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Statistics in practice, to handle a pandemic emergency.

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The management of the COVID 19 pandemic, especially during years 2020 and 2021, highlighted a serious shortage at all levels and in the majority of countries around the world.
Some countries reacted slightly better, having faced similar epidemics in their recent past, but obviously this was not enough, since the flows of people worldwide are now so huge that it makes little sense to make differences at individual country level.
In those difficult phases of the emergency, statisticians from all over the world should have had a great role, but in reality this was not the case.
This is why some individual statisticians moved independently and did their best to help understand what was happening, by appropriately analyzing even large amounts of data, often confused.
This presentation summarizes three years' statistical work carried out by the author. The work is divided into three parts.
The first part presents a statistical dashboard model that effectively allows to evaluate the progress of the epidemic diffusion.
The second part delves into the peculiar aspects of statistical monitoring, control and optimally handling a pandemic emergency.
In the third part it is shown how it is possible to "robustly"evaluate the impact of the infectious disease on the human mortality.
All three parts present methods based on the analysis of systematically collected data, freely available in official repositories.

Type of presentation

Talk

Classification

Both methodology and application

Keywords

Statistics for pandemic management; statistical surveillance; pandemic impact and mortality estimation

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