George Yuan Xianzhi: Big Data Analysis Report of Covid-19 Pandemic

The peak of global Covid-19 pandemic may fall before the end of April 2020 as a result of international prevention and control. However, every country should be on the alert for a possible rebound from the pandemic.

Since April 2020, North America and Europe have become the focus of the world in terms of Covid-19 pandemic prevention and control. The WIND data team and Professor Yuan Xianzhi's big data model team have been working together to publish pandemic analysis reports for global communities.

Based on the official released data from seven countries in Asia, seven countries in Europe, three countries in South America and two countries in North America (as of April 20 & [1] - [2]), by inputting the data into the iSEIR model ([3] - [5]), we have conducted a comprehensive scenario simulation and scenario analysis, and here is the pandemic outlook for the above 19 countries from mid-April 2020 to early May 2020:

I.   End April Prediction and Rebound Alert

1) In Europe, countries like Turkey, Serbia, Ireland and the United Kingdom, as well as Canada from North America will appear to have the pandemic situation under control and the peak will fall at before 30 April 2020. Turkey may appear to have the peak around 25 April 2020.
2) In Asia, countries like Japan, the United Arab Emirates, Pakistan and Indonesia will appear to have the pandemic situation under control and the peak will fall around 30 April 2020.
3) However, Singapore is showing a rebound from the pandemic with a new cases rate of 10 percent to 20 percent from 9 April 2020 to 20 April 2020, which should draw attention from other countries for a second wave as well.

II.   Forecast for May
India and Qatar in Asia, Russia, Belarus and Ukraine in Europe, Brazil, Ecuador and Peru in South America, and Mexico in North America will show the prevention of Covid-19 is under control and the peak will fall in May.

Note: the meaning of "under-control" in the report is referring to a new cases rate is less than 10 percent daily and a consistent rate drop for six consecutive days.

References

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[3] Yuan GX, Di L, Gu, Y, Qian G, Qian X. The Framework for the Prediction of the Critical Turning Period for Outbreak of COVID-19 Spread in China based on the iSEIR Model. Medrxiv.org. doi: https://doi.org/10.1101/2020.04.05.20054346

[4] Yuan GX, Di L, Gu, Y, Qian G, Qian X. The Prediction for the Outbreak of COVID-19 for 15 States in USA by Using Turning Phase Concepts as of April 10, 2020. 2020; 24: Exclusive. Asian-Pacific Biotech News (APBN) https://www.asiabiotech.com/exclusive/exclusive.html

[5] Yuan GX, Di L, Gu, Y, Qian G, Qian X. The Prediction for the Outbreak of COVID-19 in European Countries by Using Turning Phase Concepts as of April 9, 2020. 2020; 24: Exclusive. Asian-Pacific Biotech News (APBN) https://www.asiabiotech.com/exclusive/exclusive.html

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