

Vaccine roll-out working in Scotland, first national study suggests

22 February 2021, by Professor Sir Lewis Ritchie



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Vaccination has been linked to a substantial reduction in the risk of COVID-19 admissions to Scotland's hospitals, landmark research suggests.

The study is the first to describe across an entire country the effect of the Pfizer and Oxford-AstraZeneca jabs in the community on preventing severe illness resulting in hospitalization. Previous results about [vaccine efficacy](#) have come from clinical trials.

By the fourth week after receiving the initial dose, the Pfizer and Oxford-AstraZeneca vaccines were shown to reduce the risk of hospitalization from COVID-19 in up to 85 percent and 94 percent, respectively.

Among those aged 80 years and over—one of the highest risk groups—vaccination was associated with an 81 percent reduction in hospitalization risk in the fourth week when the results for both vaccines were combined.

As part of the [EAVE II project](#), which uses [patient data](#) to track the pandemic and the vaccine roll out

in real time, researchers from the Universities of Edinburgh, Strathclyde, Aberdeen, Glasgow and St Andrew's and Public Health Scotland (PHS) analyzed a dataset covering the entire Scottish population of 5.4 million.

Data on vaccine effect was gathered between 8 December and 15 February. During this period, 1.14 million vaccines were administered and 21 percent of the Scottish population had received a first dose based on Scottish Government prioritization.

The Pfizer vaccine has been received by some 650,000 people and 490,000 have had the Oxford-AstraZeneca vaccine.

Researchers analyzed data for every week during this period—including GP records on vaccination, hospital admissions, death registrations and laboratory test results—and compared the outcomes of those who had received their first jab with those who had not.

The preliminary results have been posted on the SSRN preprint server and submitted to a journal to undergo peer review.

The study team says the findings are applicable to other countries that are using the Pfizer and Oxford-AstraZeneca vaccines. They caution that the data does not allow for comparisons between the two.

Lead researcher Professor Aziz Sheikh, Director of the University of Edinburgh's Usher Institute, said: "These results are very encouraging and have given us great reasons to be optimistic for the future. We now have national evidence—across an entire country—that vaccination provides protection against COVID-19 hospitalisations."

"Roll-out of the first vaccine dose now needs to be accelerated globally to help overcome this terrible disease."

"The study was led from the University of Edinburgh's Usher Institute, which is one of five Data-Driven Innovation Hubs as part of the Edinburgh and South East Scotland City Region Deal. The Institute is a sector-leader in applying data science to develop innovative and financially sustainable models of health and social care that improve lives."

Dr. Jim McMenamin, National COVID-19 Incident Director at PHS, said: "These results are important as we move from expectation to firm evidence of benefit from vaccines. Across the Scottish population the results shown a substantial effect on reducing the risk of admission to hospital from a single dose of vaccine."

"For anyone offered the vaccine I encourage them to get vaccinated. We are continuing our evaluation and look forward to describing the benefits that we hope will follow the second doses of these vaccines."

Dr. Josie Murray, PHS Public Health Consultant Lead for EAVE II, said: "These data show real promise that the vaccines we have given out can protect us from the severe effects of COVID-19. We must not be complacent though. We all still need to ensure we stop transmission of the virus, and the best way we can all do this is to follow public health guidance—wash your hands often, keep 2 meters from others, and if you develop symptoms, isolate and take a test."

"We also all need to protect ourselves, our families and friends by taking the second dose of [vaccine](#) when it is offered."

Professor Chris Robertson, Professor of Public Health Epidemiology at the University of Strathclyde, said: "These early national results give a reason to be more optimistic about the control of the epidemic. They also show the value of linked national data sets with academic research groups working closely with public health institutes."

Provided by University of Aberdeen

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