

Water Quality, Morbidity, and Mortality in London, 1906-1926*

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Abstract

This paper examines the effects of chlorination on typhoid fever morbidity and mortality rates in London during the early decades of the twentieth century using a newly constructed panel data set at the borough-by-quarter-of-year level. A difference-in-differences identification strategy takes advantage of variation in the sources of water supply and the introduction of chlorination across parts of London in 1916. I find that chlorination accounts for 16 to 29 percent of the decline in the typhoid mortality rate during the sample period, with larger effects in the fourth quarter of the year when contaminated river water entered the water supply due to flooding. The results are robust to including borough-specific linear time trends. I provide additional evidence that poorer water quality is associated with increased typhoid fever morbidity and mortality using the results of bacteriological tests as a proxy for water quality and a fixed-effects regression strategy. This study contributes to the empirical literature on the effects of improved sanitation infrastructure and the historical debate over the causes of the mortality decline in England and Wales during the late-19th and early-20th centuries.

Keywords: chlorination, typhoid fever mortality, water quality

JEL codes: H75, I15, J1, N3

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