

The COVID-19 pandemic and births in Lubbock County

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Lubbock County has two major hospitals: University Medical Center and Covenant Medical Center. Births at the two facilities were tracked on a monthly basis from 2019 to present. While there is some flexibility in not having deliveries on holidays, for the most part births happen when they happen and are not subject to central planning. However, events that disrupt normal human activity can increase or decrease the number of births that occur nine months later. For example, the baby boom in the United States following the end of World War II is generally attributed to the return of male servicemen from overseas and an overall optimism about the future due to the United States victory in the war. The COVID-19 pandemic had a large effect on human activity in Lubbock. This study examined monthly births from 2019 to the present to see whether the pandemic and the official response affected general human activity.

Figure 1 displays the birth data grouped by month. This grouping allows easy visualization of year over year changes for each month. For a growing

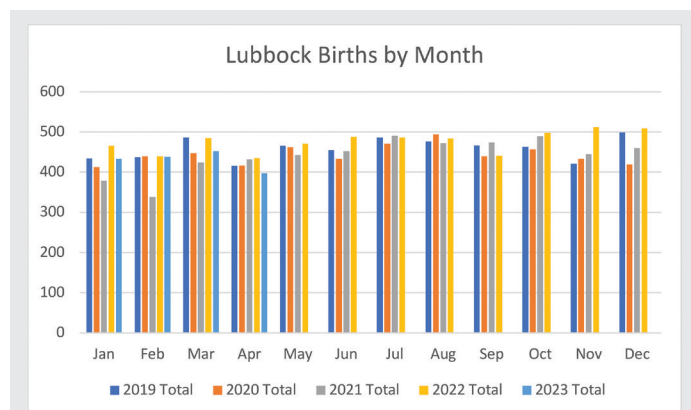


Figure 1. Combined deliveries at UMC and Covenant Medical Center by month of year.

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population, one would expect a gradual increase in births year over year for each month. There was only a single month – November – that births increased each year from 2019 to 2023. There are well known seasonal variations in births with August and September generally being the most common birth months in the United States. Lubbock, as a college town, is affected by the large population shifts during the summer break from school. There was a very noticeable decline year over year in Lubbock births in December 2020 and February 2021 with a smaller decline in January 2021. December 2020 was nine months after the Texas state of emergency due to the COVID-19 pandemic. There were widespread dislocations in work activity with the lockdown affecting many businesses. Although elective medical procedures were largely cancelled for much of 2020, deliveries are not elective and were not affected by the lockdown.

The most notable increases year over year in Lubbock births included the rebounds following the largest declines (Dec 2020–Feb 2021), but there was another sizeable increase year over year in November 2022. It is unclear what event 9 months earlier (February 2022) was responsible for this increase in births.

Figure 2 shows the birth data longitudinally over time rather than clustered by month of year as in Figure 1. Figure 2 allows a sense of variance in the data. There are two notable points below the 95% confidence limit occurring in January and February of 2021. These points are the outliers in the data and correspond to 9 months after the lockdown was instituted in Texas and enforced in Lubbock. However, there does not appear to be anything extraordinary about the data following February 2021, so whatever happened 9 months prior to that date appears to have been a transient phenomenon with the subsequent births reverting to the norm.

Figure 3 shows that births declined in 2020, the year of the pandemic, had a further small decrease in 2021, and a robust recovery in 2022. Births were

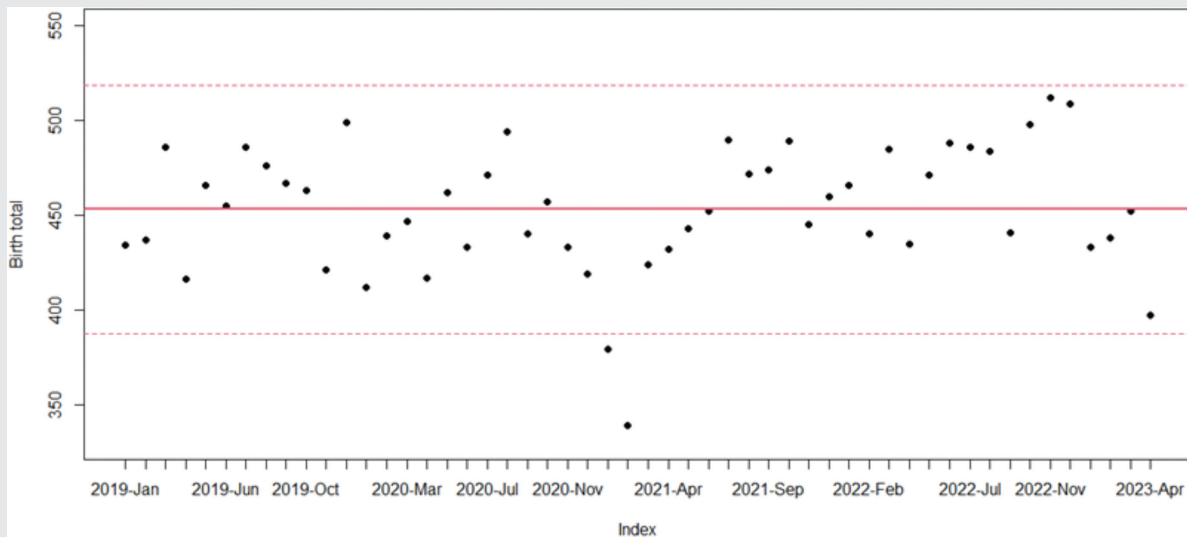


Figure 2. Scatter plot of Lubbock births by month. Data are plotted longitudinally rather than clustered by month of year as in Figure 1. The solid horizontal red line is the average births per month. Dashed horizontal lines are the 95% confidence limits.

5506 in 2019, 5324 in 2020, 5299 in 2021, and 5715 in 2022. One cannot prove that the COVID pandemic and government response were responsible, but it is a plausible hypothesis. Fortunately, the pandemic is not a repeatable phenomenon for further study.

Data have emerged from Europe that indicates a birth decline in 2022 that raise questions about the potential factors influencing birth rates.^{1,2}

Birth rate is complicated and can be affected by many things. Some conceptions are planned; some

are not. Some pregnancies proceed to normal deliveries; some do not. Some pregnancies are terminated prematurely by unintended natural cause; some are terminated prematurely by intent. Live births are an expression of optimism about the future even if the expression is difficult to understand. In Switzerland, there has been a greater decline in birth rate during 2022 than was seen during the mobilization for World War I, the economic dislocation of the Great Depression, the violence of World War II, or the Oil Crisis of 1973 (Figure 4). Something has traumatized the people of Switzerland, and that something was undoubtedly connected in some way to the COVID-19 pandemic.

CONCLUSIONS

Unlike the 1965 blackout in New York City that resulted in an increase in births 9 months later, the COVID-19 pandemic and the government ordered lockdown in March 2020 resulted in a birth dearth – at least in Lubbock, Texas. Countries in Europe have experienced significant declines in birthrates. Authorities are trying to establish cause. Fortunately, the birth rate in Lubbock appears to have recovered from any ill effects

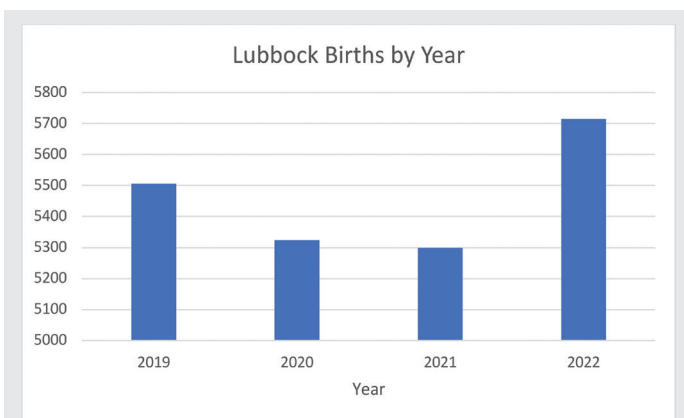


Figure 3. Lubbock births by year.

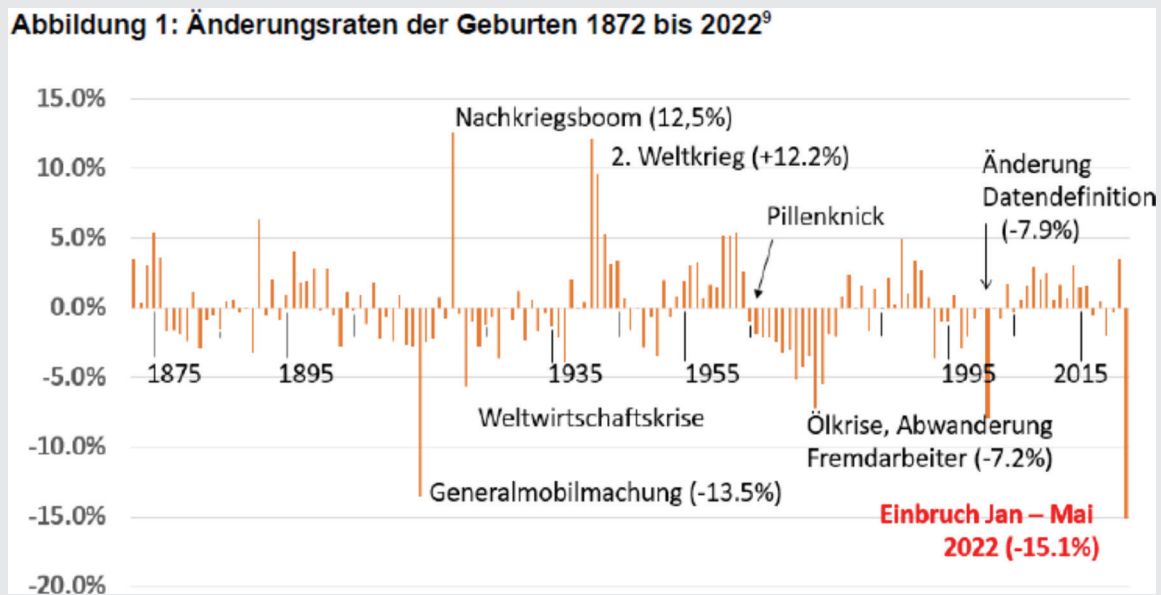


Figure 4. The translation of the original caption is, “There has never been a slump of this magnitude in births since the birth statistics of modern Switzerland began to exist.” “Generalmobilmachung” is general mobilization (for WWI). “Nachkriegsboom” is post war baby boom. “Weltwirtschaftskrise” is world economic crisis (Great Depression). “Weltkrieg” is World War II. “Ölkrise” is oil crisis. “Änderung Datendefinition” is change in definition of statistic. “Einbruch” is decline.

of the COVID pandemic and births are, once again, increasing as they should in a growing population. Authorities in Europe, however, have much to be concerned about. As the commercial says, “Past performance does not guarantee future returns.”

Keywords: Birth rates, Lubbock County, West Texas, COVID-19

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