Who should get vaccinated first where supplies are limited?

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Nearly a year after many rich nations achieved widespread vaccination against COVID-19, many less affluent countries still face difficult choices about which groups of people should be the first to receive

vaccines from a limited supply.

Most of these nations appear to be following vaccine-allocation guidelines from the World Health Organization (WHO), which advocate vaccinating older adults first. However, an analysis from Rutgers researchers published in *Clinical Infectious Diseases* suggests different allocation strategies may work better for different nations. In some cases, different allocation strategies may be more effective in minimizing COVID-19 deaths. In others, nations might justifiably choose a different goal.

Ethical values, cultural factors or unjust socioeconomic realities may lead some nations to prefer extending a young person's life by many years to extending several older people's lives by just a few years, particularly if others are dependent on the young person's income.

"The WHO guidelines, which came out in October, advise all countries to do roughly the same as the richest nations did when their vaccine supplies were limited," says Monica Magalhaes, associate director at the Center for Population-Level Bioethics at the Rutgers Institute for Health.

"This advice uses what was known at the time about vaccine efficacy to pursue the legitimate, ethical choice of minimizing COVID-19 deaths," she said. "But as new variants, vaccines, and evidence emerge, the optimal strategy for minimizing deaths may change. What's more, and probably more importantly, minimizing deaths from COVID-19 is not the only legitimate, ethical goal that countries can choose to pursue."

For example, a combination of remote work, remote school, home delivery, stimulus payments and other factors allowed rich nations to mitigate the costs of reducing interpersonal contact to minimize COVID-19 deaths, according to the researchers. In contrast, countries

that are not as rich may not have the means to reduce interpersonal contact without forcing parts of their populations, particularly the most vulnerable, into poverty and potentially death.

Moreover, in high-income nations with long life expectancies, some models found that the strategy of minimizing COVID-19 deaths also comes close to minimizing the total years of life lost. For countries with lower life expectancies, where older adults saved from COVID-19 typically gain fewer extra years of life, it may not be true that saving the most lives will save the most life-years.

"Policymakers in countries that are now rolling out vaccines will face new questions on how to balance goals such as averting deaths from COVID, averting deaths from all causes, saving as many life-years as possible, and others we raise in the paper," said Magalhaes, who coauthored the analysis with colleagues at Rutgers and several international institutions.

She added that "as new COVID variants with different patterns of infection and lethality and new vaccines will likely continue to appear for the foreseeable future, the answer will vary from place to place. We're not telling any country what to do. We're just raising issues they may want to consider."

More information: Nir Eyal et al, COVID vaccine prioritization in low- and middle-income countries may justifiably depart from high-income countries' age priorities, *Clinical Infectious Diseases* (2022). DOI: 10.1093/cid/ciac398

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