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Debate

Center for Green Data: We can play a crucial role in the pandemic preparedness of the future

The methods behind the calculations for infection pressure are almost identical to the mathematical methods we use in the energy research associated with Center Denmark. Therefore, we hope to be able to play a crucial role in a future pandemic preparedness, write Lars Bonderup Bjørn and Henrik Madsen.



Center Denmark can store the necessary data and provide a computational setup, which ensures the possibility of scaling, transparency and coherence between analyzes at all levels, write Lars Bonderup Bjørn and Henrik Madsen. Photo: Henning Bagger / Ritzau Scanpix

Henrik Madsen and Lars Bonderup Bjørn

Respectively chairman, Center Denmark Foundation, member of the government's corona expert group and vice chairman, Center Denmark Foundation, CEO, Ewii

This post is merely an expression of the writer's own position. All submissions to the Althing must comply with the rules of press ethics.

When the pandemic hit us last spring, authorities and politicians had to act quickly to save lives and avoid a congestion of the hospital system.

No one knew the nature of Covid-19, and we had to build the road as we went, as the politicians said. One thing quickly became clear, however: Denmark lacks a standing pandemic preparedness, and here we believe that our energy research and digital platform for data management can help.

Following the first major shutdown in March, several researchers were dedicated to the Covid-19 handling. Partly through the government's so-called expert group on SSI, where they calculate infection pressure, partly in larger independent research groups - supported by, among others, the Novo Nordisk Foundation and the Grundfos Foundation. The groups are developing new methods for modeling, predicting and controlling the spread of infection.

Several of the researchers from DTU and Aalborg University usually work with mathematical models for use in the energy supply in research projects associated with Center Denmark in Fredericia. Center Denmark is the new large national meeting point for green energy research, of which Denmark's four technical universities are a part.

In the current pandemic, we draw on knowledge and data from different areas. However, the actual access to the necessary data is cumbersome, and it delays the work, so that it easily becomes a kind of ad hoc effort. For example, the data on which the models depend must first be obtained and prepared before the calculations can be made.

But when we are in a pandemic, we should have quick access to anonymized data.

Can draw on energy research

Therefore, we propose that Denmark builds a permanent, well-thought-out control room, which can be ready to handle data for use in calculations in future pandemics with immediate notice. It can also be part of Denmark's health awareness.

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reopening are almost identical to the mathematical methods we use in the energy research associated with Center Denmark.

Lars Bonderup Bjørn and Henrik Madsen , respectively. Chairman and Deputy Chairman, Center Denmark

This will mean that all professional specialists such as doctors, sociologists, economists, mathematicians, statisticians and health researchers will be able to immediately enter into a collaboration to deal with a crisis situation. The ideas have already been presented at the Statens Serum Institut (SSI), and they have been well received.

2020 has shown that the methods behind the calculations for infection pressure and scenarios for reopening are almost identical to the mathematical methods we use in the energy research associated with Center Denmark. Therefore, we believe that a control room for a standing pandemic contingency can be built around the center that can handle very large, complex amounts of data.

Center Denmark contains a so-called data lake with millions of data that is part of a so-called 'Trusted Data Sharing Environment', which ensures that the GDPR and ownership of data are respected.

The center is designed for the green energy system of the future, where user involvement and flexibility in energy consumption are crucial so that we also have electricity when the wind is not blowing and the sun is not shining.

Can predict behavior

Utilities must therefore be able to predict user behavior geographically for the next hours and days and be able to describe and take into account great uncertainty in the calculations. This is what the methods that Center Danmark, DTU and AAU have developed together do.

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Lars Bonderup Bjørn and Henrik Madsen , respectively. Chairman and Deputy Chairman, Center Denmark

These methods can be transferred almost directly to Covid-19 management, where it is also a requirement that the models for calculating the infection pressure in a population must be able to zoom in and out in time and place and include the statistical uncertainty.

We are both humbled and proud of how much of our research methodology is directly applicable in the Covid-19 response.

We believe that Center Denmark can store the necessary data and provide a computational setup that ensures the possibility of scaling, transparency and coherence between analyzes at all levels.

And we would very much like to work with relevant authorities to move forward with the idea of letting Center Denmark play a decisive role in the future in a standing pandemic contingency.



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