# Exploring the Child Mortality Trends in Bolivia and Worldwide

## INTRODUCTION

Mortality in under-5 children is a significant public health concern, particularly in low-income countries. An estimated 5.4 million children under 5 died in 2019, with the majority of deaths occurring in low-income countries due to malnutrition, lack of access to maternal and child healthcare, neonatal causes, and infectious diseases. The Global Burden of Disease (GBD) database developed by the Institute for Health Metrics and Evaluation that provides information on the global distribution and causes of a wide range of diseases, injuries, and risk factors. Despite challenges, there have been some positive trends in recent years, including decreases in child mortality rates and pediatric pneumonia rates. It is important for all nations to come together to address this issue and provide access to basic healthcare, nutrition, and maternal care.

## OBJECTIVES

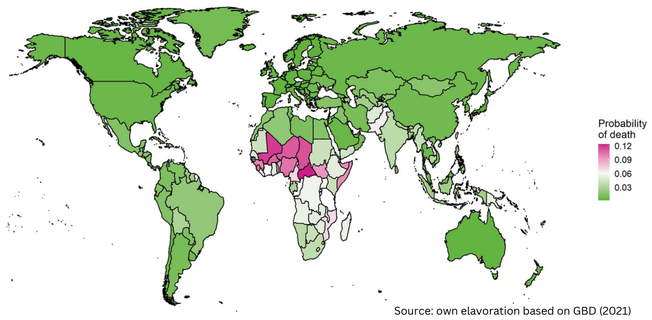
**GENERAL OBJECTIVE**

- To provide an overview of child mortality globally, with a specific focus on Bolivia.

**ESPECIFIC OBJECTIVES**

- To examine the current state of child mortality, including its evolution over time and the impact of income levels and access to healthcare.
- To identify the main causes of child mortality in both the global context and specifically in Bolivia.
- To make informed predictions about the future trends in child mortality, considering the current state and any ongoing interventions.

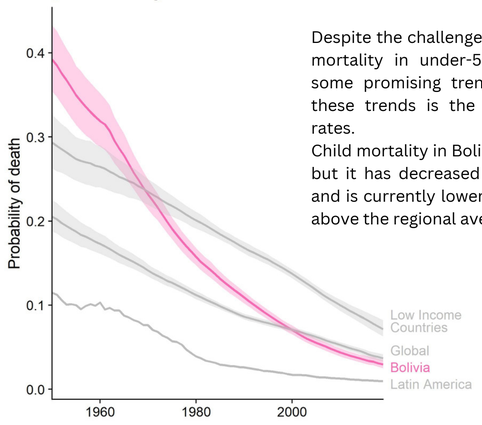
### Probability of death among under-5 children in 2019




Source: own elavoration based on GBD (2021)

Mortality in children under 5 years of age has decreased considerably in recent decades. However, in some parts of the world, this indicator remains unacceptably high.

### Evolution of under-5 children probability of death

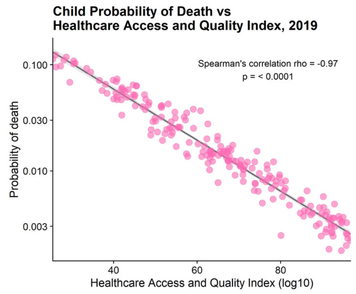



Source: own elavoration based on GBD (2021)

Despite the challenges that still exist in addressing mortality in under-5 children, there have been some promising trends in recent years. One of these trends is the decrease in child mortality rates.

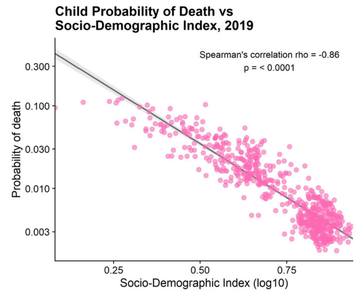
Child mortality in Bolivia was quite high in the past, but it has decreased significantly in recent years and is currently lower than the global rate but still above the regional average

### Child Probability of Death vs Healthcare Access and Quality Index, 2019




Source: own elavoration based on GBD (2021)

### Child Probability of Death vs Socio-Demographic Index, 2019

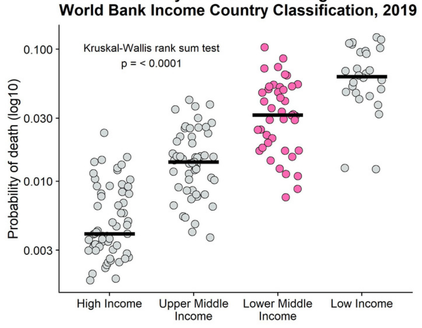



Source: own elavoration based on GBD (2021)

Child mortality is highly related to nation-level development (as assessed by the Socio-Demographic Index [SDI]) and access to quality health care (as evaluated by the Healthcare Access and Quality [HAQ] Index).

We computed a Spearman's correlation coefficient to assess the linear relationship between HAQ and SDI, and child mortality. There was a negative correlation between the two variables. In other words, the lower the SDI or HAQ, the higher the infant mortality.

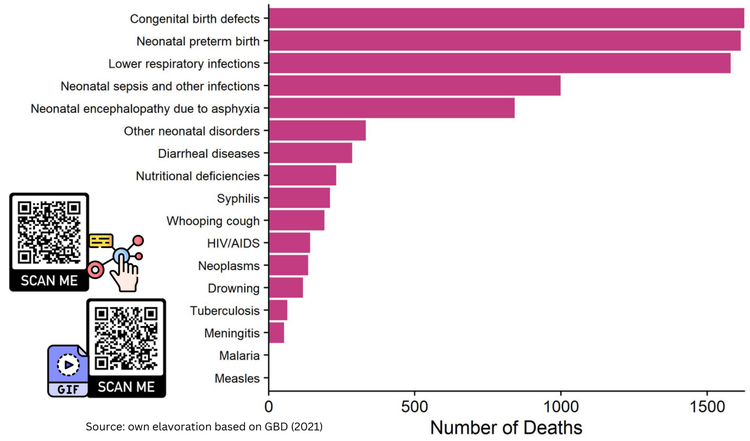
### Child Probability of Death according to World Bank Income Country Classification, 2019




Source: own elavoration based on GBD (2021)

Bolivia is considered a lower middle-income country. The Kurskal-Wallis rank sum test revealed that there was a statistically significant difference in child mortality between all groups. Lower middle-income countries tend to have higher mortality than upper middle-income countries and high-income countries. We can also observe that the higher the country's income, the lower the child mortality rate.

### Causes of death in children under-5 years old, Bolivia, 2019

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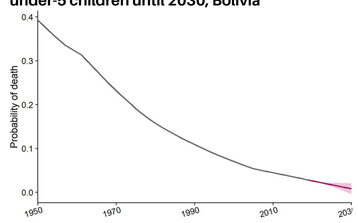
Source: own elavoration based on GBD (2021)

Currently, the majority of deaths in children under 5 years of age in Bolivia are due to congenital anomalies. This was not always the case; historically, the main cause was pneumonia and other respiratory tract infections, like in other low-income economies. However, the frequency of pediatric pneumonia has reduced in recent years owing to increasing availability to immunizations like the pneumococcal conjugate vaccine and better diagnosis and treatment.

Despite advances in medical technology and prenatal care, the incidence of congenital abnormalities has remained relatively stable over the past few decades, and they continue to account for a significant proportion of child deaths worldwide

### Forecast of the probability of death in under-5 children until 2030, Bolivia




Source: own elavoration based on GBD (2021)

If current trends continue, we will see a further reduction in infant mortality over the next few years. The advent of new technologies and the advancement of medicine could lead to a reduction in infant deaths due to causes of infant mortality that we cannot control today, such as congenital anomalies.

## CONCLUSIONS

We found that Bolivia has improved its child mortality rates but still remains above the regional average. We also identified a strong correlation between child mortality and income levels and healthcare quality. Congenital abnormalities were found to be the leading cause of child mortality in Bolivia, replacing pneumonia and other infections that were historically the main causes. It is crucial that all countries collaborate to improve child mortality rates, with a particular emphasis on providing access to basic healthcare, nutrition, and maternity care.

## REFERENCES


World Health Organization. (2023). Child Mortality. Retrieved from https://www.who.int/news-room/fact-sheets/detail/child-mortality

Institute for Health Metrics and Evaluation. (2023). Global Burden of Disease. Retrieved from http://www.healthdata.org/gbd.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You can find a more in-depth review of the subject, as well as a more detailed description of the methods on our web page