

Mass gatherings during Malaysian election directly and indirectly boosted COVID-19 spread

May 27 2021

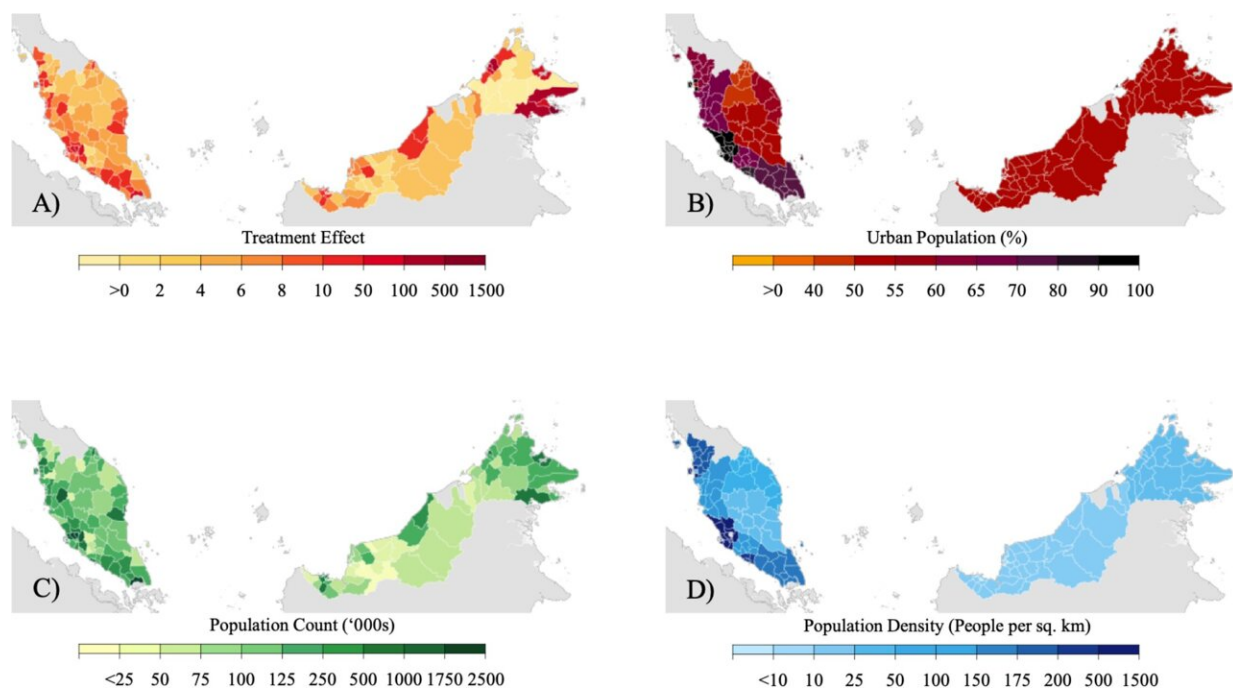


Fig 2. Panel A) Estimated treatment and spill-over effects of Sabah election on COVID-19 case counts in districts within Sabah State and districts outside Sabah State. Panel B) Urban population percentage within districts. Panel C) Population count within districts. Panel D) Population density within districts. The figure was created using the base layer from The Humanitarian Data Exchange [15]. Credit: Lim JT et al., 2021, PLOS Computational Biology

New estimates suggest that mass gatherings during an election in the Malaysian state of Sabah directly caused 70 percent of COVID-19 cases detected in Sabah after the election, and indirectly caused 64.4 percent of cases elsewhere in Malaysia. Jue Tao Lim of the National University of Singapore, Kenwin Maung of the University of Rochester, New York, and colleagues present these findings in the open-access journal *PLOS Computational Biology*.

Mass gatherings of people pose high risks of spreading COVID-19. However, it is difficult to accurately estimate the direct and indirect effects of such events on increased case counts.

To address this difficulty, Lim, Maung, and colleagues developed a new computational method for estimating both direct and spill-over effects of [mass gatherings](#). Departing from traditional epidemiological approaches, they employed a statistical strategy known as a synthetic control method, which enabled comparison between the aftermath of mass gatherings and what might have happened if the gatherings had not occurred.

The researchers then applied this method to the Sabah state [election](#). This election involved mandated in-person voting and political rallies, both of which resulted in a significant increase in inter-state travel and in-person gatherings by voters, politicians, and campaign workers. Prior to the election, Malaysia had experienced an average of about 16 newly diagnosed COVID-19 cases per day for nearly four months. After the election, that number jumped to 190 cases per day for 17 days until lockdown policies were reinstated.

Using their novel method, the researchers estimated that mass gatherings during the election directly caused 70 percent of COVID-19 cases in Sabah during the 17 days after the election, amounting to a total of 2,979 cases. Meanwhile, 64.4 percent of post-election cases elsewhere in Malaysia—1,741 cases total—were indirectly attributed to the election.

"Our work underscores the serious risk that mass gatherings in a single region could spill over into other regions and cause a national-scale outbreak," Lim says.

Lim and colleagues say that the same synthetic control framework could be applied to [death rates](#) and [genetic data](#) to deepen understanding of the impact of the Sabah election.

More information: Lim JT, Maung K, Tan ST, Ong SE, Lim JM, Koo JR, et al. (2021) Estimating direct and spill-over impacts of political elections on COVID-19 transmission using synthetic control methods. *PLoS Comput Biol* 17(5): e1008959.
doi.org/10.1371/journal.pcbi.1008959

Provided by Public Library of Science

Citation: Mass gatherings during Malaysian election directly and indirectly boosted COVID-19 spread (2021, May 27) retrieved 3 May 2024 from
<https://medicalxpress.com/news/2021-05-mass-malaysian-election-indirectly-boosted.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.