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# Overall and abortion-related maternal mortality rates in Uruguay over the past 25 years and their association with policies and actions aimed at protecting women's rights



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## ABSTRACT

Objective: To evaluate changes in maternal mortality rates in Uruguay over the past 25 years, as well as their distribution by cause, and their temporal relationship with social changes and Human Development Index (HDI) indicators. Methods: Data on maternal mortality obtained directly from the Uruguayan Ministry of Public Health for the 2001 to 2015 period were analyzed together with data from the United Nations Inter-Agency Group for Child Mortality Estimation for the 1990 to 2015 period. The swiftness of the decrease in maternal mortality per five-year period, the variation in the percentage of abortion-related deaths, and the correlation with HDI indicators were evaluated. Results: Maternal mortality decreased significantly, basically due to a reduction in the number of deaths from unsafe abortion, which was the principal cause of maternal mortality in the 1990s. The reduction in maternal mortality over the past 10 years also coincides with a reduction in poverty and an improvement in the HDI. Conclusion: A rapid reduction occurred in maternal mortality in Uruguay, particularly in maternal mortality resulting from unsafe abortion. This coincided with the application of a model for reducing the risk and harm of unsafe abortions, which finally led to the decriminalization of abortion.

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## 1. Introduction

Maternal mortality remains unacceptably high. Every day, around 830 women die worldwide from complications related to pregnancy or childbirth [1]. It is estimated that around 10.7 million women died from maternal causes worldwide between 1990 and 2015. Nevertheless, significant progress in reducing maternal mortality globally was also made over this time period. The overall maternal mortality ratio fell by 44% (95% CI, 33%–48%) from 385 per 100 000 live births in 1990 to 216 per 100 000 live births in 2015. The overall risk of death from maternal causes fell from 1 in every 73 births in 1990 to 1 in 180 births in 2015 [2].

According to the 2014 United Nations Human Development Report, despite the advances achieved in all regions of the world, the maternal mortality ratio in low- and middle-income regions in 2013 was 14 times higher than that of high-income regions of the world, i.e. 230 versus 16 maternal deaths per 100 000 live births, respectively, during the same time period [2].

Globally, only nine countries have reported achieving Millennium Development Goal (MDG) 5, none of which is from the Latin American and Caribbean region, which registered the smallest comparative decrease in maternal mortality of all the regions in the world between 1990 and 2015 [2].

A dramatic reduction in maternal mortality has occurred in Uruguay over the past 25 years according to data from the Pan American Health Organization/World Health Organization (PAHO/WHO) [3]. Uruguay now has the second lowest maternal mortality rate in the Americas. The five countries with the lowest maternal mortality rates in the region are Canada (11 per 100 000 live-born infants), Uruguay (14 per 100 000), Puerto Rico (20 per 100 000), Chile (22 per 100 000), and the USA (28 per 100 000) [4].

According to the 2015 WHO estimates, maternal mortality in Uruguay fell by 59.5% over the past 25 years, with a mean annual decrease of 3.7% (95% CI, 2.4–5.1). This is greater than the decrease of 50% registered for Latin America and the Caribbean, where the mean annual decrease was 2.8%. It should be emphasized that there are countries in the region, such as Peru for example, that have also failed to achieve MDG 5, despite a decrease in maternal mortality of 73% according to the United Nations estimates [2].

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In the 1990s, the profile of maternal mortality in Uruguay indicated unsafe abortion as the principal cause of mortality, followed by hemorrhage and other complications [5]. Maternal mortality was significantly greater in the public healthcare sector compared with the private sector [6].

From the 1990s onward and particularly after the turn of the century, a marked reduction in maternal mortality occurred in Uruguay. The objective of the present paper was to analyze the changes that took place in Uruguay between 1990 and 2015 regarding maternal mortality, particularly mortality resulting from unsafe abortion. An evaluation was also made of the association between these changes and the social and health-related changes that occurred in the country, as well as the changes in the human development indicators.

## 2. Materials and methods

An analysis was conducted of the changes that occurred in maternal mortality ratios between 2001 and 2015, using data obtained directly from the Department of Vital Statistics of the Uruguayan Ministry of Public Health [7]. Analysis of the period between 1990 and 2015 was conducted using data obtained from WHO, UNICEF, UNFPA, the World Bank, and the United Nations Population Division [2]. An analysis was also conducted of the temporal association between the changes in maternal mortality and the implementation of health and social policies as well as the different indicators used to calculate the Human Development Index (HDI) [8].

The system for registering maternal deaths in Uruguay changed during this period. Up to 2004, data on maternal deaths were obtained exclusively from death certificates. From 2005 onward, a system was implemented to actively search for deaths of women of reproductive age. The institutions affiliated with the National Integrated Health System provide information to the Ministry (vital statistics). These data include a monthly declaration that no maternal deaths have occurred, i.e. a report of zero maternal mortality from the institutions that form part of the health system, both in the public and private sectors [7].

Between 2005 and 2010, data were obtained from death certificates and from notification; however, the data were not discriminated. Between 2010 and 2015, the data were differentiated with respect to how many of the cases were identified from death certificates and how many as a result of notification.

Furthermore, as a consequence of the country's commitment to reducing maternal mortality, there is recognition of the role of surveillance in maternal mortality, resulting in a more extensive and better investigation of the death of women of reproductive age through a system of intentional search, review, and reclassification of maternal deaths at central level and the creation and strengthening of a Committee to Reduce Maternal Morbidity and Mortality at national level. As a result of these efforts, the current system of registering maternal deaths in the country is reliable. In 2013, the clinical histories of 900 women aged 12 to 49 years who died were evaluated, with the same nine cases reported by the Morbidity and Mortality Committee being identified, thus confirming the reliability of the system.

Fig. 1 shows the two data sources used by the Ministry of Health since 2010 to identify cases of maternal death.

As Uruguay is a small country with around 50 000 live births annually, the maternal mortality rate may fluctuate greatly from year to year, since one maternal death can cause a considerable modification in the ratio. For this reason, it is more appropriate to compare five-year periods and the tables show both annual and five-year data.

Deaths resulting specifically from unsafe abortion are also reported, as well as their proportion in relation to the total number of maternal deaths. In addition, the social indicators (life expectancy at birth, expected years of schooling, mean number of years of schooling, and gross national income [GNI] per capita) that constitute the elements used to calculate the HDI were evaluated [8].

#### 3. Results

Based exclusively on the data registered at the Ministry of Public Health for the past 15 years, analysis showed a steady decline in maternal mortality over the period evaluated, although with major

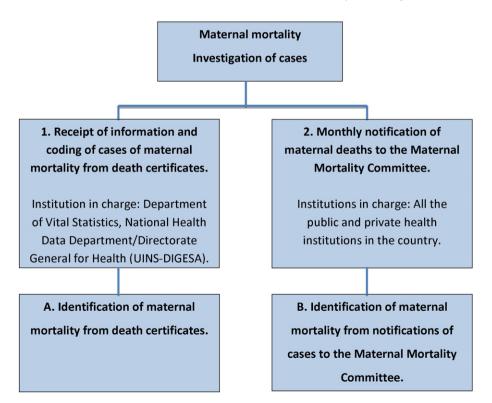


Fig. 1. Investigation of cases of maternal mortality.

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