Vaccination Report – 5 April 2022

1. Vaccine Implementation

- WHO's Emergency Use Listing(EUL) Vaccines (Last Updated 2 April 2022)
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	Manufacturer	Name of Vaccine	NRA of Record	Vaccine type	
1	Pfizer-BioNTech (US)	BNT162b2/COMIRNATY Tozinameran (INN)	EMA,USFDA	mRNA	
2	AstraZeneca (UK)	AZD1222 Vaxzevria	EMA, MFDS KOREA, Japan MHLW/PMDA, Australia TGA, COFEPRIS(Mexico), ANMAT(Argentina)	Non ReplicatingViral vector	
3	Serum Institute of India (India)	Covishield (ChAdOx1_nCoV-19)	DCGI	Non Replicating Viral Vector	
4	Johnson &Johnson (US)	Ad26.CoV2.S	EMA, DCGI	Non ReplicatingViral vector	
5	Moderna (US)	mRNA-1273	EMA, USFDA, MFDS	mRNA	
6	Sinopharm Beijing (China)	SARS-CoV-2 Vaccine(Vero Cells)	NMPA	Inactivated virus (Vero Cells)	
7	Sinovac (China)	COVID-19 Vaccine (Vero Cells)	NMPA	Inactivated virus (Vero Cell)	
8	Bharat Biotech (India)	SARS-CoV-2 Vaccine, Inactivated (Vero Cell)/ COVAXIN	DCGI Whole-Virion Inac (Vero Cell)		
9	Serum Institute of India (India)	NVX-CoV2373/Covovax	DCGI	Protein Subunit	
10	NOVAVAX (US)	NVX-CoV2373/Covovax	EMA	Protein Subunit	

• **36** Vaccines Approved by at Least One Country

Vaccine Type	mRNA	Non Replicating Viral vector	Inactivated virus	Protein Subunit	DNA	Virus-like Particles (VLP)	Total
In Use	3	6	11	14	1	1	36

Source: <u>https://covid19.trackvaccines.org/vaccines/</u> (Last Updated 4 April 2022)

 Vaccination against COVID-19 has now started in 218 locations (Source: <u>Our World in Data</u>. Last Updated 4 April 2022)

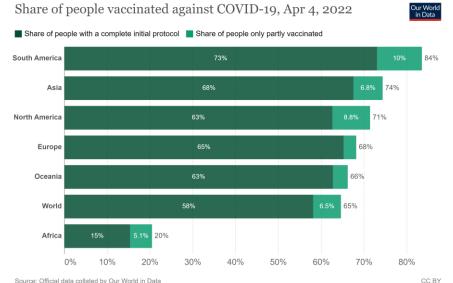
Location	Doses given	Fully vaccinated (% of population)	At least 1 dose (% of population)
Worldwide	11.33 billion	4.58 billion (58.12%)	5.09 billion (64.59%)

About this data:

a: This data changes rapidly and might not reflect doses still being reported. It may differ from other sites & sources.

b: Where data for full vaccinations is available, it shows how many people have received at least 1 dose and how many people have been fully vaccinated (which may require more than 1 dose). Where data for full vaccinations isn't available, the data shows the total number of vaccine doses given to people. Since some vaccines require more than 1 dose, the number of fully vaccinated people is likely lower.

c: It only has full vaccination totals in some locations.

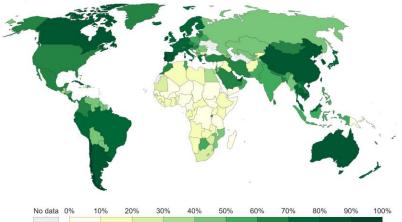


Source: Official data collated by Our World in Data CC Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.

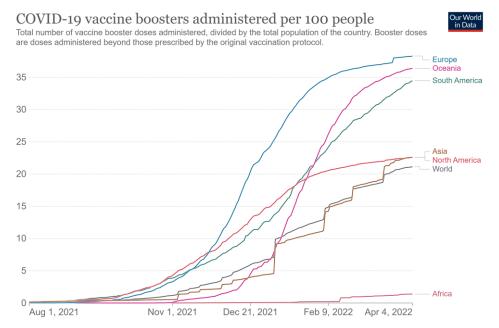
Share of people who completed the initial COVID-19 vaccination protocol, Apr 4, 2022

Our World in Data

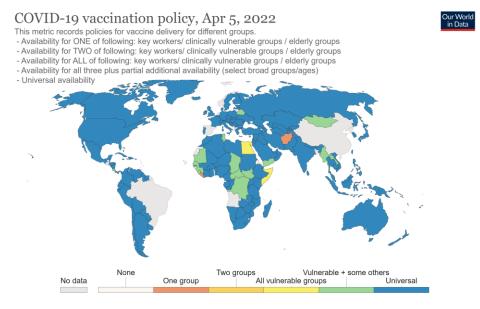
Total number of people who received all doses prescribed by the initial vaccination protocol, divided by the total population of the country.



Source: Official data collated by Our World in Data – Last updated 5 April 2022, 11:20 (London time) OurWorldInData.org/coronavirus • CC BY Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.



Source: Official data collated by Our World in Data – Last updated 5 April 2022, 11:20 (London time) OurWorldInData.org/coronavirus • CC BY



Source: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford – Last updated 5 April 2022, 12:50 (London time) OurWorldInData.org/coronavirus • CC BY

2. Vaccine effectiveness against symptomatic infection for Alpha, Delta and Omicron variants

Vaccine Status	Vaccine Effectiveness			
	Alpha	Delta	Omicron	
1 Dose (BNT162b2 or ChAdOx1 nCoV-19)	48.7% (95%Cl: 45.5-51.7%) ¹ 66%(BNT162b2) ⁴ 64% (ChAdOx1) ⁴	30.7% (95%Cl: 25.2-35.7%) ¹ 56%(BNT162b2) ⁴ 67%(ChAdOx1) ⁴ 82% (95% Cl:73- 91%) ⁷		
1 Dose (mRNA-1273)	83% ⁴	72% ⁴		
1 Dose(Sinopharm or Sinovac)		13.8%,(95%Cl: -60.2-54.8%) ³		
2 Doses (BNT162b2)	93.7% (95%CI: 91.6-95.3) ¹ 76% (95%CI: 69-81%) ² 89% ⁴	88% (95%CI: 85.3-90.1%) ¹ 42% (95% CI: 13-62%) ² 87% ⁴ 93% (95% CI: 88-97%/12-18Y) ⁵ 93% (95% CI: 88-97%) ⁷	50% (95% Cl: 35%–62%) ⁸	

2 Doses (ChAdOx1 nCoV-19)	74.5% (95%CI: 68.4-79.4%) ¹	67.0% (95%Cl: 61.3-71.8%) ¹	
2 Doses (mRNA-1273)	86%, (95%Cl: 81-90.6%) ²	76%, (95% CI: 58-87%) ²	30.4% (95% CI: 5.0%-49.0%) ⁹
2 Doses(Sinopharm or Sinovac)		59.0%, (95%Cl: 16.0-81.6%) ³	
3 Doses (BNT162b2)		95.33% (SD 6.44) ⁶ 86.1% (95% Cl, 67.3 to 94.1) ¹¹	67.2% (95% CI: 66.5- 67.8%) at 2 to 4 weeks ¹⁰ 49.4% (95% CI, 47.1 to 51.6) ¹¹
3 Doses(mRNA-1273)			62.5% (95% CI: 56.2-67.9%) ⁹ 47.3% (95% CI, 40.7 to 53.3) ¹¹
2 Doses (BNT162b2) + 1Dose(mRNA-1273)			73.9% (95% CI: 73.1- 74.6%) at 2 to 4 weeks ¹⁰
2 Doses(ChAdOx1 nCoV- 19)+1Dose(BNT162b2)			62.4% (95% Cl, 61.8- 63.0) at 2 to 4 weeks ¹⁰
2 Doses (ChAdOx1 nCoV-19)+ 1Dose (mRNA-1273)			70.1% (95% CI, 69.5 to 70.7) at 2 to 4 weeks ¹⁰

References:

- 1) Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant
- 2) <u>Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of</u> <u>Alpha and Delta variant prevalence</u>
- 3) Efficacy of inactivated SARS-CoV-2 vaccines against the Delta variant infection in Guangzhou: A test-negative case-control real-world study
- 4) Effectiveness of COVID-19 vaccines against variants of concern in Ontario, Canada
- 5) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents
- 6) <u>A RCT of a third dose CoronaVac or BNT162b2 vaccine in adults with two doses</u> of CoronaVac
- 7) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents
- 8) Effectiveness of BNT162b2 Vaccine against Omicron Variant in South Africa
- 9) Effectiveness of mRNA-1273 against SARS-CoV-2 omicron and delta variants
- 10) Covid-19 Vaccine Effectiveness against the Omicron (B.1.1.529) Variant
- 11) Effect of mRNA Vaccine Boosters against SARS-CoV-2 Omicron Infection in Qatar

3. Latest Relevant Articles

- Omicron breakthrough infection drives cross-variant neutralization and memory B
 <u>cell formation</u>
- Effectiveness of mRNA Booster Vaccination Against Mild and Severe COVID-19
 During Delta and Omicron Variant Circulation in Germany: An Analysis of
 National Surveillance Data
- <u>Protection against SARS-CoV-2 after Covid-19 Vaccination and Previous</u>
 <u>Infection</u>
- Effectiveness of the BNT162b2 Vaccine after Recovery from Covid-19
- BNT162b2 Protection against the Omicron Variant in Children and Adolescents

4. Other Information

- <u>CDC: Cardiac Complications After SARS-CoV-2 Infection and mRNA COVID-19</u> <u>Vaccination — PCORnet, United States, January 2021–January 2022</u>
- <u>CDC: Effectiveness of Homologous and Heterologous COVID-19 Booster Doses</u> <u>Following 1 Ad.26.COV2.S (Janssen [Johnson & Johnson]) Vaccine Dose</u> <u>Against COVID-19–Associated Emergency Department and Urgent Care</u> <u>Encounters and Hospitalizations Among Adults — VISION Network, 10 States,</u> <u>December 2021–March 2022</u>