

Introduction

This report provides information about birth and maternal-infant health trends among residents of Medina County, Ohio. The purpose of this report is to provide information to interested citizens as well as to agencies and organizations who serve Medina County residents. This report focuses on five key topics: 1) birth and fertility trends; 2) geographic patterns and trends; 3) maternal demographics and risk factors; 4) labor and delivery characteristics; 5) fetal, infant, and maternal mortality.

Key Findings/Conclusions

- Despite overall population growth, Medina County has experienced a decline in number of births, birth rates, and fertility rates. Birth and fertility rates in the county are lower than statewide rates in each year.
- Maternal risk factors such as maternal obesity, hypertension, and diabetes have increased from 2014 to 2023. Maternal obesity increased considerably, from 18.3% in 2014 to 28.4% in 2023. However, self-reported tobacco use during pregnancy has declined from 11.6% in 2014 to 3.4% in 2023.
- The teen birth rate has declined by 71.4%, from 12.0 births per 1,000 females aged 15-19 in 2014 to 3.4 per 1,000 in 2023. While the teen birth rate has declined, the birth rate among pregnant persons 35 years and older has increased from 17.7% of births in 2014 to 22.0% in 2023.
- More infants required NICU admissions as well as assisted ventilation (for 6 hours or more) in 2023 than in 2014, with rates climbing since 2018. Fewer infants have required the use of antibiotics.
- Births occurring in a hospital birthing unit have declined from 97.3% to 95.5%, while intended home births have more than doubled from 1.4% to 3.8%.
- 52 infant deaths occurred among Medina County residents between 2014 and 2023. The infant mortality rate for Medina County is 3.0 deaths per 1,000 live births for the 2014-2023 period which is well below the state average of 7.0.
- 10 maternal deaths occurred among Medina County residents between 2014 and 2023. The overall maternal mortality rate for the 2014-2023 period was 59 maternal deaths per 100,000 live births which is above the state average of 31 per 100,000 live births.

Figure 1. Number of Live Births Medina County, 2014-2023.

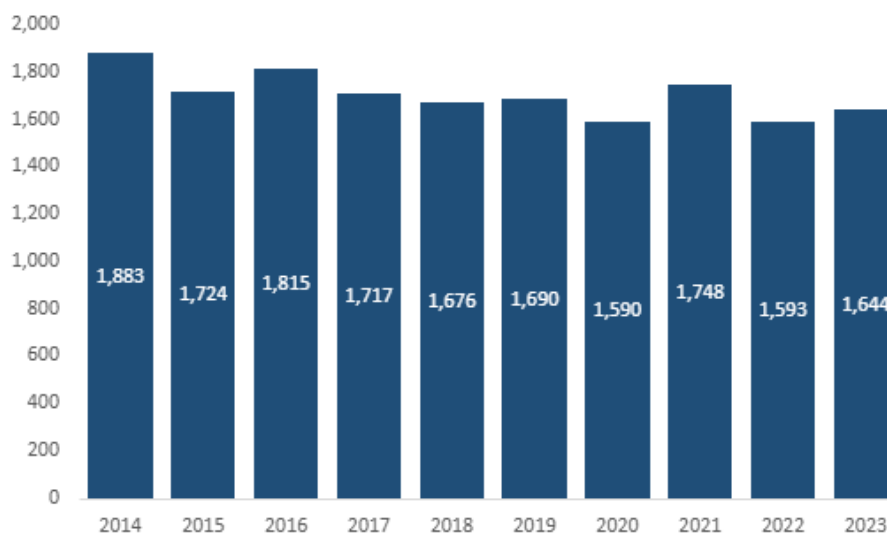
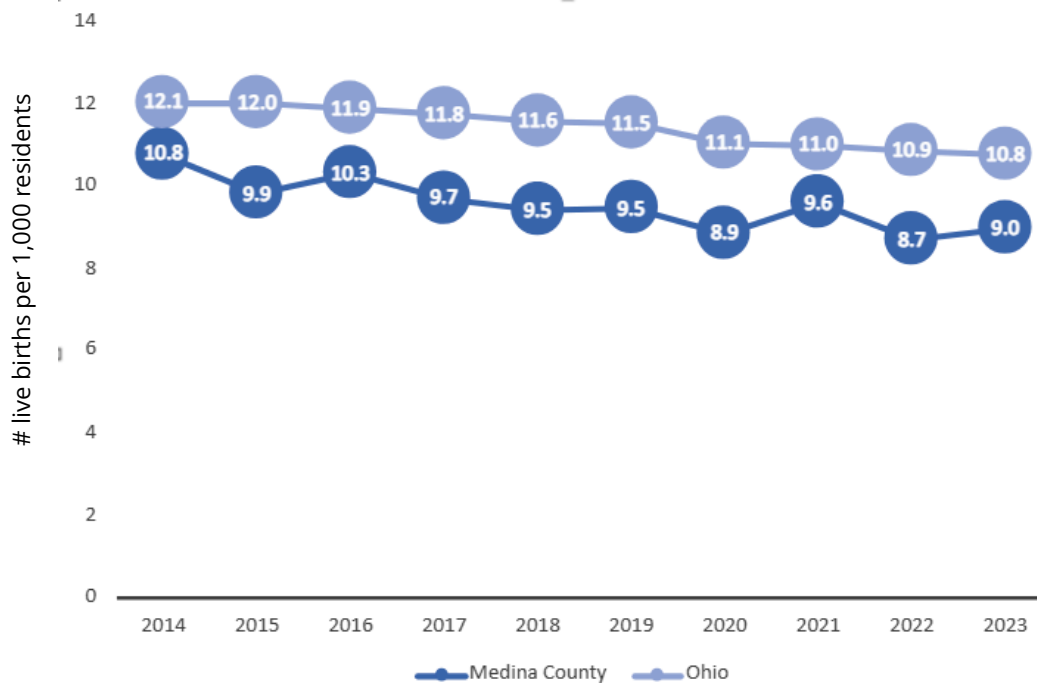
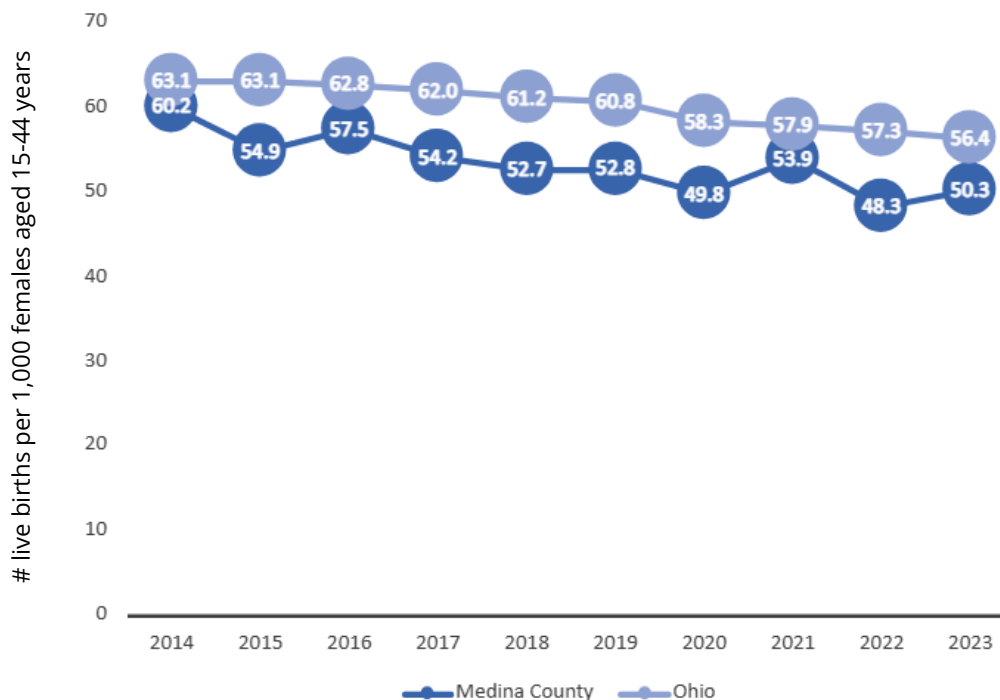


Figure 2. Birth Rates in Medina County and State of Ohio, 2014-2023.



The birth rate (number of births per 1,000 residents) in Medina County declined by 16.7%, from 10.8 births per 1,000 residents in 2014 to 9.0 births per 1,000 residents in 2023. While statewide birth rates also declined, the trend has not been as steep. Ohio's rates declined by 10.7%, from 12.1 to 10.8 births per 1,000 residents.

Figure 3. Fertility Rates in Medina County and State of Ohio, 2014-2023.



The county's fertility rate (number of births per 1,000 females aged 15-44 years) declined by 16.4%, from 60.2 births per 1,000 females aged 15-44 years to 50.3 births per 1,000 females aged 15-44 years. Statewide fertility rates also declined; though again, less sharply. Ohio's fertility rate declined by 10.6%, from 63.1 to 56.4 births per 1,000 females aged 15-44 years.

Geographic Patterns and Trends

Table 1. Birth rates by zip code* and year, 2014-2023.

Zip Code	Geographic area	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
44212	Brunswick	10.6	10.3	10.6	10.0	9.7	9.5	8.8	9.7	8.6	8.7	↓
44215	Chippewa Lake	8.3	13.1	7.4	10.5	8.7	11.8	9.6	14.0	11.8	11.8	↑
44233	Hinckley	8.8	5.9	8.2	7.1	6.0	6.2	8.2	7.0	7.9	6.2	↓
44235	Homerville	20.9	18.8	21.4	17.7	25.5	18.2	20.9	19.3	22.4	26.1	↑
44251 ¹	Westfield Center	7.6					6.5					
44253	Litchfield	7.8	6.5	6.8	6.8	6.2	7.8	7.8	7.5	8.1	9.1	↑
44254	Lodi	10.9	9.8	10.5	11.7	9.2	11.5	8.6	8.6	10.0	10.7	=
44256	Medina	10.3	9.3	10.3	9.0	9.2	9.1	8.4	9.5	8.0	9.0	↓
44270 ¹	Rittman	10.0					8.8					
44273	Seville	6.8	9.3	7.5	8.5	7.8	7.7	6.1	8.0	7.7	7.5	=
44275	Spencer	10.8	7.0	9.8	10.5	8.3	8.6	9.2	11.1	7.6	9.2	↓
44280	Valley City	8.6	6.5	7.4	8.0	6.8	5.3	7.2	8.9	6.8	9.1	=
44281	Wadsworth	10.8	9.7	9.7	9.7	9.3	9.7	9.5	9.7	10.3	8.7	↓

In 2023, the countywide birth rate was 9.0 births per 1,000 residents. While countywide birth rates have declined between 2014 and 2023, certain geographic areas did see an increase. Chippewa Lake, Homerville, and Litchfield all experienced rising birth rates. Conversely, birth rates declined significantly in the areas of Brunswick, Hinckley, Medina, and Wadsworth.

Table 2. Fertility rates by zip code* and year, 2014-2023

Zip Code	Geographic area	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
44212	Brunswick	57.8	56.1	57.7	54.7	53.3	51.6	47.9	53.0	46.8	47.5	↓
44215	Chippewa Lake	51.8	81.7	46.3	65.4	54.5	73.6	59.9	87.2	73.6	73.6	↑
44233	Hinckley	62.1	41.1	57.7	49.8	41.1	43.7	57.7	49.0	55.1	43.7	↓
44235	Homerville	150.4	135.3	154.1	127.8	184.2	131.6	150.4	139.1	161.7	188.0	↑
44251 ¹	Westfield Center	57.9					49.6					
44253	Litchfield	52.4	43.7	45.9	45.9	41.5	52.4	52.4	50.2	54.6	61.1	↑
44254	Lodi	69.2	62.6	66.6	74.6	58.6	73.2	54.6	54.6	63.9	67.9	=
44256	Medina	60.9	54.5	60.7	53.0	54.2	53.7	49.6	55.9	47.0	52.8	↓
44270 ¹	Rittman	61.5					57.7					
44273	Seville	43.3	58.9	47.9	53.4	49.7	48.8	38.7	50.6	48.8	47.9	=
44275	Spencer	70.5	45.6	62.2	68.5	53.9	56.0	60.2	72.6	49.8	60.2	↓
44280	Valley City	61.2	46.3	53.1	57.1	49.0	38.1	51.7	62.6	49.0	65.3	=
44281	Wadsworth	59.4	53.5	53.0	53.7	51.0	53.5	51.9	53.5	56.2	48.0	↓

Geographic trends in fertility rates mirrored those of birth rates. In 2023, the county-wide fertility rate was 50.3 births per 1,000 females aged 15-44 years. Chippewa Lake, Homerville, and Litchfield experienced increases in fertility rates, while fertility rates declined significantly in Brunswick, Hinckley, Medina, and Wadsworth.

*Some zip codes include portions of neighboring counties. Only residents of Medina County were included in rate calculation.

¹Due to number of births for most years totaling less than 10, birth rate was aggregated and represents an average birth rate over each five-year period (2014-2018 and 2019-2023).

Maternal Demographics and Risk Factors

Key Findings: Maternal Demographics

- Maternal age ranged from 14-49 years. The average age over the entire decade was 30.1 years. This number increased by 4.1% from 29.6 years in 2014 to 30.8 years in 2023.
- People aged 15-19 years old accounted for 2.2% of all birthing parents. This proportion has decreased from a high of 3.9% in 2014 to a low of 1.3% in 2023.
- People aged 35 years or older accounted for 19.8% of birthing parents. This proportion increased from 17.7% in 2014 to 22.0% in 2023. The American College of Obstetricians and Gynecologists (ACOG) reports that with advancing age, the risk for various complications increases, including preeclampsia, chromosomal abnormalities, multiple gestation, and stillbirth.
- The majority of Medina residents giving birth were White (93.8%) and non-Hispanic (97.0%).
- Nearly 78% of birthing parents had obtained some college education, with just under 60% earning an associate degree or higher.
- Nearly 20% of birthing parents relied on Medicaid for health insurance coverage.
- Residents utilizing WIC services accounted for 14.9% of birthing parents over the past decade. This rate fell by approximately one third, from 18% in 2014 to 11.4% in 2023.

Table 3. Maternal Demographics, 2014-2023.

<i>Average Age (in years)</i>	30.1	<i>Insurance Status</i>	
<i>Race</i>		Medicaid	19.9%
White	93.8%	Private Insurance	73.7%
Black/African American	1.7%	Self-pay	4.4%
Asian	1.8%	Other/Unknown	2.0%
American Indian/Alaska Native	0.1%	<i>Accessed WIC services prior to</i>	
Native Hawaiian or other Pacific Islander	0.02%	<i>or at the time of delivery</i>	
Two or more races	1.8%	Yes	14.9%
Other/Unknown	0.7%	No	84.6%
<i>Ethnicity</i>		Unknown	0.5%
Hispanic	2.9%		
Non-Hispanic	97.0%		
Unknown	0.1%		
<i>Educational Status</i>			
Less than high school diploma	5.6%		
High School Graduate or GED Completed	16.8%		
Some college credit, but no degree	18.0%		
Associate Degree	11.1%		
Bachelor's Degree	30.5%		
Master's, Doctoral, or Professional Degree	18.0%		
Unknown	0.1%		

Key Findings: Maternal Risk Factors

- The maternal obesity rate in 2023 was 1.5 times that of 2014. ACOG cites multiple obesity-related complications for both the pregnant person and baby, including a higher risk for gestational hypertension and diabetes, obstructive sleep apnea, pre-term births, stillbirths, high birth weight, and birth defects.
- Rates of maternal diabetes and hypertension (both pre-pregnancy and gestational) have all risen. The most significant increase was seen in the rate of pre-pregnancy diabetes, which has nearly doubled.
- Self-reported tobacco use during pregnancy has declined significantly, from 11.6% to 3.4%.
- The teen birth rate in 2023 was 3.4 per 1,000 females aged 15-44 years. This represents a 71.4% decline from 2014, when the teen birth rate was 12.0 per 1,000.

Table 4. Maternal Risk Factors, 2014 - 2023

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
Total number of births ¹	1,883	1,724	1,815	1,717	1,676	1,690	1,590	1,748	1,593	1,644	↓
Obesity	18.3%	19.2%	19.8%	22.6%	23.6%	25.0%	25.3%	26.0%	29.0%	28.4%	↑
Pre-Pregnancy Diabetes	0.4%	0.8%	0.6%	0.9%	0.8%	0.7%	0.4%	1.1%	0.7%	1.2%	↑
Pre-Pregnancy Hypertension	2.0%	2.1%	2.0%	2.6%	2.4%	3.0%	4.2%	3.7%	5.0%	4.9%	↑
Gestational Diabetes	5.7%	6.6%	6.4%	7.2%	7.1%	7.9%	8.4%	8.2%	10.4%	9.9%	↑
Gestational Hypertension	5.6%	5.2%	6.5%	8.0%	10.3%	12.7%	12.3%	14.2%	15.2%	15.5%	↑
Infertility Treatment	4.0%	*	4.0%	4.4%	4.1%	4.6%	4.2%	*	*	*	=
Short Inter-Pregnancy Interval ²	*	9.2%	7.7%	6.5%	5.9%	7.4%	7.1%	6.1%	6.5%	6.8%	↓
Received Inadequate Prenatal Care ³	10.8%	12.8%	14.0%	11.9%	11.2%	11.0%	10.7%	9.1%	12.8%	10.9%	=
Sexually Transmitted Infection Present at Labor	*	2.03%	1.71%	2.3%	2.8%	3.1%	2.5%	3.1%	2.3%	2.2%	=
Hepatitis B	0.1%	0.1%	0.2%	0.2%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%	=
Hepatitis C	0.4%	0.5%	0.4%	0.6%	1.0%	1.0%	1.4%	1.1%	0.8%	0.7%	=
Self-reported Tobacco Use During Pregnancy	11.6%	12.3%	9.4%	8.0%	8.4%	6.8%	6.9%	4.5%	4.0%	3.4%	↓
Teen birth rate ⁴	12.0	9.4	7.3	5.8	6.6	5.7	3.7	4.0	3.3	3.4	↓
Maternal age ≥ 35 years	17.7%	17.2%	19.6%	19.0%	19.0%	20.8%	19.4%	21.9%	21.2%	22.0%	↑

*Proportion of records with missing data exceeded 10% and was therefore excluded from analysis.

¹Records with missing data excluded from analysis. Denominator for each factor may not equal total number of births for that year.

²Among women with a previous live birth, defined as <6 months duration between date of last live birth and estimated onset of pregnancy.

⁴Number of live births per 1,000 females aged 15-19 years.

Labor and Delivery Characteristics

Key Findings

- Rates for both vaginal and caesarean deliveries remained relatively flat, with a slight increase in rates of vaginal births and a slight decrease in rates of caesarean births.
- The rate of VBAC¹ among people who previously had caesarean deliveries rose from 10.2% in 2014 to 17.8% in 2023.
- Prevalence of chorioamnionitis has declined by more than one third, from 2.1% in 2014 to 1.2% in 2023. Chorioamnionitis is an infection of the tissues that surround the fetus and may lead to premature labor and delivery.
- Prevalence of 3rd or 4th degree perineal lacerations nearly doubled between 2014 and 2023, with peaks of 1.8% and 2.5% seen in 2019 and 2022 respectively.
- The vast majority (96.6%) of births were singletons. Multiple gestations declined from 4.6% to 3.4%. Twins account for the majority of multiple gestation births.
- The prevalence of infants born at a low birthweight (<2500g) declined slightly with a high of 7.9% of infants in 2014 and 2015.
- The prevalence of infants born at a high birthweight (4000g or more) peaked at 10.4% in 2017 and 2018 and then began trending downward.

Table 5. Labor and Delivery Characteristics, 2014-2023.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
Vaginal delivery	67.2%	68.9%	68.0%	68.8%	70.9%	69.7%	70.0%	69.6%	70.2%	68.4%	=
C-section	32.8%	31.1%	32.0%	31.2%	29.1%	30.3%	30.0%	30.4%	29.8%	31.6%	=
VBAC ¹ among women with previous C-section	10.2%	13.4%	15.0%	18.4%	20.7%	19.3%	12.9%	23.2%	21.6%	17.8%	↑
Epidural / Anesthesia	79.7%	77.5%	78.2%	75.7%	74.1%	76.5%	80.3%	78.7%	80.3%	77.5%	=
Antibiotics Used	39.8%	35.7%	37.4%	34.3%	33.1%	37.6%	46.7%	48.9%	37.4%	34.7%	=
Chorioamnionitis	2.1%	2.2%	1.1%	1.9%	1.4%	1.8%	1.5%	1.9%	1.4%	1.2%	↓
Maternal Transfusion	0.5%	0.4%	0.6%	0.3%	0.5%	0.7%	0.8%	0.6%	0.8%	0.5%	=
3rd or 4th Degree Perineal Laceration	0.9%	0.7%	1.1%	1.0%	0.8%	1.8%	1.3%	1.0%	2.5%	1.7%	↑
Births Associated with Labor Induction	25.6%	23.8%	26.1%	30.5%	34.5%	36.2%	40.2%	40.4%	44.1%	41.9%	↑
Pre-term birth ²	9.9%	8.6%	8.8%	8.6%	6.4%	8.3%	7.6%	7.7%	9.9%	8.5%	=
High birth weight	9.6%	9.9%	10.0%	10.4%	10.4%	8.7%	8.9%	9.5%	7.8%	8.6%	↓
Low birth weight	7.9%	7.9%	6.4%	5.8%	5.1%	6.6%	5.7%	5.6%	7.3%	6.5%	↓

¹Vaginal birth after caesarean

²Delivery at less than 37 weeks gestation

Post-Labor Complications

Key Findings

- NICU admissions have steadily increased from 6.7% in 2014 to 10.6% in 2023, with a low of 5.9% in 2018.
- Antibiotic use has declined, with rates remaining below 3% since 2020.

Table 6. Post-Labor Complications, 2014-2023.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
Assisted ventilation (6 or more hours)	1.6%	0.5%	0.9%	1.0%	1.3%	2.0%	1.9%	2.0%	2.4%	2.0%	=
Admission to NICU	6.7%	8.0%	6.8%	7.4%	5.9%	9.2%	8.2%	8.8%	9.9%	10.6%	↑
Given Antibiotics	3.7%	3.3%	4.0%	3.7%	3.7%	3.9%	2.4%	2.4%	2.7%	2.9%	↓

Place of Birth

Key Findings

- The proportion of infants born in a hospital has declined slightly, but steadily, from 97.3% in 2014 to 95.5% in 2023.
- Intended home births have more than doubled.
- The proportion of unintended home births has remained steady, accounting for 0.2% or less of all births in any given year.
- The proportion of infants born in a location listed as “other” remained low. This category includes births occurring in a non-birthing facility, in an emergency room, and in a car.

Table 7. Place of Birth, 2014-2023.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
Hospital	97.3%	97.0%	97.1%	96.9%	96.5%	97.0%	96.1%	95.8%	95.6%	95.5%	↓
Freestanding Birth Center	1.2%	1.0%	1.2%	0.8%	0.9%	0.6%	0.9%	0.7%	0.6%	0.0%	↓
Home (Intended)	1.4%	1.7%	1.6%	2.0%	2.2%	2.1%	2.6%	3.3%	3.6%	3.8%	↑
Home (Not Intended)	0.0%	0.2%	0.1%	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	=
Other	0.1%	0.1%	0.0%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	=

Labor and Delivery Hospital Utilization by Medina County Residents

Until 2018, Medina Hospital was the most frequently utilized hospital for labor and delivery. Since the closing of the Medina Hospital birthing unit in July of 2017, there are no facilities with birthing units in the county. Figure 5 illustrates the change in usage of the top 5 facilities from 2014-2018 to the top 5 facilities from 2019-2023. Wooster Hospital was not among the top 5 facilities from 2014-2018 but became the 5th most utilized facility from 2019-2023.

Figure 5. Proportion of Births to Medina County Residents by Facility, 2014 - 2023.

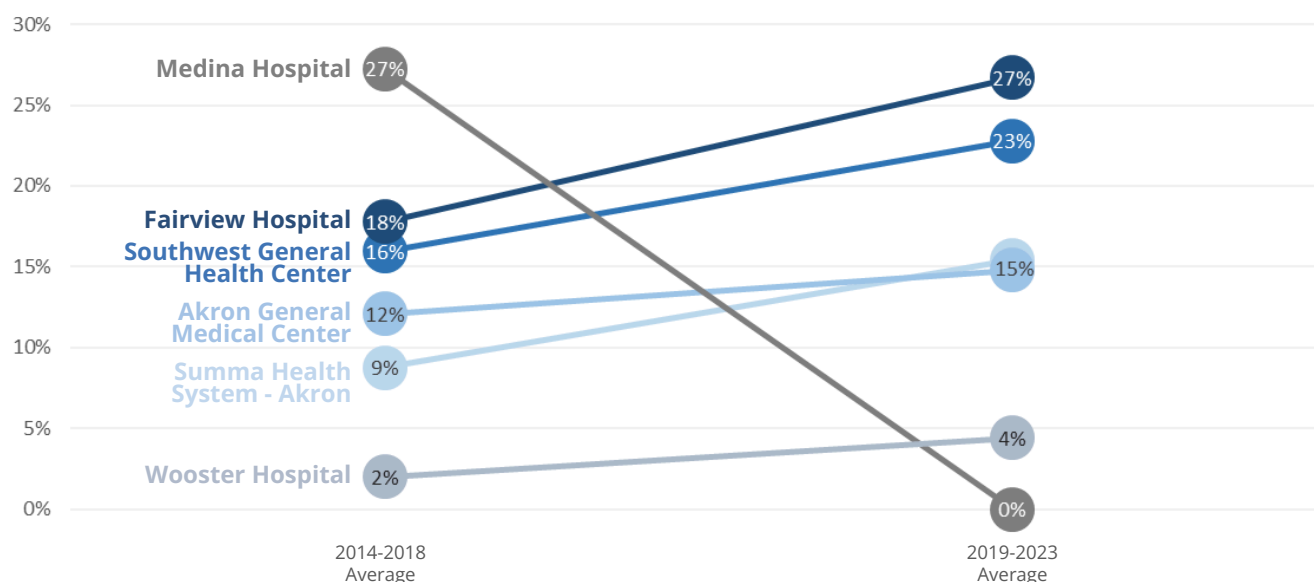


Figure 6. Map of 10 Most Frequently Utilized Birthing Units by Medina County Residents, 2019-2023.

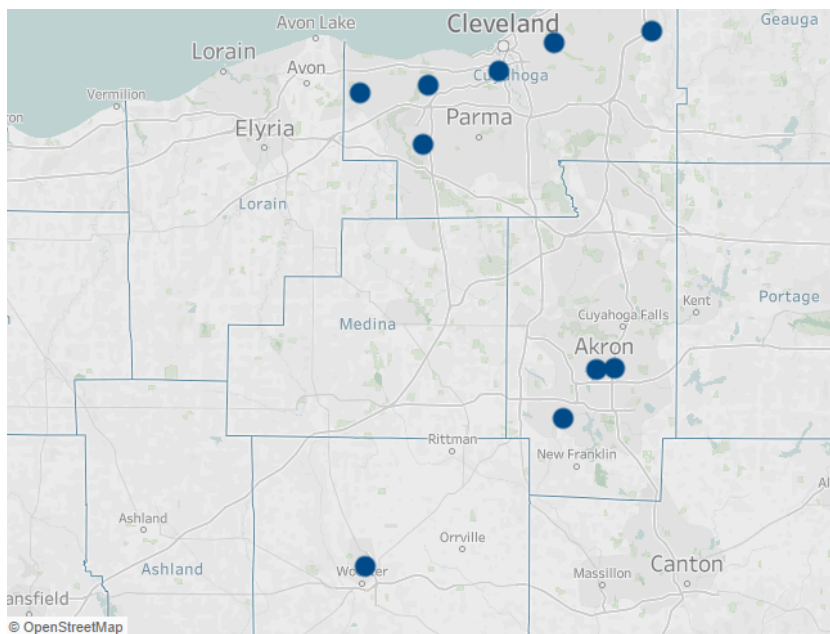


Figure 6 provides a map representing the locations of the ten most utilized birthing units for county residents from 2019 to 2023, illustrating the distance Medina County residents travel for birthing facilities. The need for a birthing facility in Medina County was identified in the 2024 Community Health Assessment. In response to the community survey question “What resources are lacking within your community?” respondents said:

- “Ability to give birth in the county”
- “Birthing Centers or OBGYN/Midwives”
- “No birthing center”

Fetal, Infant, and Maternal Mortality

Infant Mortality

A total of 52 infant deaths occurred in the ten-year time period of 2014 to 2023. The infant mortality rate for Medina County was 3.0 deaths per 1,000 live births from 2014 to 2023 which is well below the state average of 7.0.

The most common causes of infant mortality in Medina County were:

1. Congenital malformations, deformations, and chromosomal abnormalities
2. Accidents (unintentional injuries)
3. SIDS, chronic respiratory disease, and atelectasis
4. Maternal complications and prematurity

Fetal Mortality

A total of 84 fetal deaths occurred in the ten-year time period of 2014 to 2023. The countywide fetal mortality rate was 4.9 deaths per 1,000 live births and fetal deaths from 2014 to 2023 which is below the state average of 6.4 per 1,000 live births and fetal deaths from 2014-2019.

The most common causes of fetal mortality in Medina County were:

1. Stillbirth
2. Complications of the placenta, cord, and membranes
3. Maternal complications
4. Congenital malformations, deformities, and chromosomal abnormalities
5. Slow fetal growth and fetal malnutrition

Maternal Mortality

A total of 10 maternal deaths occurred among Medina County residents between 2014 and 2023. The overall maternal mortality rate for the 2014 - 2023 period was 59 maternal deaths per 100,000 live births which is above the state average of 31 per 100,000 live births.

Definitions

- Birth rate: number of live births per 1,000 residents.
- Chorioamnionitis: an infection of the placenta and the amniotic fluid.
- Fertility rate: number of live births per female residents aged 15-44 years.
- Fetal mortality rate: number of fetal deaths (20 weeks gestation or later) per 1,000 live births and fetal deaths.
- High birth weight: weighing 4000g or more at birth.
- Infant mortality: number of infant deaths prior to age 1 per 1,000 live births.
- Kotelchuck Index: a score based on a calculation that takes into account when a person initiated prenatal care and how many prenatal visits they received compared the recommended number of visits.
- Low birth weight: weighing less than 2500g at birth.
- Maternal death: a death occurring while pregnant or within 42 days of the end of pregnancy from any cause related to pregnancy (identified by having primary cause of death ICD-10 code of A34, O00–O95, and O98–O99).
- Preeclampsia: persistent high blood pressure that develops during pregnancy or the postpartum period.
- Pre-term birth: delivery at less than 37 weeks gestation.
- Teen birth rate: number of live births per female residents aged 15-19 years.
- VBAC: acronym referring to "vaginal birth after caesarian."
- WIC: acronym referring to the USDA's "Special Supplemental Nutrition Program for Women, Infants, and Children."

Data Notes

1. Countywide and statewide birth data was obtained from the Ohio Department of Health (ODH) DataOhio Portal, 2014-2023. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions from these data. These data include number of live births, maternal and paternal demographic characteristics, maternal risk factors, labor and delivery characteristics, infant characteristics, post-labor complications, and place of birth.
2. Statewide fetal fatality rates were obtained from Ohio Department of Health, Ohio 2019 Fetal Mortality Brief.
3. Statewide fertility rates were obtained from March of Dimes Peristats, 2024.
4. Population data used in the calculation of birth and fertility rates was obtained from the U.S. Census Bureau.
 - a. Population data for the U.S. Census Bureau American Community Survey 5-Year Estimates (2014- 2023) was used to calculate state and county birth rates (Figure 2), county fertility rates (Figure 3), and teen birth rates (Table 4).
 - b. The 2020 U.S. Census Bureau Decennial Census was referenced for population figures used to calculate zip code level birth and fertility rates (Tables 1 and 2).
 - i. Many zip codes in Medina County are shared with neighboring counties. Only residents of each zip code who lived within Medina County boundaries were included in the denominator of zip code level analyses.
 - ii. Rates were not calculated for a particular year or zip code if the total number of births for that year was less than 10.
5. Data was not reported in the Maternal Characteristics and Risk Factors (Table 4) if more than 10% of records were missing data for that particular variable.
6. Countywide fetal mortality data was obtained from Ohio Department of Health, DataOhio Portal, Fetal Death Data, 2014-2023.
7. Countywide infant and maternal mortality data was obtained from Ohio Department of Health, DataOhio Portal, Mortality Data, 2014-2023.
8. Birth and mortality data from 2023 is preliminary and subject to change.

Questions about this report can be directed to the Medina County Health Department epidemiologist, by calling 330-723-9688 option 2, or via email at epidemiology@medinahealth.org

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