

Abstract #: 1492**Ordering the chaos: The global clustering of COVID-19 incidence and mortality**

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Background: The propagation of COVID-19 has been dynamic across countries and time. We utilised a temporal clustering approach in exploring trends of incidence and mortality across 202 countries.

Methods: COVID-19 case and death data between 1 January 2020 and 30 April 2021 were extracted from open-source data repositories. A partitional clustering algorithm, using Euclidean distances and partition around medoids, was utilised in exploring 14-day incidence and mortality rates across 202 countries. Inter-cluster comparisons were carried out using the 14-day incidence and mortality rates across clusters.

Results: Country-specific trends of incidence and mortality across the study period were agglomerated into one of six clusters. The overall trend of incidence and mortality during this period peaked between November 2020 and January 2021. However, four of the six clusters have an upward trajectory. Countries in cluster four, mostly situated in Europe, reported the highest overall incidence of 192 cases per 100,000 population (95% CI: 166, 220). Countries in cluster three, a mix of countries from South America, Eastern Europe, and Africa, were observed to have the highest overall mortality rate of 32 deaths per 1,000,000 population (95% CI: 23, 45).

Conclusions: The high global burden of disease and inequity in vaccine access highlights the need for a consolidated global effort in mitigating the pandemic.

Key messages: Increasing trajectories of incidence and mortality in Asia, South America, and Africa suggest that the worst of the pandemic may be ahead of us.