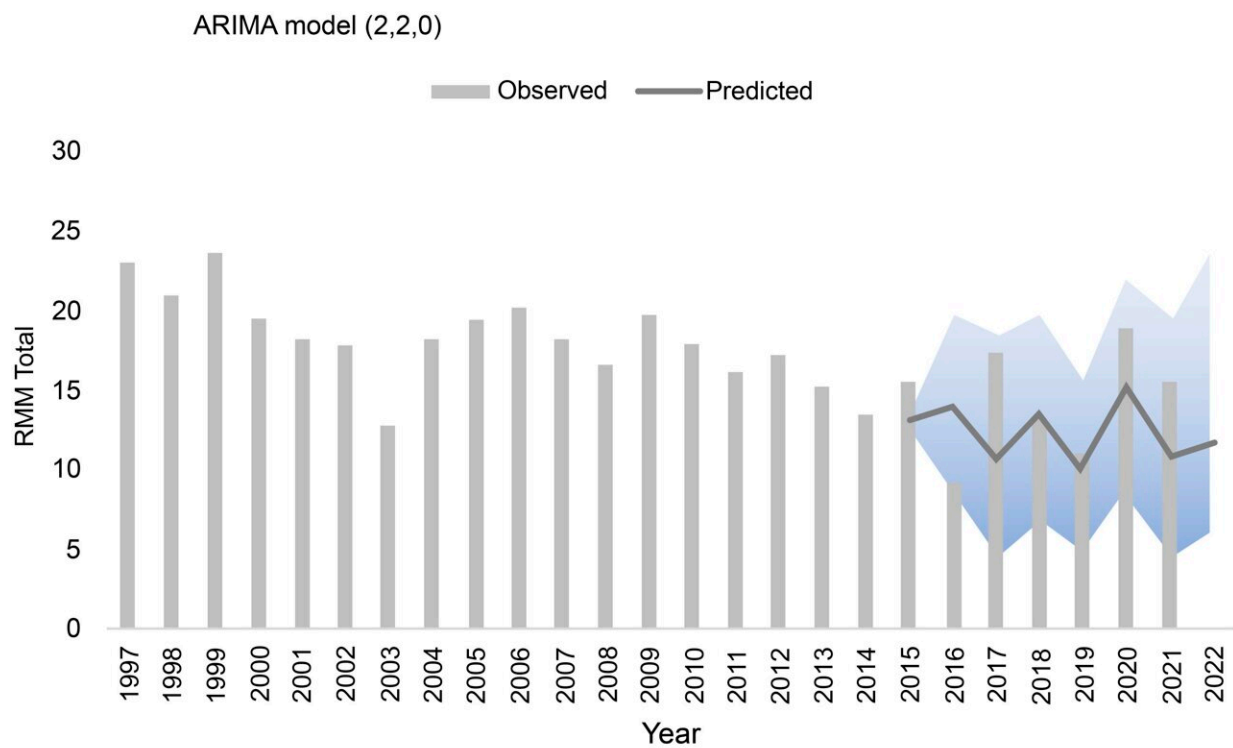


Study finds increase in maternal deaths from non-respiratory during SARS-CoV-2 pandemic

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Maternal mortality ratio (MMR) per 1,000,000 live births. The line represents predicted values of the ARIMA models of MMR in Chile for total causes of maternal mortality ratio. Bars represents historical data. Light gray represents confidence intervals (CI 95%) for predicted MMR based on historical trends. Credit: MELISA Institute

During the peak of the SARS-CoV-2 pandemic, there was an increase in maternal mortality in Chile. This is confirmed by a natural population experiment based on data from the Department of Health Statistics and Information (DEIS) of the Chilean Ministry of Health. The research was [published](#) in *PLOS Global Public Health*.

In a collaborative study, led by Professor Elard Koch, senior epidemiologist and founder of MELISA Institute (Chile), and conducted with a team of researchers from the Universidad Católica Sedes Sapientiae (Peru), the Pontificia Universidad Católica Argentina and the Universidad Nacional de Buenos Aires (Argentina) and the Universidad de Chile (Chile), assessed the impact of the SARS-CoV-2 pandemic on maternal mortality by specific causes during its hardest stage in Chile.

For this, time series that exploit information from long-term annual trends were used, along with ARIMA models to predict expected mortality under the hypothesis that previous mortality trends would continue in the absence of the pandemic virus-related mortality burden. Epidemiologist Yordanis Enriquez Canto explains that maternal mortality trends were analyzed over time, comparing data from before and during the pandemic, through a natural experiment in which the effects of an event are observed without experimental manipulation.

This study revealed a significant impact of the COVID-19 pandemic on maternal mortality in Chile. Interestingly, the pandemic did not affect direct obstetric deaths such as hemorrhage, sepsis and abortion, but rather non-respiratory indirect obstetric causes increased the most.

Prof. Elard Koch observes that this is an important finding, as it confirms that the pathophysiology of this emerging virus, even though it is a respiratory coronavirus, seriously affected other systems and organs, possibly linked to comorbidities such as diabetes, hypertension, and other or pre-existing chronic conditions.

Likewise, the epidemiologist affirms that this finding differentiates it from the effect of other pandemics such as the 2009 H1N1 influenza, which caused a transient increase only in [maternal deaths](#) from sepsis and respiratory disease, as demonstrated in another [natural experiment from Argentina](#) published by Koch's research team elsewhere.

The results of this [natural experiment](#) highlight the urgent need to strengthen the registration and surveillance system for pregnant women. Sociologist María Elena Critto highlights that the information obtained in this research is key so that, in the face of pandemic viruses, public policies can offer a rapid, comprehensive and effective response. She emphasizes that the data collected are extremely valuable for mitigating the adverse effects of these viruses on [maternal mortality](#), both in Chile and in other countries in Latin America.

Dr. Aliro Galleguillos OB/Gyn and public [health](#) specialist from the Universidad de Chile, emphasizes that well-designed epidemiological studies during natural pandemic events are a substantial contribution to the knowledge of the natural history of emerging diseases and also allow for evaluating whether [limited resources](#) meet the true health needs of pregnant women. In this sense, the relevance of this study lies in its fundamental role in monitoring the performance of public policies and serving as a basis for promoting evidence-based policies in future [pandemic](#) events.

More information: Yordanis Enriquez et al, Effects of emerging SARS-CoV-2 on total and cause-specific maternal mortality: A natural experiment in Chile during the peak of the outbreak, 2020–2021, *PLOS Global Public Health* (2024). [DOI: 10.1371/journal.pgph.0002882](https://doi.org/10.1371/journal.pgph.0002882)

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