

COVID-19: Who to vaccinate first among workers?

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The COVID-19 epidemic and the lockdowns enforced in many countries have imposed high costs on the population: a combined health and socio-economic crisis, during which the world economy shrank by 4.3 percent

in 2020 and 130 million people confront starvation as a result.

Vaccine strategic distribution plans have generally followed the World Health Organizations guidelines. In many European countries, priority has been given to the population according to multiple risk criteria related to age, work and health vulnerability. Guidelines usually do not provide priority criteria for the low-risk healthy population under 60, composing the large majority of the working force vital for restoring the economy.

A new study of researchers at the IMT School for Advanced Studies Lucca proposes a criterion for establishing a priority order in the administration of COVID-19 vaccines in the most advanced stage of the vaccination campaign when the elderly and vulnerable population has been already vaccinated. According to the IMT School researchers, the driving principle should be that the following ones to receive the vaccine should be essential workers, beneficiaries of wage guarantee schemes, and workers facing a high unemployment risk. This would facilitate return to work, the reprise of the economy, and consequently a more efficient allocation of public funds and a reduction of future job losses.

The analysis conducted in the study was based on a dataset that integrates data on human mobility, excess death, furlough workers, weather conditions, and other economic variables. The causal impact of mobility restrictions and lockdowns was estimated using weather conditions as an exogenous source of variation.

The study shows that, with the restrictions imposed during the [lockdown](#), a 1 percent drop in mobility implies a 0.6 percent drop in excess deaths in the following month. On the other hand, a 1 percent drop in [human mobility](#) corresponds to a 10 percent increase in the Wage Guarantee Fund (WGF) in the next month. This effect is more pronounced during the first lockdown and gradually decreases from June on, with the easing

of the restrictions. The analysis then suggests that giving vaccine priority to essential workers not eligible for remote working should be the priority. This strategy would help increase mobility, thus helping the economy while reducing higher excess mortality.

There is also another aspect to consider: From July 2021 on, the EU Digital COVID Certificate Regulation allows European citizens to obtain a COVID-19 certificate, which in principle should facilitate free movements across EU member states. Some European countries are introducing the COVID-19 certificate not just for traveling purposes but also as a requirement to enter indoor public spaces, attend events, get access to restaurants, and even, as in the case of Italy, to access the workplace safely. In this vein, Italy has already made the certificate compulsory for school and university personnel and is now evaluating whether making it mandatory also for other public and private workers categories. As non-vaccinated workers in more professional categories and countries could be potentially impacted by similar restrictions shortly, the need to account for people's employment status and unemployment risk in delivering vaccine doses gets even more relevant.

"The pros and cons of lockdown policies are debated in the literature. In this study, we provide sound evidence of the benefit of the Italian lockdown in reducing excess mortality. However, we also document the collateral harms of lockdowns in terms of unemployment risk. We conclude that lockdowns should be avoided in the future by prioritizing the vaccination of essential workers and people more exposed to unemployment risk among the healthy and active population," says Massimo Riccaboni, Professor of economics at the IMT School and author of the paper.

Regarding the short availability of the vaccines and their optimal distribution, the results of the study are particularly relevant for middle and low-income countries, where the share of people fully vaccinated

against COVID-19 is significantly lower with respect to high-income countries, with percentages ranging between 1 and 30 percent. Future research of the authors will be devoted to understanding how the mobility patterns may influence the employment risk and the vaccination campaigns in other countries and across different sectors of the economy.

More information: COVID-19 vaccination and unemployment risk: lessons from the Italian crisis, *Scientific Reports* (2021). [DOI: 10.1038/s41598-021-97462-6](https://doi.org/10.1038/s41598-021-97462-6)

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