

Mapping Infectious Disease in Madrid, 1900-1930. The Example of Tuberculosis.

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Study aim. The primary objective of this study is to explore the spatial variations by cause-specific mortality between 1900 and 1930 in Madrid. Furthermore, this analysis delves into scrutinizing the interactions across various causes, focusing on the effects of the 1918 Spanish Influenza on the evolution of Tuberculosis in Madrid. The focus of this paper will be on those cohorts affected by the Spanish Influenza pandemic, and the effect that the pandemic had on the pulmonary tuberculosis during the years following the pandemic.

Data. We are looking at this effect in an urban setting with high prevalence of pulmonary tuberculosis, the city of Madrid, a large European capital at that time, where pulmonary tuberculosis accounted for around 10% of all deaths in the beginning of the XX century. The cause-specific mortality data were sourced from two distinct archives: the *Gazeta de Madrid* for the period of 1890-1900 and the *Anuarios estadísticos y registro civil de Madrid* for 1905-1908 and 1913-1927. In total, our study encompassed the analysis of approximately 460,000 deaths.

Methods. We will look at the effect by: sex, age, and cause specific mortality and the intramunicipal spatial variations by district and neighborhood.

Results. The impact of the 1918/1920 Spanish Influenza Pandemic on pulmonary tuberculosis is not uniform across space neither across all age groups. Showing that there is not a straightforward connection between the pandemic and the decline of pulmonary tuberculosis. In Madrid, the impact by age groups is more pronounced in males between 40-49, followed by males 15-39; in females the effect is mostly seen in the 15-44 age group. In Madrid, we observe a harvesting effect in 1921, and more pronounced decline in the most deprived areas which showed previously higher levels of pulmonary tuberculosis mortality.