Tracking Global COVID-19 Vaccine Equity: An Update

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Prompted by the global COVID-19 Summit, called on by President Biden on September 22 (https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/17/statement-by-white-house-press-secretary-jen-psaki-on-covid-19-summit/) held in conjunction with the United Nations General Assembly (UNGA), we provide updated estimates of global COVID-19 vaccine access and equity (our prior analysis from July is here (https://www.kff.org/coronavirus-covid-19/issue-brief/tracking-global-covid-19-vaccine-equity/)). We examine access by country income level and region, and also estimate progress toward global vaccination goals. These goals include reaching 40% (https://www.who.int/news-room/commentaries/detail/a-new-commitment-for-vaccine-equity-and-defeating-the-pandemic) vaccination coverage in all countries by the end of 2021 and 70% (https://www.who.int/news/item/14-09-2021-leaders-make-urgent-call-to-accelerate-vaccination-globally-and-in-africa) by mid-2022, called for by the World Health Organization and others.[1] In addition, President Biden has called for reaching 70% fully vaccinated in all countries by fall 2022, ahead of next year's UNGA meeting. For this analysis, we estimate the share of population within each grouping (income and region) expected to receive at least one dose against these targets in order to provide a best-case scenario (since reaching full vaccination would actually require more than one dose for many COVID-19 vaccines).

In our updated analysis we find that, as of September 9, there continue to be wide disparities in access and at current rates, most low-income countries (LICs) and most countries in Africa will not reach global vaccination targets. We also find that, compared to July, the rate at which vaccination would have to increase for LICs to meet global targets is even greater now, due to more ambitious goals and continued low rates of dose administration in these countries.

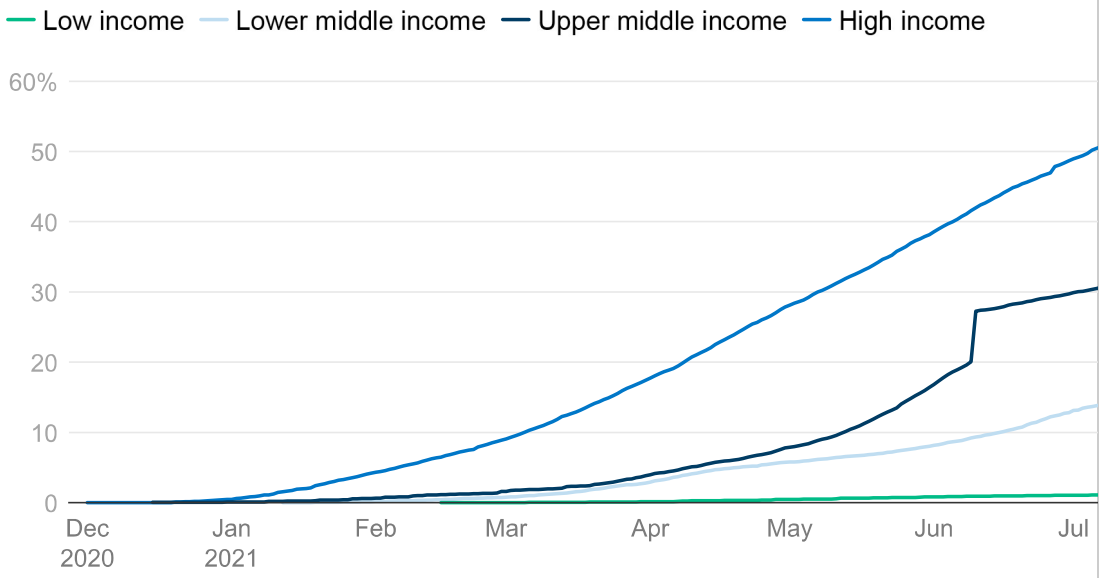
COVID-19 Vaccinations by Country Income

There are large differences in the share of the population that has received at least one vaccine dose by country income, with low-income countries lagging significantly behind. As of September 9, only 2% of the population in LICs had received at least one vaccine dose, compared to 30% in lower-middle-

income countries (LMICs), 54% in upper-middle-income countries (UMICs), and nearly two-thirds (65%) in high-income countries (HICs). In 6 LICs (25%), fewer than 1% had received at least one vaccine dose. By contrast, in 6 HICs (8%), more than 80% of the population had (see Figure 1 and Figure 2).

Figure 1

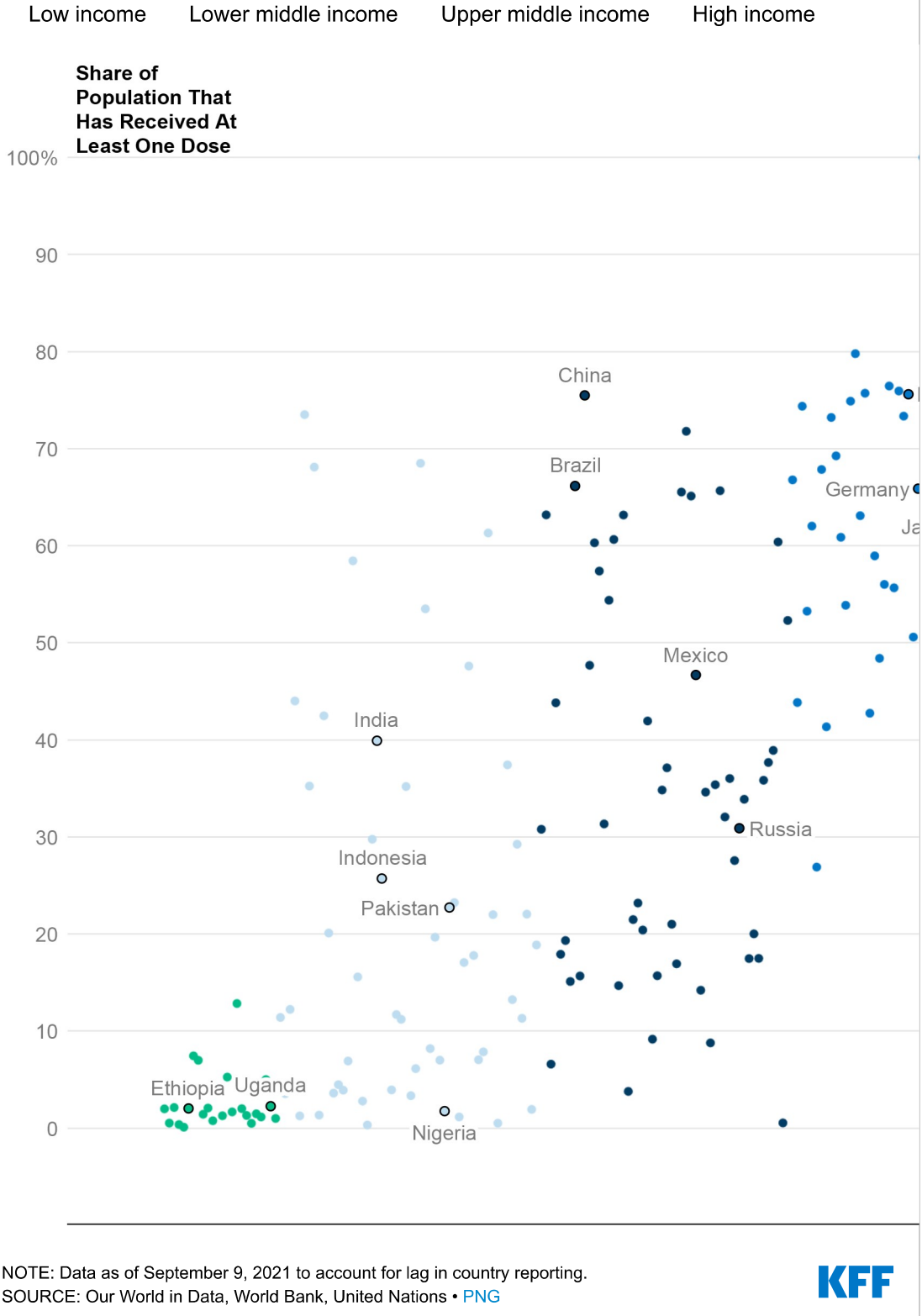
Share of Population That Has Received At Least One Dose by Income



NOTE: Data as of September 9, 2021 to account for any lag in country reporting. China reported its first record of number of people who have received at least one dose on June 10, 2021, resulting in a large increase from previous lower-bound calculations. Additionally, China reports data periodically,

Figure 2

Share of Population That Has Received At Least One Dose by Country and Income



NOTE: Data as of September 9, 2021 to account for lag in country reporting.
SOURCE: Our World in Data, World Bank, United Nations • PNG

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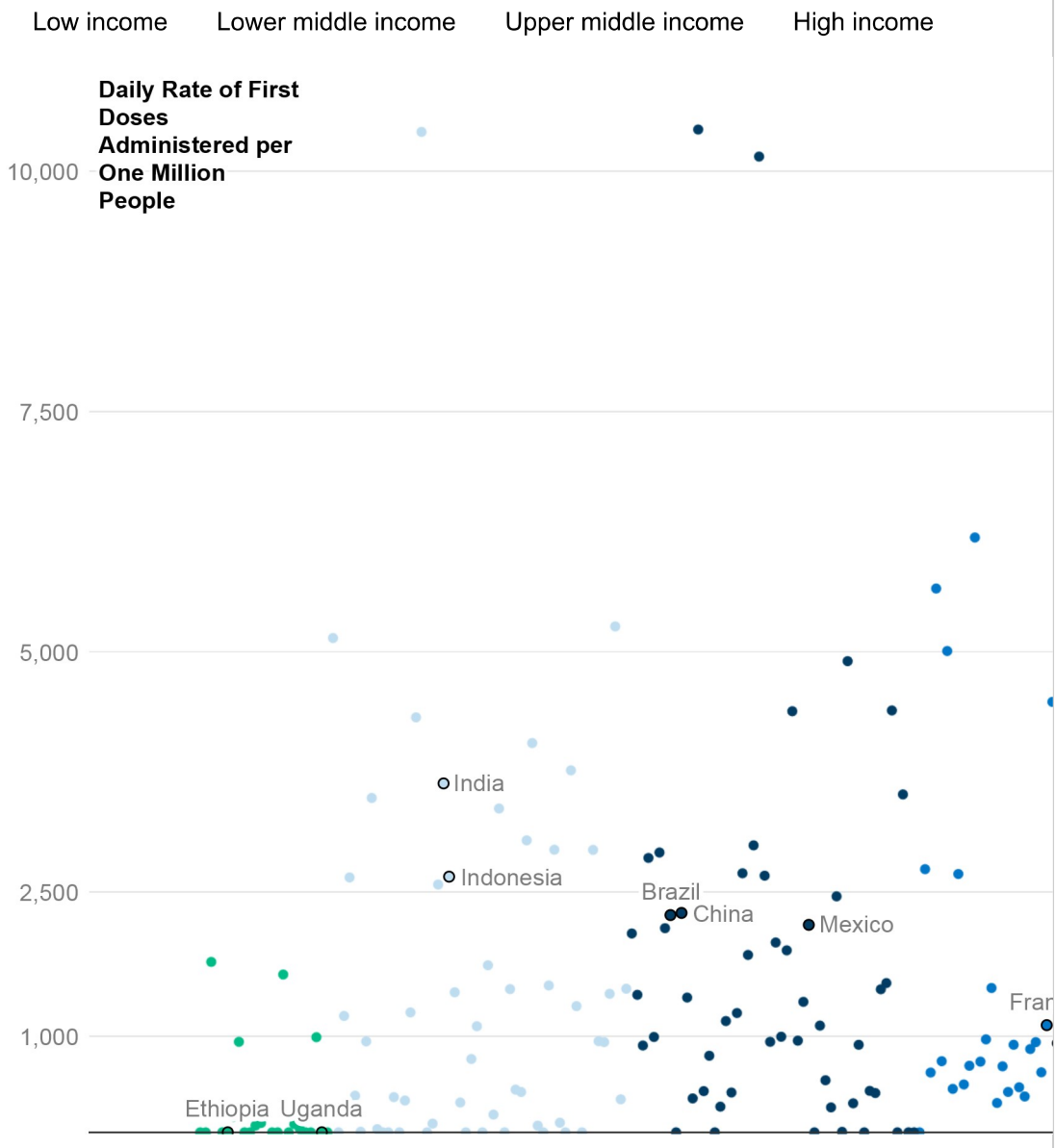
See Table 1 for the full list of countries in each income group by share of population that has received at least one dose.

Similarly, there is also a large gulf in the rate at which vaccines are being administered by country income. While the daily rate of first doses administered varies by country (see Figure 3), in late August, LMICs surpassed HICs and UMICs, due to both an increase in first doses being administered in LMICs and a decrease in rates among HICs and UMICs. However, all three income groups are vaccinating at a rate ranging from 19-29 times higher than LICs. See Table 2 for a breakdown of countries in each income group by coverage and daily administration rates.

Figure 3

Daily Rate of First Doses Administered per One Million People by Country and Income



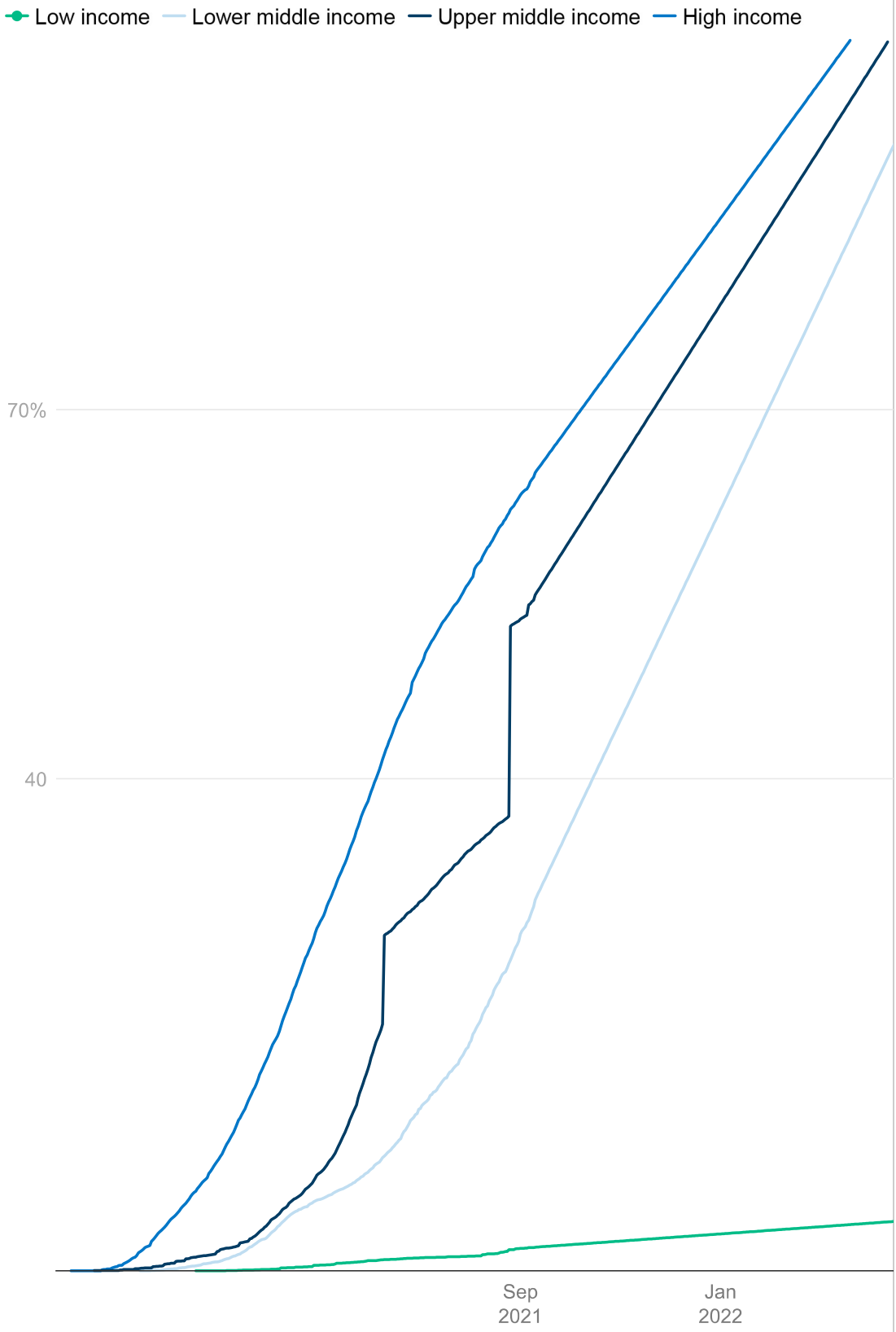
NOTE: Daily doses administered based on 7-day rolling average in first doses administered. Data as of September 9, 2021 to account for lag in country reporting.
SOURCE: Our World in Data, World Bank, United Nations • PNG

If current trends continue, these disparities are likely to grow, and LICs are

unlikely to meet vaccination targets. Based on current vaccination rates (using rates of first doses administered), HICs, UMICs, and LMICs are on track to have 40% or more of their populations having received at least one dose by the end of the year, whereas LICs would need to increase their daily rate by nearly 35 times in order to meet the same goal. HICs, UMICs, and LMICs are also on track to have 70% or more of their populations having received at least one dose by mid-2022, while LICs would need to increase their daily rate by 24 times (see Figure 4). As of September 9, almost all HICs (68 countries or 96%) had already met one or both of the WHO targets, as had just over a third of UMICs (18 or 35%). Less than a fifth of LMICs (9 or 17%) and no LICs had met these targets. In order to reach 70% of the population with at least one dose by next year's UNGA meeting, LICs would need to increase their daily rate by 19 times.

Figure 4

Projected Share of Population That Has Received At Least One Dose by Income Using Global Targets



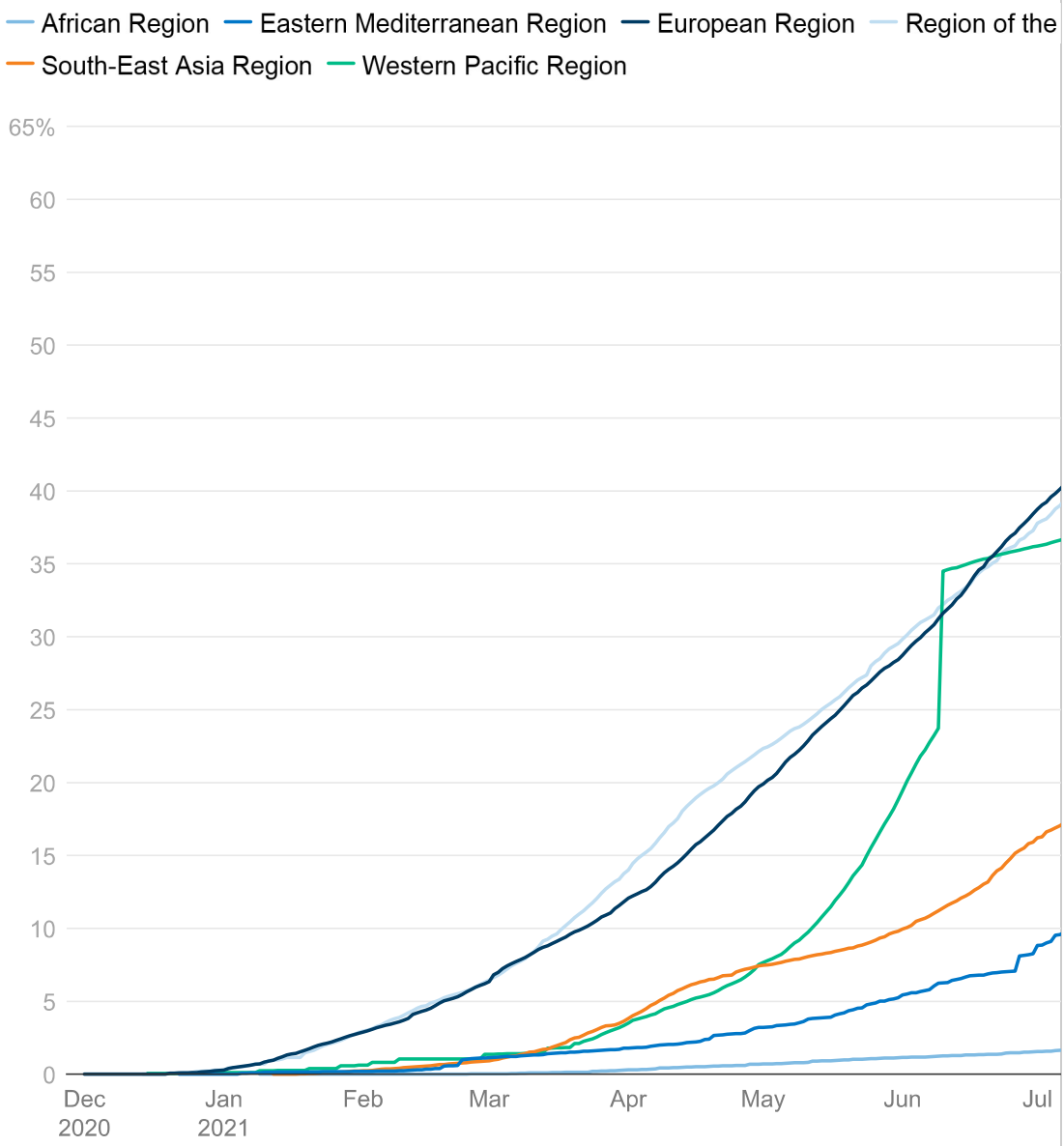
NOTE: Projections based on 7-day rolling average of daily rate of first doses administered. Data as of September 9, 2021 to account for any lag in country reporting. China reported its first record of number of people who have received at least one dose on June 10, 2021, resulting in a large increase from previous lower-bound calculations. Additionally, China reports data periodically, with reports on August 26, 2021 and September 6, 2021, resulting in a large increase from our estimates. Projections not visualized once income group has reached 100% coverage.

COVID-19 Vaccinations by Region

As with country income, there are large differences in the share of the population that has received at least one vaccine dose by region, with the highest coverage in the Western Pacific and smallest in Africa. As of September 9, the region with the highest coverage is the Western Pacific (67%) followed by the Americas (56%) and Europe (52%); Africa has the lowest coverage (4%) (see Figure 5 and Figure 6).

Figure 5

Share of Population That Has Received At Least One Dose by Region



NOTE: Data as of September 9, 2021 to account for lag in country reporting. China reported its first record of number of people who have received at least one dose on June 10, 2021, resulting in a large increase from previous lower-bound calculations. Additionally, China reports data periodically, with

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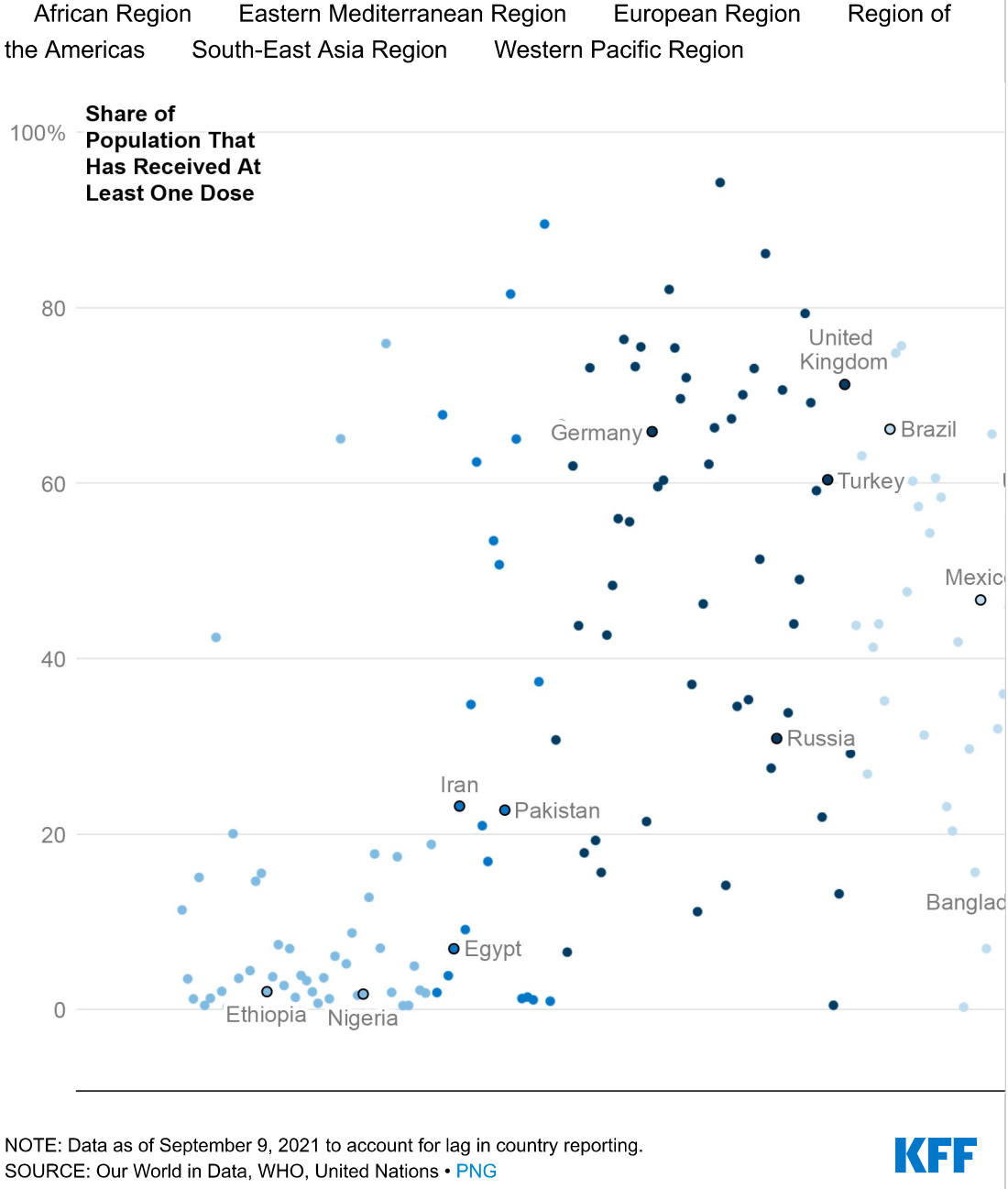
Figure 6

Share of Population That Has Received At Least One Dose by Country and Region



NOTE: Data as of September 9, 2021 to account for lag in country reporting.
SOURCE: Our World in Data, WHO, United Nations • PNG

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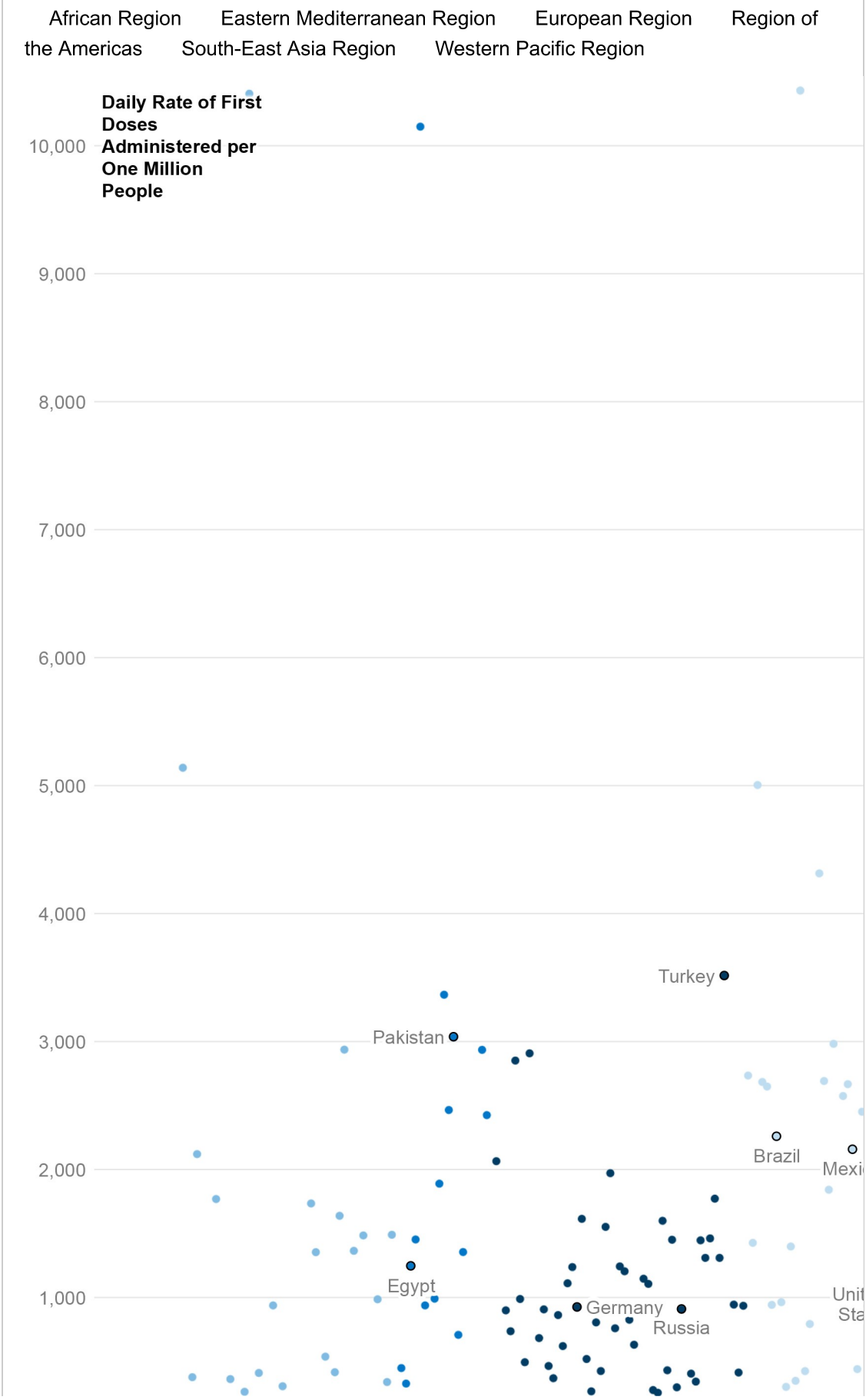
See Table 3 for a breakdown of top countries in each region by coverage and daily administration rates.

The rate of vaccine administration is highest in South-East Asia and lowest in Africa. While rates of first doses administered vary by country (see Figure 7), South-East Asia currently has the highest rate of daily doses administered. This region is vaccinating at a rate 1.2 times that of the Western Pacific, 1.4 times that of Eastern Mediterranean nearly 2 times the rate of the Americas, 2.7 times that of Europe, and 6 times higher that of Africa. See Table 4 for a breakdown of countries in each region by coverage and daily administration rates.

Figure 7

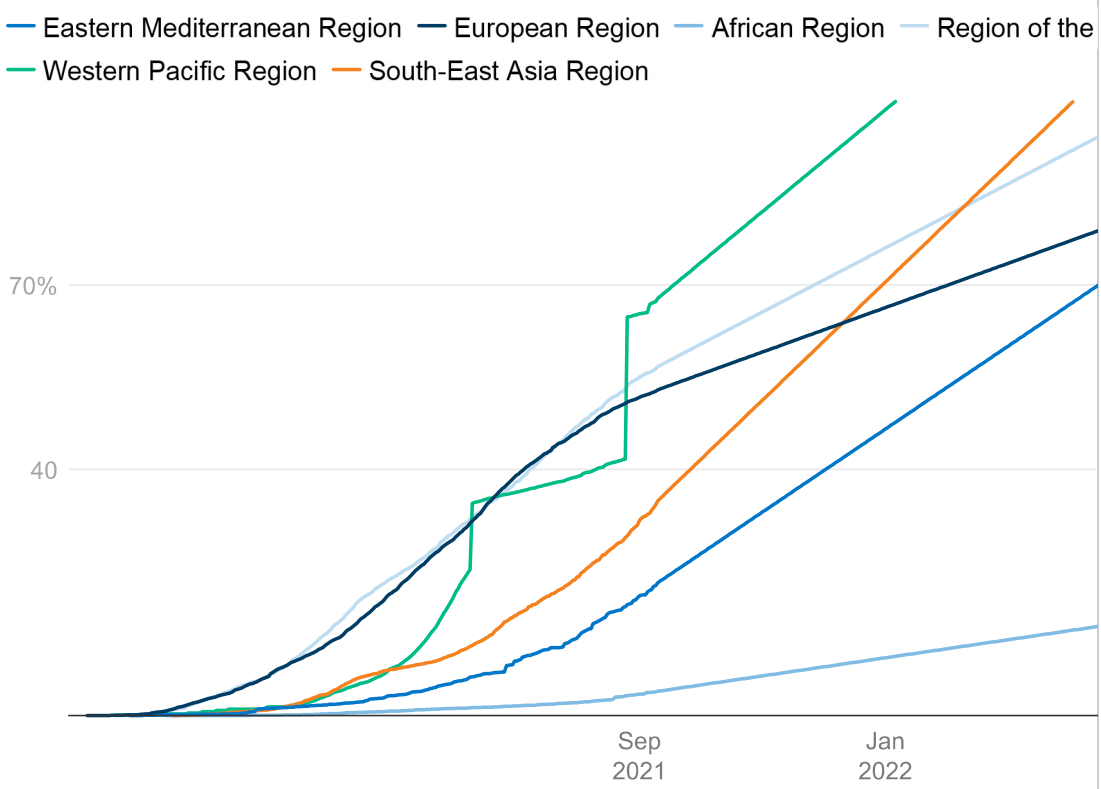
Daily Rate of First Doses Administered per One Million People by Country and Region



These disparities are likely to grow based on current vaccination trends. Western Pacific, Europe, the Americas, and South-East Asia, and Eastern Mediterranean are all ahead of schedule toward reaching 40% by the end of 2021 while Africa would need to increase its rate of daily first doses administered by more than 6 times the current rate. They are also ahead of schedule to reach 70% by mid-2022, while Africa would need to increase its rate of daily first doses administered by approximately 5 times the current rate (see Figure 8). Certain countries, primarily those in Europe, have already met some of these vaccination targets. As of September 9, 35 European countries (66%) have met one or both of these targets, and more than half of countries in the Americas (54%) and the Western Pacific (52%) have met one or both of these targets. On the other hand, only 7% of countries in Africa (3 countries) have met either of these targets. In order to reach 70% of the population with at least one dose by next year's UNGA meeting, the African region would need to increase its daily rate by nearly 4 times.

Figure 8

Projected Share of Population That Has Received At Least One Dose by Region Using Global Targets



NOTE: Data as of September 9, 2021 to account for any lag in country reporting. China reported its first record of number of people who have received at least one dose on June 10, 2021, resulting in a large increase from previous lower-bound calculations. Additionally, China reports data periodically, with reports on August 26, 2021 and September 6, 2021, resulting in a large increase from our estimates. Projections not visualized once region has reached 100% coverage.
SOURCE: Our World in Data, World Bank, United Nations • PNG

Implications

These findings underscore an ongoing equity gap in access to COVID-19 vaccinations around the world, particularly for those living in the poorest

countries and in countries in Africa. Furthermore, they suggest that if current rates continue, some of these disparities may grow and many low-income countries will not meet global targets. Increasing vaccine supply and stepping up the pace of vaccinations in those countries lagging furthest behind can narrow the equity gap and help all countries achieve COVID-19 vaccination coverage goals.

Tables

Table 1: Countries by Share of Population that Has Received at Least One Dose

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Income	Country	Share of Population That Has Received At Least One Dose
Low income	Rwanda	12.8%
	Gambia	7.4%
	Guinea	7.0%
	Mozambique	5.3%
	Togo	5.0%
	Malawi	3.7%
	Uganda	2.3%
	Central African Republic	2.1%
	Liberia	2.1%
	Ethiopia	2.0%
	Sierra Leone	2.0%
	Afghanistan	2.0%
	Niger	1.7%
	Sudan	1.5%
	Guinea-Bissau	1.4%
	Somalia	1.3%
	Mali	1.3%
	Syria	1.2%
	Yemen	1.0%
	Madagascar	0.8%
	Burkina Faso	0.5%
	South Sudan	0.5%
	Chad	0.4%
	Congo - Kinshasa	0.1%

Table 2: Countries by Daily Rate of First COVID-19 Vaccine Doses Administered per 1,000,000 People

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Income	Country	Daily Rate of First Doses Administered per 1,000,000 People
Low income	Central African Republic	1,773
	Rwanda	1,642
	Togo	990
	Guinea	942
	Mali	191
	Chad	175
	Gambia	162
	Malawi	98
	Somalia	86
	Madagascar	70
	South Sudan	36
	Congo - Kinshasa	1
	Sudan	1
	Afghanistan	0
	Burkina Faso	0
	Ethiopia	0
	Guinea-Bissau	0
	Liberia	0
	Mozambique	0
	Niger	0
	Sierra Leone	0
	Syria	0
	Uganda	0
	Yemen	0

Table 3: Countries by Share of Population that Has Received at Least One Dose

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Region	Country	Share of Population That Has Received At Least One Dose
African Region	Seychelles	76.0%
	Mauritius	65.1%
	Cape Verde	42.5%
	Comoros	20....
	Zimbabwe	18...
	Sao Tome & Principe	17.8%
	South Africa	17.5%
	Eswatini	15.6%
	Botswana	15.1%
	Equatorial Guinea	14.7%
	Rwanda	12.8%
	Algeria	11.4%
	Namibia	8.8%
	Gambia	7.4%
	Senegal	7.0%
	Guinea	7.0%
	Mauritania	6.1%
	Mozambique	5.3%
	Togo	5.0%
	Cote d'Ivoire	4.5%
	Kenya	3.9%
	Gabon	3.8%
	Malawi	3.7%
	Congo - Brazzaville	3.6%

Table 4: Countries by Daily Rate of First Doses Administered by Region

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Region	Country	Daily Rate of First Doses Administered per 1,000,000 People
African Region	Eswatini	10,409
	Algeria	5,143
	Sao Tome & Principe	2,940
	Botswana	2,124
	Central African Republic	1,773
	Mauritania	1,739
	Rwanda	1,642
	Zimbabwe	1,494
	South Africa	1,489
	Seychelles	1,368
	Mauritius	1,358
	Togo	990
	Guinea	942
	Namibia	542
	Nigeria	420
	Gabon	414
	Benin	381
	Congo - Brazzaville	366
	Zambia	343
	Kenya	310
	Equatorial Guinea	267
	Mali	191
	Chad	175
	Gambia	162

Methodology

Vaccination Data: We used country-level vaccination data on doses administered, provided by Our World in Data (https://github.com/owid/covid-19-data/tree/master/public/data/vaccinations/country_data) (OWID), to assess global vaccination trends at the income and regional level. Totals for some entities were combined (Taiwan, Hong Kong, and Macao included as part of China, and Jersey and Guernsey were combined and reported as the Channel Islands). Where missing data in the daily doses provided existed between two dates for a country, we estimated the number of doses administered each day between the two reported dates assuming a linear distribution. For countries that have stopped reporting data, we assumed no change in new doses administered. For countries that report total doses administered but not share of population that has received at least one dose, we use OWID's suggested methodology (https://ourworldindata.org/covid-vaccinations) and calculated a lower-bound estimate. As a result, our estimates are conservative and the actual share of the population receiving one dose is likely higher. For data on daily administration of first doses, we calculated the rolling 7-day average in daily change of the number of people who have received at least one dose. For projecting increased rate needed for groupings to reach certain benchmarks (40% by end of 2021, 70% by July 1, 2022, and 70% by September 13, 2022), we calculated the rate needed to reach these benchmarks for each grouping, based on number of first doses already administered and population, and calculated the percentage change from the current daily rate in first doses being administered to the increased rate needed to reach these targets. Lastly, for all data, to account for any lag in country reporting, we use data up to one week prior (September 9, 2021).

Population Data: Population data were obtained from the United Nations World Population Prospects (https://population.un.org/wpp/Download/Standard/Population/) using 2020 estimates for total population (and the CIA World Factbook (https://www.cia.gov/the-world-factbook/field/population/country-comparison) for Serbia and Kosovo). Totals for some entities were combined (Taiwan, Hong Kong, and Macao included as part of China), while others were separated (separating Kosovo from Serbia).

Income Data: Income classifications were obtained using World Bank (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519) data. Entities lacking an income classification were excluded from the income-level analysis.

Regional Data: Region classifications were obtained using World Health Organization (https://www.who.int/countries) data. Entities lacking a region classification were excluded from the region-level analysis.

Endnotes

1. While the coverage goals seek to reach 40% and 60% coverage, it is not clear whether this refers to partial coverage (share of population that has

received at least one dose) or full coverage (share of population that is fully vaccinated). For our analysis, we focus on share of population that has received at least one dose. Additionally, while these goals aim to vaccinate the global population, we look at populations by income-level and region.

← Return to text (https://www.kff.org/coronavirus-covid-19/issue-brief/tracking-global-covid-19-vaccine-equity-an-update/#endnote_link_533260-1)

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