

For more on **global vaccine distribution** see <https://www.imf.org/en/Topics/imf-and-covid19/IMF-WHO-COVID-19-Vaccine-Supply-Tracker>

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### Authors' reply

We thank Felipe de Carvalho Borges da Fonseca and colleagues, and Kayvan Bozorgmehr and Rosa Jahn for their comments on our Viewpoint.<sup>1</sup> We agree with de Carvalho Borges da Fonseca and colleagues about the need for “a more equitable, sustainable, and accountable medical innovation system”. Whether waiving patent rights will meaningfully improve access to COVID-19 vaccines for low-income and middle-income countries (LMICs), particularly in the short term, is an empirical matter. There is wide agreement that intellectual property (IP) for mRNA vaccines is not a primary barrier to vaccinating the world,<sup>2,3</sup> vaccine production, distribution, and administration are the rate-limiting steps.

Sustainability is not about preserving the status quo, pharmaceutical companies, or current profits. What is important is the outcome: effectively addressing global health threats. We need to motivate innovative scientists and companies with the right research, development, and manufacturing capacity to put aside other projects and focus on a future pandemic or other health emergency. Uncoordinated efforts to waive IP rights without creating substitute incentives, or voluntary programmes that fail to attract participants, will not mobilise a vigorous response to either this or the next pandemic. Sustainability cannot be ignored. It concerns the ability of health systems to save lives in the future. Thus, sustainability is a moral imperative comparable to that of saving lives today.

Most pharmaceutical companies are pursuing bilateral vaccine deals.

More than half of all vaccines have been distributed through such deals. The partially bilateral approach we endorse changes this state of affairs and enhances distribution of vaccines to LMICs that are suffering the greatest COVID-19-related harms.

Bozorgmehr and Jahn urge the prioritisation of countries that hosted vaccine trials. This is a backward-looking principle. If implemented, it would impede timely access to vaccines in many countries that are suffering from COVID-19, costing lives. We endorse a forward-looking principle—helping the countries suffering most from COVID-19. According to Bozorgmehr and Jahn's list, no mRNA vaccines were tested in lower-middle-income or low-income countries. Indeed, they list only a few lower-middle-income countries that hosted any vaccine trials, and only one low-income country (Mozambique). Preferentially allocating vaccines to countries that hosted trials favours those with research infrastructure, rather than those facing the worst burdens from COVID-19. That is not ethically defensible.

Bozorgmehr and Jahn also call for legally binding mechanisms to ensure access to COVID-19 vaccines. Our approach specifically emphasises companies' moral duties. Often, making moral duties legally binding is appropriate. A future institutional solution should specify obligations for state and corporate stakeholders in facilitating technology and knowledge transfers.

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## Enabling physical activity for people living with disabilities

The call for multi-level action for the promotion of participation of people living with disabilities (PLWD) in physical activity by Kathleen Martin Ginis and colleagues<sup>1</sup> underscores the lack of structural opportunities for participation. Health-care workers might provide long-term interventions to PLWD in and throughout life-course stages,