

PIPGES · WEBINARS

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The video call link will be available at:

<https://tiny.one/nobre-w>

MODELING THE DEATH RATE AMONG HOSPITALIZATIONS WITH PRIMARY DIAGNOSIS OF RESPIRATORY DISEASE DURING THE FIRST WAVE OF THE CORONAVIRUS PANDEMIC: A CAUSAL MEDIATION APPROACH

We propose a causal mediation analysis to address time-varying observations that are affected by a population-level intervention. The goal is to quantify the causal impact of an intervention when multiple observations are available before and after the intervention. The proposed approach models the mediator and outcome variables separately while accounting for the temporal nature of the data. Control variables affected by the intervention are accounted for, and the composition of a time-varying global (total) causal impact is described in terms of a mediator variable. We illustrate the proposed method using a dataset from the state of Rio de Janeiro, Brazil, comprising hospitalization data for patients with primary diagnosis of a respiratory disease during the January 2015 - October 2020 period. This period includes the first wave of the Coronavirus pandemic in the state of Rio de Janeiro, the onset of which is taken to be the intervention of interest. The outcome of interest is the death rate for hospitalizations with primary diagnosis of a respiratory disease. During the first peak of the Coronavirus pandemic, estimates of indirect effects suggest a stronger impact of age in the rate of death for a pandemic setting than in a non-pandemic one. Joint work with Hélio Migon e Alexandra Schmidt.

SPEAKER

Widemberg S. Nobre · Universidade Federal do Paraná

Interinstitutional Graduate Program in Statistics (PIPGES) of Federal University of São Carlos with University of São Paulo promotes seminars groups (temporarily webinars, due to pandemic issues) of researches involving Probability, Statistics, Machine Learning etc. Our interest, among other things, is to stimulate the sharing of knowledge, as well as the connection between members of the program and researchers in other institutions.

Organizer

Michel H. Montoril, Department of Statistics,
Federal University of São Carlos.

BIO

Widemberg S. Nobre has PhD degree in Statistics from Universidade Federal do Rio de Janeiro (UFRJ), under supervision of Alexandra Schmidt. His research areas include Bayesian Analysis, Spatial statistics, Dynamic models and Causal Inference. Currently, Widemberg is Assistant Professor at the Department of Statistics in the Universidade Federal do Paraná.

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