

# Statistical Methods Applied During the COVID-19 Pandemic

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**Abstract:** *The importance of statistical approaches in comprehending and handling public health emergencies has been brought to light by the COVID-19 pandemic. The estimation of the basic reproduction number ( $R_0$ ), trend analysis of case rates, survival analysis for hospitalization data, compartmental models, integration of machine learning techniques, and meta-analysis methods are among the important statistical techniques employed during the pandemic that are reviewed in this work. These approaches have shaped public health policies globally by offering insightful information about patient outcomes, disease dynamics, and the efficacy of interventions.*

**Keywords:** statistical approaches