## 100-Crore Vaccines in India: A Formidable Partnership Between Science and Policy

Sir,

On October 21, 2021, India crossed the mark of 100-crore vaccinations. As of October 21, 2021, 98.8% of health-care workers took 1<sup>st</sup> dose and 88.4% took 2<sup>nd</sup> dose. According to a recent survey, 75.4% of the country's adult population has gotten a dose of the COVID-19 vaccination. India tops the world in terms of the number of people who have gotten one or more doses of the COVID-19 vaccine.<sup>[1]</sup>

India faced many challenges and barriers to reaching this mark of 100-crore vaccination. Vaccine hesitancy<sup>[2]</sup> is the first major challenge India had to overcome. The hesitancy was based on newer techniques used in the development of the vaccine, the speed of development of the vaccine, and fake social media messages. The second major challenge was the second wave of COVID-19 from March 2021. There was a sharp surge in daily positivity rate, up to 20% which directly affected health-care resources. The third major challenge was increased demand and lack of supply since the demand was not only from India but also from other countries.<sup>[3]</sup> In addition to these, there were temporary sanctions from the United States, and it was difficult to procure the raw materials required for vaccines.<sup>[4]</sup> Another major challenge was the evolution of newer variants against which the vaccines seem to be less effective.

India is blessed with a massive network of primary health-care centers all over the country which also covers rural as well as remote tribal populations. India also has experience in conducting massive immunization campaigns such as pulse polio. India made two dry runs before the vaccination drive which helped the health workers to get ready with the massive vaccination drive. India started the vaccination drive in a phased manner by prioritizing the beneficiaries and adopted a "layered approach."[1] All the health workers and frontline workers were given the doses in the first phase of vaccination. Later, in the second phase, the government started to vaccinate the vulnerable population who were hit in large numbers during the first as well as the second wave. Finally, the vaccine became available for all adults above 18 years of age. To deal with misinformation and rumors, the government roped in communication experts to draft social mobilization programs which included celebrities, religious leaders, and community leaders were roped in to create awareness. Another boon for India is that the country has its own two massive production companies for vaccine production such as the Serum Institute of India and Bharat Biotech. Initially, the Government of India bought all the doses produced by these companies which helped the companies to boost production. India invested huge amounts to create an ecosystem that helped entrepreneurs to

collaborate with scientists to develop vaccines. Several grants were also allocated to these companies to boost production. The "Atmanirbhar Bharat" has helped to steer the domestic vaccine research and development program.[1] Now the states have 11 billion unutilized doses in reserve for further vaccination. The second wave became a blessing in disguise as people started to cooperate more with the vaccination drive.[5] India had also set up expert panels such as Adverse Events Following Immunization, National Taskforce for Focused research on Corona Vaccine, National Technical Advisory Group on Immunization, National Expert Group on Vaccine Administration for COVID -19, and an Empowered Group on Vaccine Administration for COVID-19 to help in updating and policymaking. The government also developed a digital interface, the CoWin portal, to help the registration of beneficiaries and equitable distribution of vaccines.[1] On October 27, 2021, the health ministry announced the "Har Ghar Dastak" vaccination campaign over the next 1 month for door-to-door vaccination aimed toward full vaccination in poor-performing districts to cover all eligible with 1st dose of COVID-19 vaccine by the end of November 2021.<sup>[6]</sup>

The strong political will, as well as the strong cooperation of people, has helped to achieve 100-crore COVID-19 vaccinations in the country.

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#### **Conflicts of interest**

There are no conflicts of interest.

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