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Pandemetrics: Systematically Assessing, Monitoring, and Controlling the Evolution of a Pandemic

The pandemic of SARS-CoV-2 virus and COVID-19 disease, still affecting the population worldwide, has demonstrated the need of more accurate methodologies for assessing, monitoring, and controlling an outbreak of such devastating proportions.

Authoritative attempts have been made in traditional fields of medicine (epidemiology, virology, infectiology) to address these shortcomings, mainly by relying on mathematical and statistical modeling. We proposed approaching the methodological work from a different, and to some extent alternative, standpoint.

Applied systematically, the concepts and tools of statistical engineering and quality management, developed, not only in healthcare settings, but also in other scientific contexts, can be very useful in assessing, monitoring, and controlling pandemic events.

We proposed a methodology based on a set of tools and techniques, formulas, graphs, and tables to support the decision-making concerning the management of a pandemic like COVID-19. This methodological body was named pandemetrics. This name intends to emphasize the peculiarity of our approach to measure, and graphically present the unique context of the COVID-19 pandemic.

The proposed presentation at the conference will provide an overview of the methodology.

Keywords

Covid-19 Pandemic, Early warning, Statistical surveillance

Classification

Both methodology and application

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