

New model helps determine optimal strategies for combining vaccines and social distancing

September 13 2021



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Every country in the world these days must make smart decisions about how to allocate vaccines and what sort of social distancing to mandate to

combat the COVID-19 pandemic. Ben-Gurion University of the Negev scientists have constructed a model that policy makers can use to simulate their choices and find the optimal one.

"Our model can tell you, for instance, whether it makes more sense to vaccinate the elderly and demand more social distancing from adults or vice versa," says Dr. Shai Pilosof of the Department of Life Sciences in the Faculty of Natural Sciences.

Their model was published recently in the peer-reviewed *PLOS Computational Biology*.

Every country has different considerations—some have ample supplies of vaccines, while others have only limited supplies. The new model can help calibrate [vaccine](#) deployment and social distancing. For example, according to their model, vaccinating the elderly and imposing social distancing mandates on adults is generally more effective than forcing the elderly to stay home and vaccinating the adults.

Prof. Nadav Davidovitch, Director, School of Public Health, Faculty of Health Sciences and Chair, Israeli Public Health Physicians Association, Member of the Israeli National Expert Committee on COVID19 and Association of Schools of Public Health in the European Region Task Force: "The current COVID-19 global situation demands a multi-layered response. Vaccines are an essential component but it is clear that different contexts such as population characteristics and vaccine availability, together with the dynamic changes in disease spread, demand crucial decision-making on strategies and priorities. Our [model](#) can be applied by different countries to simulate and optimize responses."

More information: Sharon Guerstein et al, The interplay between vaccination and social distancing strategies affects COVID19 population-

level outcomes, *PLOS Computational Biology* (2021). [DOI: 10.1371/journal.pcbi.1009319](https://doi.org/10.1371/journal.pcbi.1009319)

Provided by Ben-Gurion University of the Negev

Citation: New model helps determine optimal strategies for combining vaccines and social distancing (2021, September 13) retrieved 7 May 2024 from <https://medicalxpress.com/news/2021-09-optimal-strategies-combining-vaccines-social.html>

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