

OHIO POPULATION NEWS

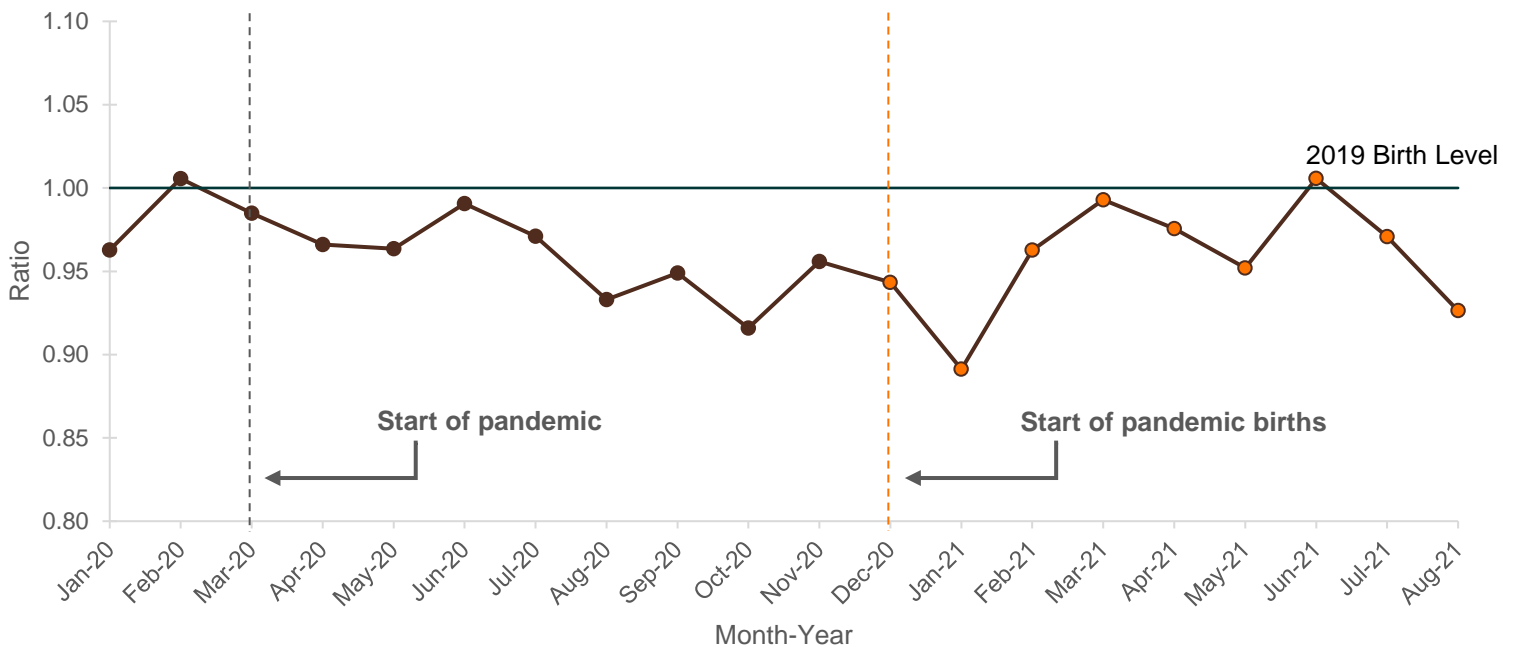
Births in Ohio Prior to and During the COVID-19 Pandemic

Throughout the world, the COVID-19 pandemic has impacted childbearing behaviors (Aassve, Cavalli, Mencarini, Plach, & Sanders, 2021). This Ohio Population News reviews birth rates in Ohio before and during the pandemic, relying on publicly available resident birth count data released from the Ohio Department of Health. We consider monthly ratios of births in 2020 -2021 relative to 2019, changes in the number of births over time, and calculate Crude Birth Rates (CBR), the yearly birth count divided by the midyear population and multiplied by 1000. For the year 2021, data are only available through the month of August.

Ratio of Monthly Pandemic Birth Counts in Ohio

Figure 1 demonstrates how Ohio’s monthly total birth counts changed relative to the corresponding month in 2019 (the last full year prior to the pandemic). This is depicted as a ratio [2020 or 2021 monthly birth count / 2019 monthly birth count]. The first dashed vertical line in March of 2020 designates the “start” of the pandemic, and the second dashed vertical line in December of 2020 represents the month that births conceived during the pandemic would first occur (nine months after March 2020). Note that nearly all 2020 months were below their 2019 levels, even months for which births would have been conceived pre-pandemic. Put differently, births in Ohio were already on a steady decline pre-pandemic. However, January 2021 exhibited a particularly low point in births, likely reflecting the additional impact of the pandemic. There is some evidence that births recovered slightly by late spring and early summer of 2021, though downturns in July and August may mean the rebound was short-lived.

Figure 1. Ohio Birth Count Change - Ratio

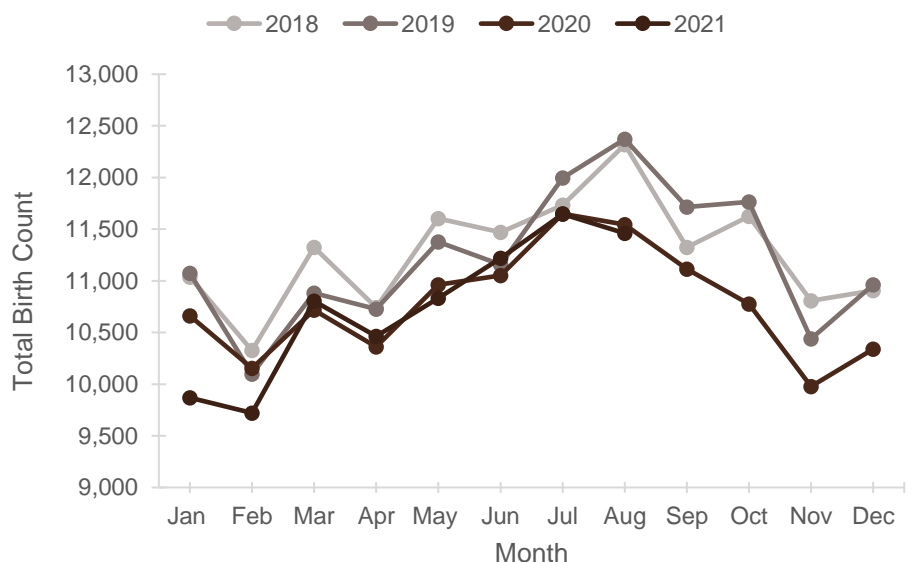


Source: Ohio Department of Health Vital Statistics (<https://publicapps.odh.ohio.gov/EDW/DataCatalog>)

Monthly Births in Ohio, 2018-2021

Figure 2 shows the monthly counts of births from 2018 to 2021. The patterns show remarkable uniformity in month-to-month patterns, but the total number of births within each month have generally dropped year over year from 2018 to 2021. Births tend to be lowest in the winter months and peak in late summer, but the late summer months in 2020 and 2021 exhibited a drop compared to prior years. In particular, the typical August peak did not occur – there was a rather sharp decline of 6.7% in August 2020, with August 2021 births falling slightly below the 2020 number. To facilitate cross-year comparisons, using only January to August total birth counts for each year, there was a 1% decline from 2018 to 2019, 2.9% decline from 2019 to 2020, and 1.3% decline from 2020 to 2021.

Figure 2. Ohio Birth Count Change - Total Births

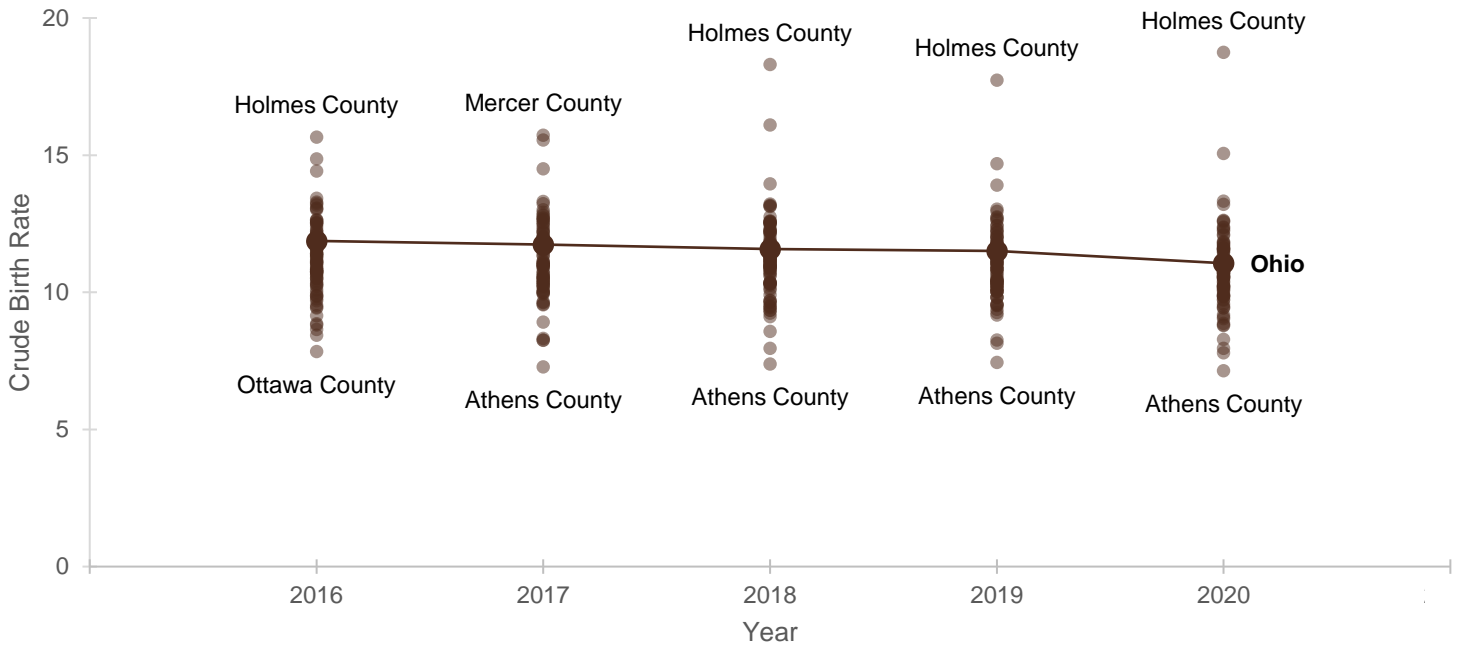


Source: Ohio Department of Health Vital Statistics (<https://publicapps.odh.ohio.gov/EDW/DataCatalog>)

Ohio’s County-level Crude Birth Rates, 2016-2020

Figure 3 depicts a scatterplot of the Crude Birth Rate (CBR) for Ohio’s 88 counties from 2016 to 2020 (we do not show 2021 because births for the full year have not occurred). The dots representing counties with similar CBRs overlap, resulting in clusters. The brown horizontal line across represents Ohio’s overall CBR. The CBR has been on a slow but steady decline, from 11.8 births per 1,000 population in 2016 to 11.1 births in 2020. In 2016, one-quarter of all counties had a CBR below 10.5, and three-quarters had a CBR of below 12.1. By 2020, the lowest quarter of all counties had even lower CBRs – below 10.0 – and three-quarters had a CBR below 11.6. The county with the lowest CBR in 2016 was Ottawa County, with a 7.8 CBR, but Athens County emerged as the county with the lowest CBR in the state from 2017 onward, with a CBR of 7.1 in 2020. Generally, Holmes County had the highest birth rate, with the exception of 2017, when it was Mercer County. In 2020, Holmes County, had a CBR of 18.8 in 2020, a 6.2% increase from 2019 and more than 2.5 times as high as Athens County.

Figure 3. Ohio Crude Birth Rate by County 2016 – 2020

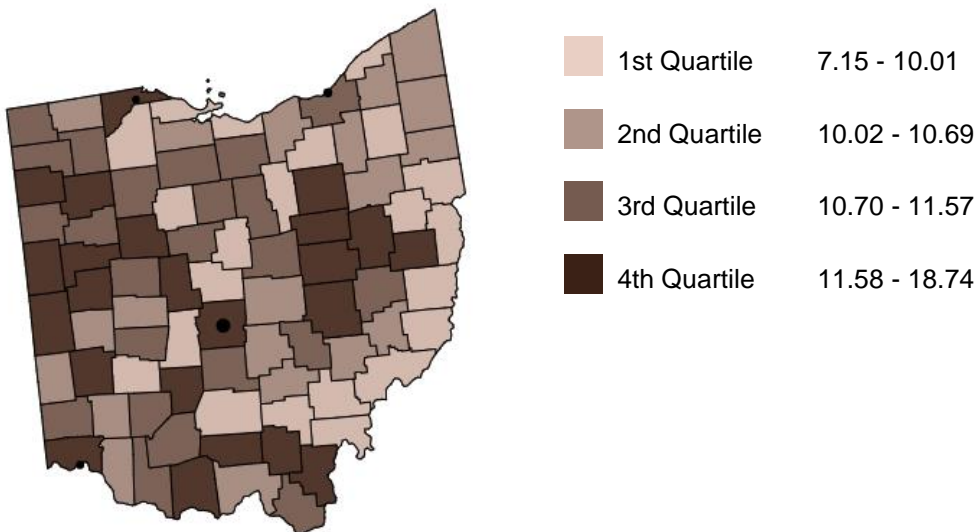


Source: Ohio Department of Health Vital Statistics (<https://publicapps.odh.ohio.gov/EDW/DataCatalog>) & United States Census Bureau Vintage County Population Estimates (<https://www.census.gov/data/datasets/time-series/demo/popest/2010s-counties-total.html>)

Ohio’s County-level Crude Birth Rates by Quartile, 2020

Figure 4 shows a map of the 2020 CBR. Lighter-colored counties had the lowest birth rates, with a CBR between 7.15 and 10.01, and counties with the darkest colors had the highest birth rates, with a CBR between 11.58 and 18.74. The southeastern portion of the state, with the counties that border West Virginia, had particularly low birth rates. Clusters of higher-birth rate counties occurred throughout Ohio but not in the northeastern portion of the state.

Figure 4. Ohio Crude Birth Rates, 2020 – County Quartiles



Source: Ohio Department of Health Vital Statistics (<https://publicapps.odh.ohio.gov/EDW/DataCatalog>); United States Census Bureau Vintage County Population Estimates (<https://www.census.gov/data/datasets/time-series/demo/popest/2010s-counties-total.html>); : U.S. Census Bureau’s cartographic boundary shapefiles, 2018 edition

References:

Aassve, A., Cavalli, N., Mencarini, L., Plach, S., & Sanders, S. (2021). Early assessment of the relationship between the COVID-19 pandemic and births in high-income countries. *Proceedings of the National Academy of Sciences of the United States of America*, 118(36), 1–3. <https://doi.org/10.1073/pnas.2105709118>

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