

Coronavirus overview: Here's the app you were looking for

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There is nothing quite like a quarantine to make one itch to do something useful. Three Ph.D. students from the Department of Mathematical Sciences have done just that.

The trio of statisticians have repurposed their tedium and isolation to develop a web app that provides an overview of the [coronavirus](#) pandemic in Denmark and across the globe, in a way that is more interactive than other maps and statistics.

"We began working on the app as a pet project, to deal with our boredom and inability to physically meet up. While Skyping one day, we wondered why we couldn't find a graph that portrayed the evolution of coronavirus cases in Denmark," explains Phillip Bredahl Mogensen, one of those behind the app.

The three young researchers decided to create an app that, among other things, provides an overview of how COVID-19 is spreading, and the number of people who have both passed away and recovered.

Statistics from every country on earth are available and readily compared. For example, in only a few clicks, one can see how Spain or Italy are faring with the pandemic compared to Denmark.

Investigates suspected infections

To the best of the creators' knowledge, theirs is the first app that attempts to estimate suspected numbers—as opposed to reporting back confirmed positives from test results:

"With the help of Danish and South Korean mortality statistics, we are able to provide an estimate of how many people were actually infected 20 days ago. Of course, this estimate comes with a great deal of uncertainty, as do all statistics," explains Phillip Bredahl Mogensen, who adds:

"For example, on 9 March, there were 92 confirmed cases in Denmark. We estimate that there were actually between 1,163 and 3,615 people

infected. In other words, 10 times the number of people were infected as compared to the official statistics."

The researchers used South Korean COVID-19 mortality data because the country has been dealing with the epidemic for a longer period of time, and because South Korea has broader and more precise data sets than other countries.

Professor enthused about the new app

The app is unique because it presents an estimate of suspected cases, according to Niels Richard Hansen, a head of section and professor at the Department of Mathematical Sciences at the University of Copenhagen.

"Even though the method is under development, and has yet to be validated, it presents an incredibly interesting estimate of the unknown extent of this virus. The figures should be taken with caution, but to my knowledge, there is no other well-documented alternative being used to estimate the number of unknown cases," he explains.

The app is based on data from Johns Hopkins University in the United States, the Danish National Serum Institute (SSI), the WHO and the United Nations, and is "solid," according to Professor Hansen.

Send an email with your questions about coronavirus statistics

The three Ph.D. students update the app with new data from the Danish National Serum Institute (SSI) and discuss what questions about coronavirus to address using graphs on a daily basis.

"We are open to public input if anyone has questions about our website or ideas about how we might deploy statistics," concludes Phillip Bredahl Mogensen.

You can reach the researchers behind the app here:

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More information: The new coronavirus app is a web-app, i.e., not designed specifically for mobile devices. However, you can access it via your mobile phone or tablet by using the link:

shiny.science.ku.dk/pbm/COVID19/

Provided by University of Copenhagen

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