Identifying Europe's most COVID-vulnerable countries

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As people in Europe emerge from COVID-19 lockdowns, a study has identified which countries have populations most at risk from the virus. The work was produced by researchers from the COST burden-eu

Action, which is strengthening capacity to assess the risk and burden of disease in populations worldwide.

The internationally respected journal Archives of Public Health published the study. Among its authors are Grant Wyper and Dr. Ian Grant. Mr Wyper, a public health intelligence adviser at Public Health Scotland in the United Kingdom, is the lead author. Dr. Grant is the co-leader of the burden-eu working group on methods, and a principal researcher at Public Health Scotland.

Here they explain why the burden-eu network is so necessary and what the study results mean.

How does the burden-eu network add value to healthcare research?

Ian Grant: The COST burden-eu Action brings together researchers across Europe working with the global burden of disease (BoD) methodology. BoD was first developed by the World Bank and World Health Organization in the 1990s. It aims to measure the health loss from diseases, injuries and other risk factors, such as smoking, to eliminate disparities in societies and improve health systems.

However, the methodology is complex and demands vast amounts of data. Understanding and implementing the different methodological choices involved is not always straightforward.

Burden-eu is an excellent platform to share knowledge, experience, and solutions and to develop technical capacity in the methodology.

Why did you set up the study on COVID-19 risk?

Grant Wyper: BoD metrics can add great value to assessments of health impacts of a disease. The COVID-19 pandemic spread fast. National governments had to react urgently, introducing physical distancing and shielding to protect the most vulnerable. Our network provided a timely opportunity for experts from across Europe to perform a rapid large-scale Europe-wide assessment to identify the populations most vulnerable to the virus.

How did being part of burden-eu help?

Ian Grant: Being part of the network facilitated all stages of the work—conceiving the idea, defining the outline, and preparing drafts—as we were already working together in the Action. We were able to communicate in a way that we couldn't before.

We also had immediate access to a wealth of experts in BoD studies from different scientific disciplines. Without burden-eu, it would simply not have been possible to produce such a collaborative paper in a very short time and involving scientists from different European countries.

So which countries in Europe have the highest-risk populations?

Grant Wyper: We found that the countries with the most vulnerable populations were Bulgaria, Portugal, Latvia, Lithuania, Greece, Germany, Estonia and Sweden.

We assessed baseline population-level vulnerability to long-term illness or death from COVID-19 in 45 European countries. This assessment was based on overlapping two factors—the share of elderly population in a country and the years lived with underlying health conditions in a population.

It's important to highlight that our assessment provides only a baseline measurement of vulnerability. Other factors will adjust the rate of infection and death due to COVID-19.

Even so, our measurement is increasingly relevant as the pandemic continues. Our findings can be an important factor in future research to identify baseline risks in individual countries. This can give governments a starting point for decisions on population shielding.

What are your plans for the rest of the Action?

Ian Grant: We still have over three years ahead of us. We will continue to expand our network (currently over 220 researchers from 37 European countries), welcoming researchers from across Europe and beyond to join.

We will continue to support advances in the method by encouraging greater interaction between existing work in the field.

In terms of developing capacity, we are expanding our programme of training schools and workshops on BoD skills and encouraging knowledge transfer among organisations through our short-term scientific missions. In addition, we want to compile good practices in applying knowledge and to develop a roadmap to integrate these into national BoD studies.

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