

COVID-19 Vaccines: Production & Uptake

*Using available data to model
the supply and use of COVID-19 vaccines*



Modeling the Number of COVID-19 Vaccine Doses Needed

Production Capacity

Objective: Forecast the number of doses that could be produced through December 2022

Method: Extrapolate based on actual production during 2021:Q4 and manufacturer announcements

Source:  HOME OF NEW SCIENCE

Production

Objective: Forecast the number of doses produced (based on recent trends) through December 2022

Method: Extrapolate based on actual production during the second quarter of 2022

Source:  HOME OF NEW SCIENCE

Doses Administered

Objective: Forecast the number of doses administered (based on recent trends) through December 2022

Method: Extrapolate based on doses administered in each country during the second quarter of 2022

Source: 

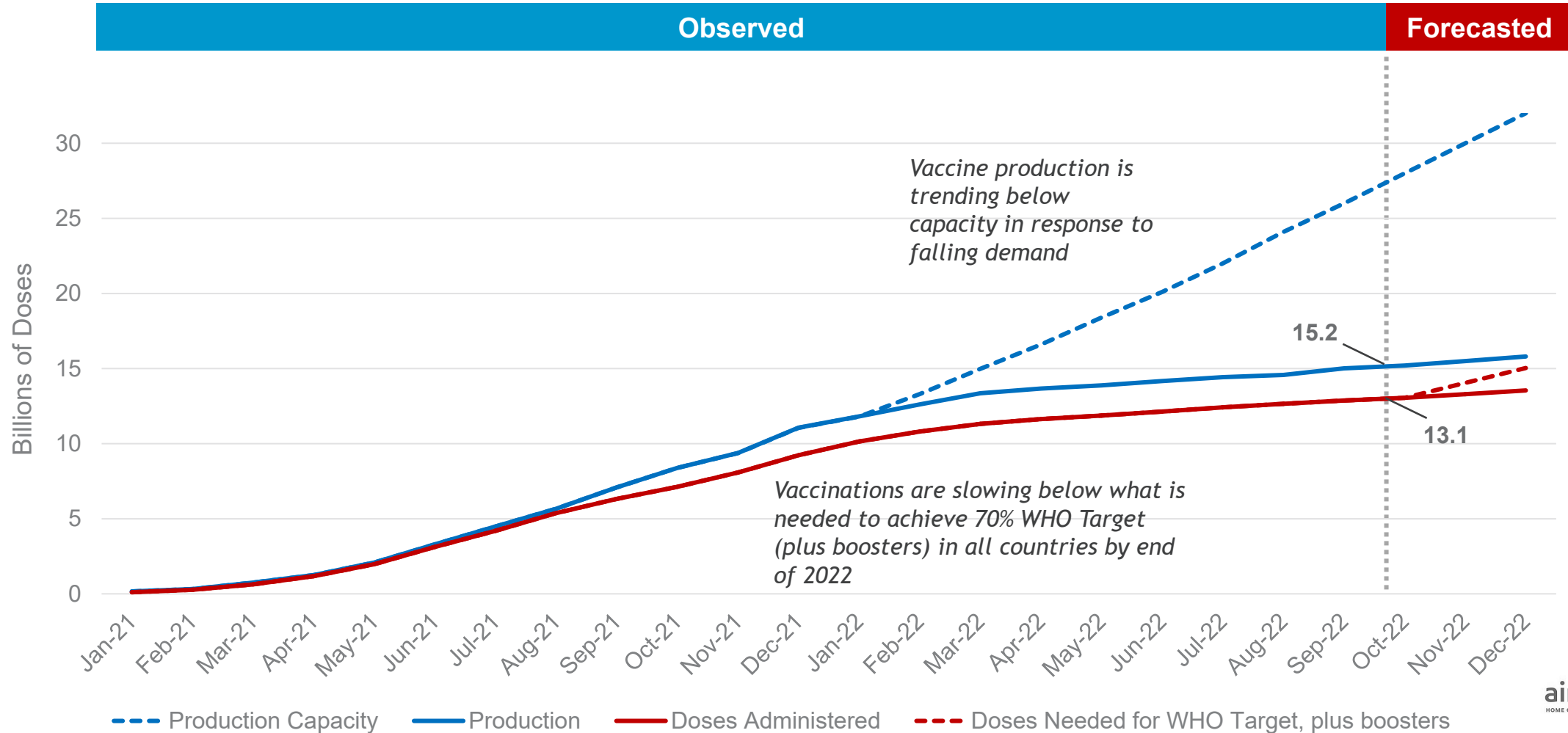
Doses Needed

Objective: Forecast the number of doses needed through December 2022 to achieve WHO target (plus boosters)

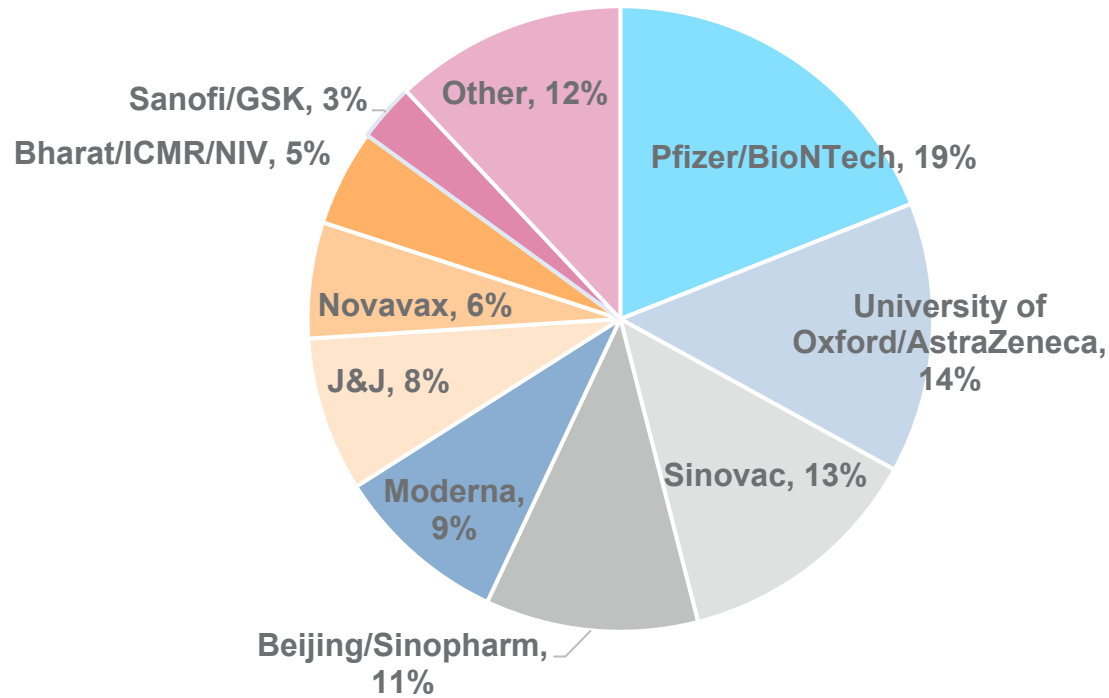
Method: Estimate number of doses needed based on current vaccination status in each country

Source: 

Forecasts Show Slowing Demand and Production, but Still Enough Doses to Exceed 70% WHO Target

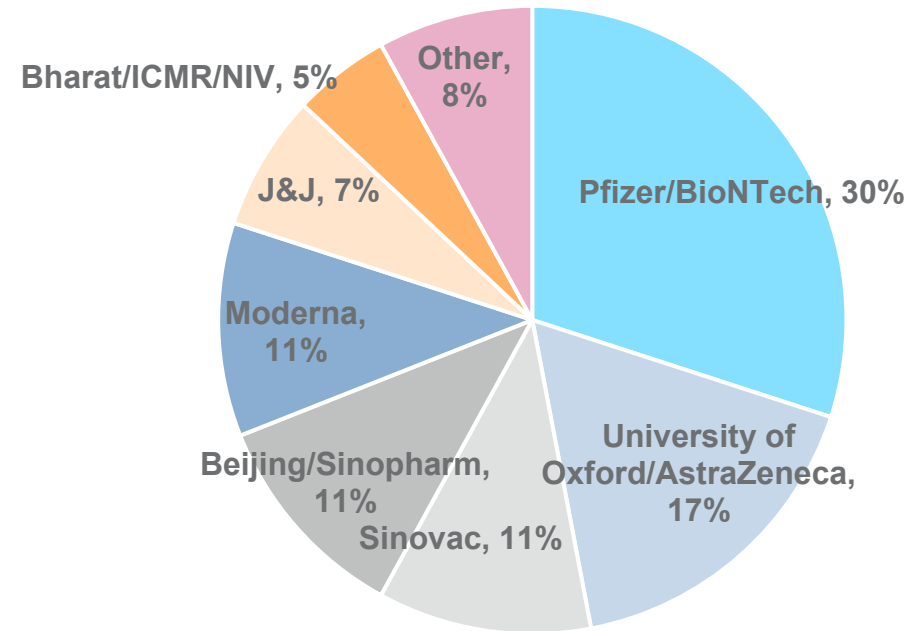


Slowing Demand Discouraging Production from New Entrants And Some Established Producers



Production Capacity - 2022

(forecast based on 2021:Q4 production and company ramp-up projections)

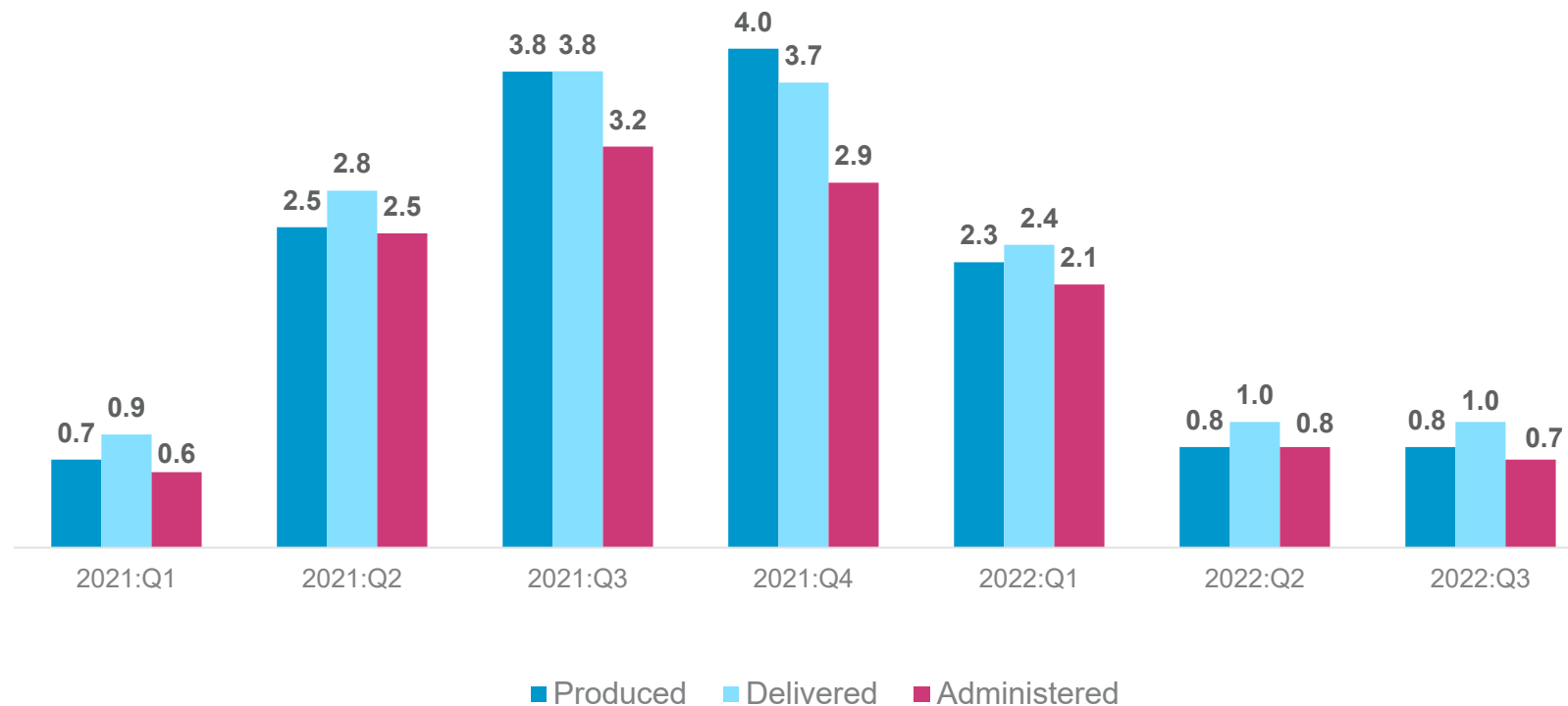


Production - 2022:Jan-Oct

(actual production during 2022: Jan-Oct)

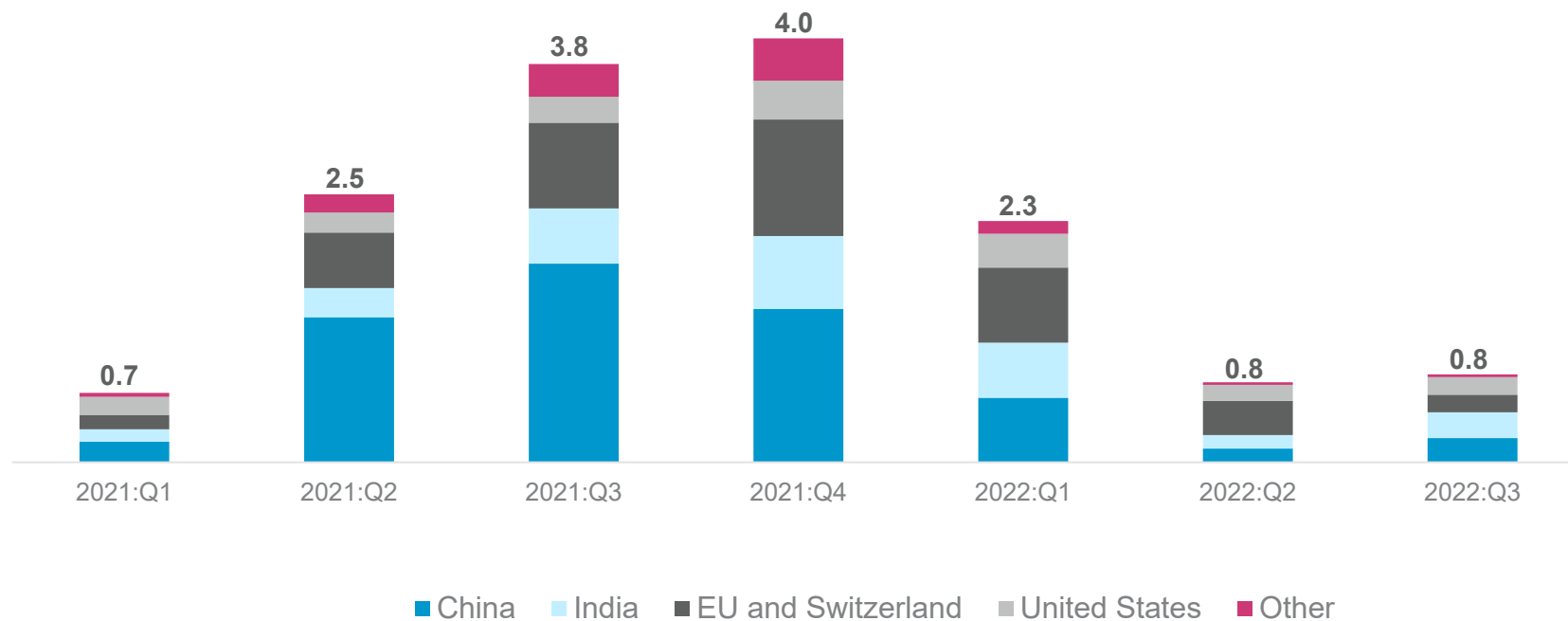
The Number of Doses Administered Started Slowing in 2021:Q4 and Production Started Slowing in 2022:Q1

Quarterly Number of Doses
Produced, Delivered and Administered (in Billions of Doses)



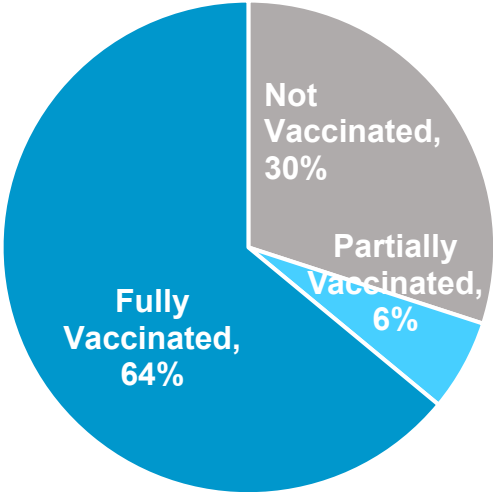
China and India Account for More than Half of the Overall Slowdown in Production from 2021:Q4 to 2022:Q3

Quarterly Number of Doses Produced, By Country (in Billions of Doses)

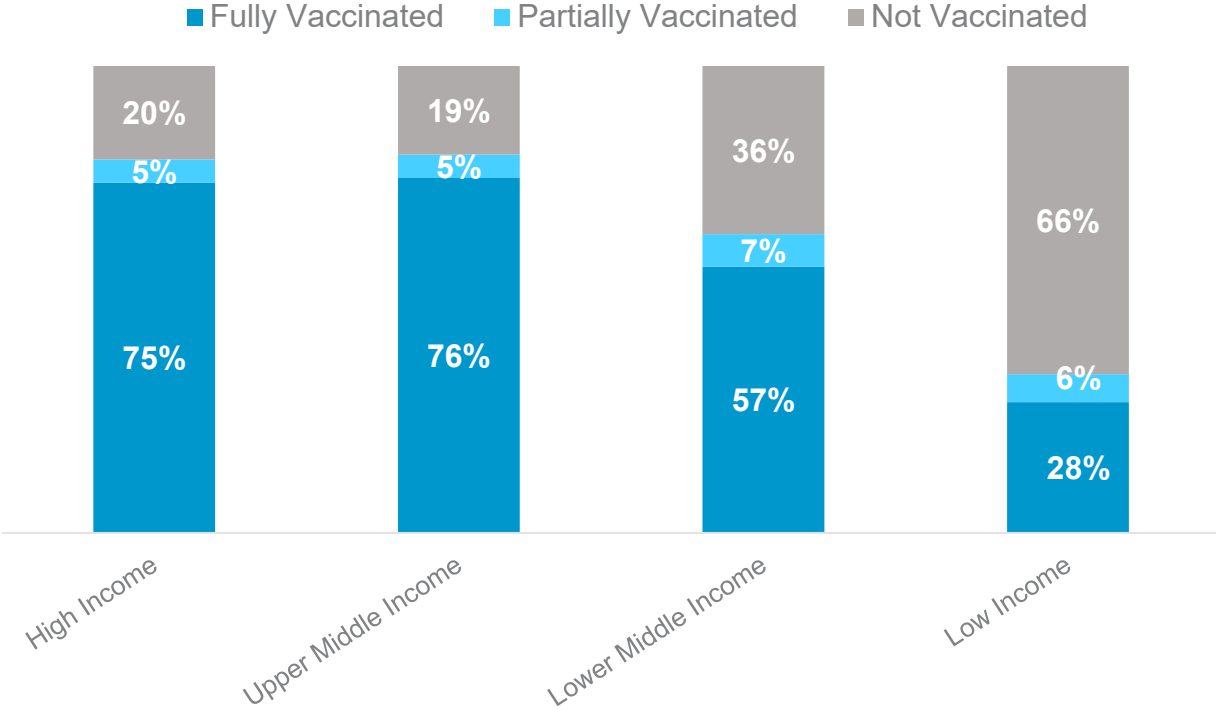


70 Percent of World Population Received At Least One Dose of a COVID-19 Vaccine by End of October 2022

All Countries

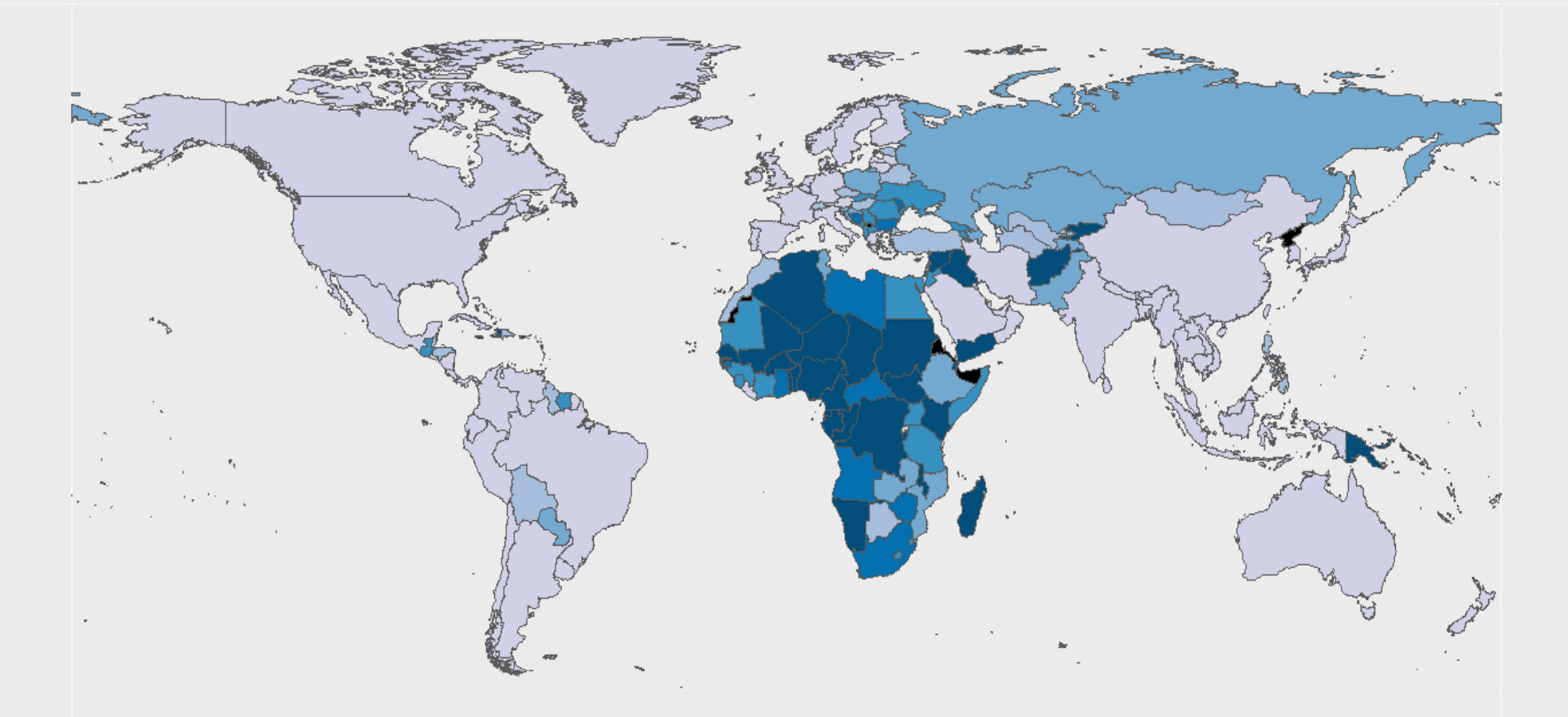


By Country Income Group

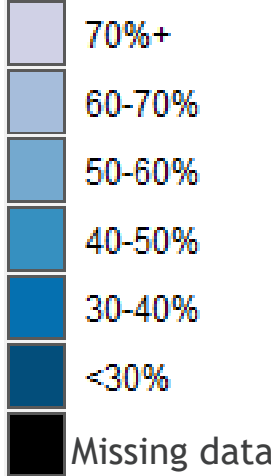


Source: Our World in Data, URL: <https://ourworldindata.org/>. Note: COVID-19 vaccine status estimates are as of October 31, 2022. "Fully vaccinated" is defined as having received one complete regimen (e.g., 1-2 doses for most COVID-19 vaccines) with or without a booster. Not vaccinated" includes children under the age of 5, as well as any other populations deemed ineligible for COVID-19 vaccines in any country. "Partially vaccinated" is defined as having received an incomplete regimen (e.g., 1 of 2 doses for most COVID-19 vaccines).

Countries with the Lowest Rates of COVID-19 Vaccinations Are Mostly in Africa



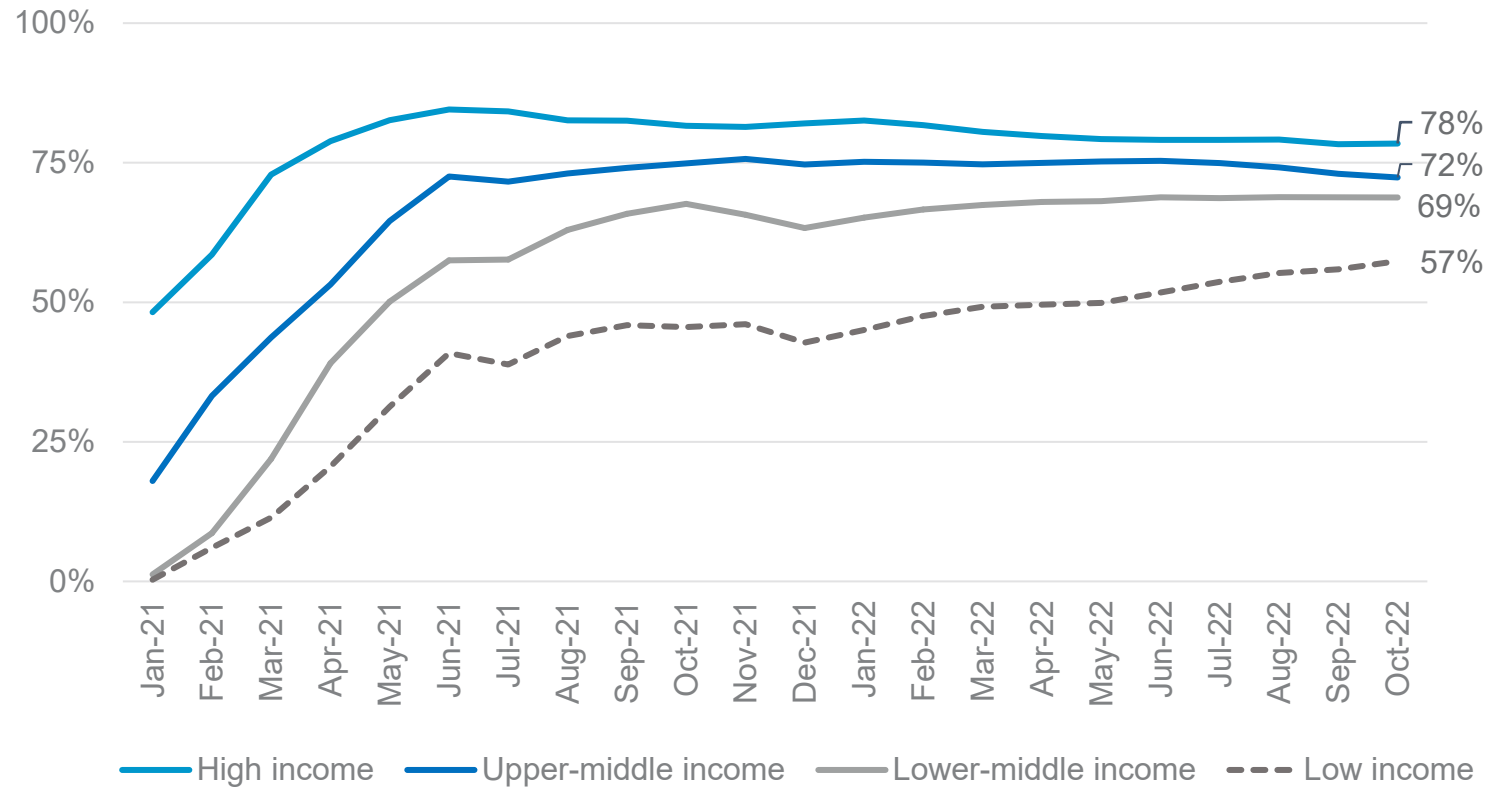
Percent of population receiving at least one dose



Low Income Countries Have Struggled to Get More than 50% of Delivered Doses Into Arms

Share of Delivered Doses That Are Administered, By Country Income Group

Impact: Last-mile challenges in getting shots in arms reduced vaccinations in low-income countries by more than 50 million*

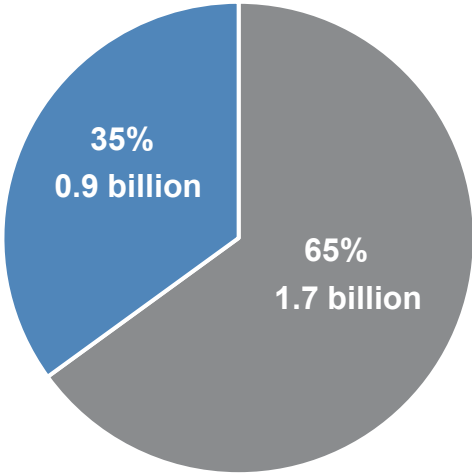


Source: Source: Our World in Data, URL: <https://ourworldindata.org/>. *The impact of low-income countries' distribution challenges is estimated by calculating the number of additional people in low-income countries that would have been vaccinated if low-income countries administered the same share of their delivered doses as did lower-middle-income countries between January 2021 and October 2022.

Doses Needed from November through December 2022

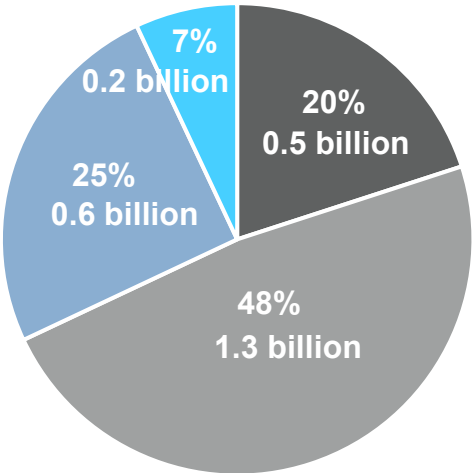
2.6 billion doses needed to achieve 70% WHO vaccination target in each country, plus a booster 6 months after final primary dose

Number of Doses Needed:
Primary Doses and Boosters



■ Primary Series Doses ■ Boosters

Number of Doses Needed:
By Country Income Group



■ Low Income ■ Lower-Middle Income
■ Upper-Middle Income ■ High Income



Source: [Our World in Data](#) global database of COVID-19 vaccinations as of October 31, 2022. Note: The number of doses needed to achieve the 70 percent WHO target, plus a booster 6 months after the final primary dose, in every country is derived from data on vaccinations by country provided by the [Our World in Data](#) global database of COVID-19 vaccinations as of October 31, 2022

Estimated Production Capacity and Needed Doses for Remainder of 2022

(Billions of Doses, November to December 2022)

