

## QCOVID Helps Predict Hospital Admission, Death from COVID-19



As COVID-19 continues to plague the world, and with cases increasing once again in the U.K. and across the globe, clinicians are in urgent need of reliable models that could help predict the course of COVID-19 and support important decisions related to the spread of infection, hospital admission, treatment and vaccinations.

A new prediction tool called QCOVID uses information about people such as their age, ethnicity, and pre-existing conditions to identify those who might be at a higher risk of developing severe COVID-19 illness. The goal is to enable clinicians to better understand the risks for individual patients.

This tool is designed to be applied across the general population in the UK and will be updated regularly as the COVID-19 situation continues to evolve. This is important because there have been previous risk prediction models, but they were identified as having a high risk of bias, thus raising concerns regarding their reliability.

QCOVID was developed by a U.K.-wide research group. It is designed to estimate the overall risks of COVID-19 infection along with the risk of hospital admission or death. Special measures have been taken to minimise the impact of bias. Findings are based on data from more than 8 million patients within the age group of 19 to 100 years.

COVID-19 results, hospital admission and death registry data from nearly 1205 general practices in England have been considered when developing this model. Data from 6 million patients were used to develop the model, and data from 2.2 million patients were used to validate the performance of the model during two different time periods (January 24 to April 30 and May 1 to June 30, 2020). Factors such as age, ethnicity, deprivation, body mass index and comorbidities were considered when estimating the probability and timing of admission or death due to COVID-19. 4384 deaths occurred in the development group, 1782 deaths occurred in the first validation period, and 621 deaths occurred in the second validation period.

Overall, the performance of the model was quite good, predicting 73% (in men) and 74% (in women) of the variation in time to death from COVID-19. Those who were included in the top 5% for predicted risk of deaths accounted for approximately 76% of COVID-19 deaths during the study period, while people in the top 20% accounted for 94% of COVID-19 deaths.

It is important to note that this prediction model is only designed to provide a prediction of risk. It does not offer any explanations of individual factors that could affect risk. However, this could be a useful tool for clinicians who could use the prediction of risk to make better treatment decisions.

QCOVID appears to be a robust risk prediction model that could improve decision making. It can be updated regularly as the pandemic evolves, which makes it a flexible and useful tool. However, as with any other tool, care should be taken when interpreting the predictions, and human interpretation and analysis should always be part of the final verdict or decision.

Source: [BMJ](#)

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