Press Release

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Shutting schools increases Covid-19 deaths, study finds

Closing schools during the pandemic would result in more overall deaths in the long term than keeping them open, according to fresh analysis of the data that informed the government's decision on lockdown.

The study, led by researchers from the University of Edinburgh, also revealed that social distancing is a more effective tool at reducing deaths when only employed by people over 70, compared with among the general population.

The findings are based on a re-analysis of Report 9, the study developed by Imperial College London and used by the SAGE advisory committee to initiate the UK's nationwide lockdown in March 2020, to avoid overloading the NHS.

Imperial's original model predicted how the virus would spread, how the NHS would be affected and how many people would die in different scenarios.

The new analysis, published in the BMJ, combined Imperial's epidemiological modelling with real-world data collected since March using a simulation model – known as CovidSim.

The results verify that the predictions made from the original model were accurate. The study also used Imperial's model with CovidSim to forecast the pandemic's potential spread.

The analysis concludes that the interventions implemented in March gave the NHS the best possible outcome in reducing peak demand for intensive care beds.

However, experts say these actions, which included closing schools and shops, if deployed again could prolong the epidemic and result in more long-term deaths, unless an effective vaccination programme is implemented.

General social distancing is predicted to reduce the number of cases, but increase the total number of deaths when compared with social distancing being practiced by the over 70's only. This is because Covid-19 related deaths are highly skewed towards older age groups, experts said.

Finally, the CovidSim model predicts a second wave, which initially grows more slowly, but becomes larger than the first unless interventions are re-implemented.

To produce the new analysis, the team from Edinburgh co-ordinated thousands of scientists working from home as part of the Rapid Assistance in Modelling the Pandemic (RAMP) project.

RAMP's computer experts took Imperial's code and made it easily available to all UK researchers, with access to the country's supercomputers. The code was then rewritten to professional software standards in order to run the new calculations.

The research considers only coronavirus deaths and does not take into account any other consequences of the lockdown.

Graeme Ackland, Professor of Computer Simulation from the University of Edinburgh's School of Physics and Astronomy who led the study, said: "In the short term, closing schools contributed to reducing the severity of the first wave, to the extent that Nightingale hospitals were not needed, but the decision has left us more vulnerable to subsequent waves of infection.

"Mitigating a Covid-19 epidemic requires very different strategies for different age groups and a different strategy from an influenza epidemic, with more focus on shielding elderly and vulnerable people."

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