of infant mortality are highest.

- The Ohio Department of Health and the Ohio Department of Medicaid work with the Ohio Perinatal Quality Collaborative on its Progesterone Quality Improvement Project. The statewide collaborative includes perinatal clinicians, hospitals, and government entities working together to improve birth outcomes through wider identification of women eligible for progesterone treatment to expand administration of treatment.

PROMOTING RECOMMENDED BIRTH SPACING

A birth interval of at least 18 months allows a woman to recover from pregnancy, increases the likelihood of a healthy next pregnancy and reduces the risk of a having a preterm and/or low birth weight baby.

- Access to effective family planning methods, including long acting reversible contraceptives, is important to helping women of reproductive age avoid or delay pregnancy. In compliance with federal Title X guidelines, the Ohio Department of Health's reproductive health and wellness program is working on increasing access to long acting reversible contraceptives for women who want them.
- The Ohio Department of Health contracted with Cicatelli and Associates to provide training and capacity building statewide to all Title X subrecipients to improve best practices in contraceptive services. 5 regional trainings and 4 one-hour webinars were held covering topics such as: 1) maximizing revenues; 2) effective contraceptive counselling and; 3) Billing and Coding for reimbursement.

PROMOTING LIFE PLANS

Supporting women and men of reproductive age to think about their life goals including whether/when to have children can help reduce pregnancies at greater risk for preterm birth.

- The Ohio Department of Health provides reproductive health services to approximately 30,000 women and 6,000 men each year. The agency helps clients develop a life plan — a structured format for women and men to think about life goals and circumstances, and their preferences about whether/when to have children.
- The state is investing in developing clinical preceptorship programs through the Reproductive Health and Wellness Program. Training will enhance and improve skill level in providing clinical services. Included in these services is comprehensive reproductive life planning that encompasses goal setting and parent engagement when dealing with the adolescent population.

² Clausson et al, 2000; York et al, 2013; Plunkett et al, 2009; Kistka et al, 2008; Boyd et al, 2009

SMOKING CESSATION

Smoking is one of the most common preventable risk factors for infant mortality as it increases the risk of preterm birth and low birth weight.

- The 5A's model from the U.S. Public Health Service clinical practice guidelines recommends the following approach to encouraging people to quit smoking: Ask the client about her smoking status; Advise her to quit smoking; Assess her willingness to quit; Assist her in quitting; and Arrange for follow-up during subsequent visits. The Ohio Department of Health is working on expanding the 5A's into publicly funded maternal and child health programs, including continued expansion within the WIC program.
- The Ohio Department of Health promotes a nationally recognized, evidence-based smoking cessation model to reduce smoking among women during pregnancy. The Moms Quit for Two program utilizes the "Baby and Me – Tobacco Free" model and is offered across Ohio by many local health departments and community organizations. The program aims to improve birth outcomes, reduce low birthweight rates, reduce preterm birth rates, increase smoking quit rates during pregnancy and increase smoking quit rates during the first twelve months postpartum.
- Pregnant women in Ohio are eligible to receive free help to quit smoking through the Ohio Tobacco Quit Line Pregnancy Program (1-800-QUIT-NOW). Community health coordinators connect women who smoke to cessation resources such as a local Baby & Me – Tobacco Free program.

PREGNANCY-INDUCED DIABETES AND HIGH BLOOD PRESSURE

Some women develop diabetes or high blood pressure during pregnancy which is harmful to their health and increases the risk of having a preterm birth and/or low birth weight baby.

- The Ohio Department of Health's Gestational Diabetes Collaborative is improving the use of recommended diabetes screenings and prenatal care through quality improvement science and a toolkit. The Collaborative also aims to improve postpartum care that can reduce diabetes risks in a future pregnancy. This work is supported by the Ohio Department of Health and the Ohio Department of Medicaid.
- Based on findings from reviews of pregnancy-associated deaths in women, the Ohio Department of Health in 2014 launched a series of simulation-based trainings for improving responses to obstetric emergencies. One of the training scenarios covers hypertensive emergency including correct measurement of and treatment for hypertension. In 2017, four day-long trainings were conducted as well as four train-the-trainer sessions.

HOME VISITING SERVICES FOR EXPECTANT WOMEN

The Ohio Department of Health provides funding for local partners to conduct home visits to women during pregnancy.

- The Ohio Department of Health provides evidence-based home visiting services through local partners to women during pregnancy, and to parents with young children up to Kindergarten entry. Services include providing expectant parents at risk for poor birth outcomes with information and support in the comfort of their homes. Social workers, nurses, or other early childhood professionals meet regularly with expectant or new parents who want and need extra support to have a healthy baby and ensure their children are physically, socially and emotionally.



DECREASING INDUCED BIRTHS < 39 WEEKS GESTATION WITHOUT MEDICAL INDICATION

Delivery should not be induced without medical or obstetric cause before pregnancy reaches at least 39 weeks to improve birth outcomes.

- The Ohio Department of Health and Ohio Department of Medicaid have supported the Ohio Perinatal Quality Collaborative in a project whose goal is to assure that initiation of labor or caesarean sections on women who are not in labor occur only when obstetrically or medically indicated. Concurrently with this project from 2008 through 2013, Ohio experienced statewide reductions in premature births, especially births at 34 through 36 weeks gestation. Recognizing that sustaining improvement requires ongoing attention, these efforts have continued, and the number of deliveries through induction or caesarean section at less than 39 weeks gestation have remained below pre-2008 levels.