Vaccination Report – 19 July 2022

1. Vaccine Implementation

• WHO's Emergency Use Listing(EUL) Vaccines (Last Updated 7 July 2022)

	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 Inactivated (Vero Cell)
9	Serum Institute of India (India)	NVX-CoV2373/Covovax	DCGI	Protein Subunit
10	NOVAVAX (US)	NVX-CoV2373/Covovax	EMA	Protein Subunit
11	CanSinoBIO (China)	Ad5-nCoV	NMPA	Non ReplicatingViral vector

• 40 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	4	7	11	16	1	1	40

Source: https://covid19.trackvaccines.org/vaccines/ (Last Updated 18 July 2022)

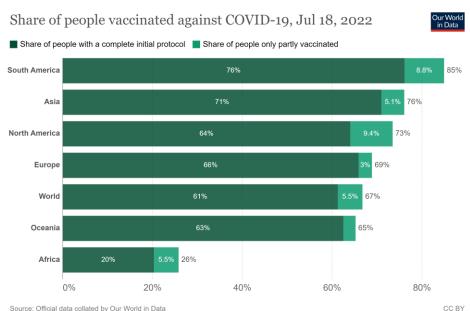
• Vaccination against COVID-19 has now started in **218** locations

(Source: Our World in Data. Last Updated 18 July 2022)

Location	Doses Given	Complete Initial Protocol (% of population)	Partly Vaccinated (% of population)
Worldwide	12.23 billion	4.85 billion	5.28 billion
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About this data:

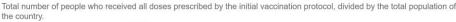
- a: This data changes rapidly and might not reflect doses still being reported. It may differ from other sites & sources.
- b: Where data for full vaccinations is available, it shows how many people have received at least 1 dose and how many people have been fully vaccinated (which may require more 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.

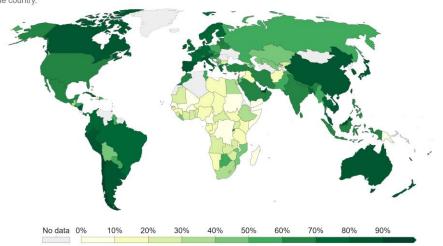


Source: Official data collated by Our World in Data
Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.

Share of people who completed the initial COVID-19 vaccination protocol, Jul 18, 2022

Our World in Data

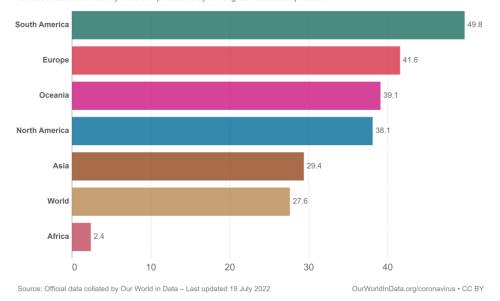




COVID-19 vaccine boosters administered per 100 people, Jul 18, 2022

Our World in Data

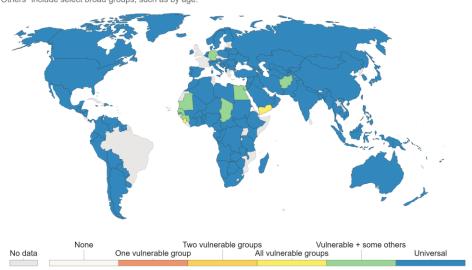
Total number of vaccine booster doses administered, divided by the total population of the country. Booster doses are doses administered beyond those prescribed by the original vaccination protocol.



COVID-19 vaccination policy, Jul 18, 2022



Policies for vaccine delivery. Vulnerable groups include key workers, the clinically vulnerable, and the elderly. "Others" include select broad groups, such as by age.



Source: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford – Last updated 19 July 2022 Our/WorldInData.org/coronavirus • CC BY

2. Effectiveness of Vaccine and/or Previous Infection against symptomatic infection for Alpha, Delta and Omicron variants

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

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2 Doses (ChAdOx1 nCoV-19)	74.5% (95%CI: 68.4-79.4%) ¹	67.0% (95%CI: 61.3-71.8%) ¹	
2 Doses (mRNA-1273)	86% , (95%CI: 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%CI: 16.0-81.6%) ³	
3 Doses (BNT162b2)		95.33% (SD 6.44) ⁶ 86.1% (95% CI, 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 52.2% (95% CI, 48.1 to 55.9) ¹²
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% CI, 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
2 Doses (BNT162b2) +Previous infection			55.1% (95% CI, 50.9 to 58.9) ¹²
3 Doses (BNT162b2) +Previous infection			77.3% (95% CI, 72.4 to 81.4) ¹²
Previous Omicron Infection			76.1% on BA.4 or BA.5 (95% CI: 54.9 to 87.3%) ¹³

References:

- 1) Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant
- Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence
- 3) <u>Efficacy of inactivated SARS-CoV-2 vaccines against the Delta variant infection in Guangzhou: A test-negative case-control real-world study</u>
- 4) Effectiveness of COVID-19 vaccines against variants of concern in Ontario, Canada
- 5) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents
- 6) A RCT of a third dose CoronaVac or BNT162b2 vaccine in adults with two doses 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
- 12) Effects of Previous Infection and Vaccination on Symptomatic Omicron Infections
- 13) <u>Protection of SARS-CoV-2 natural infection against reinfection with the BA.4 or BA.5 Omicron subvariants</u>

3. Latest Relevant Articles

 Effectiveness of a fourth dose of mRNA COVID-19 vaccine against all-cause mortality in long-term care facility residents and in the oldest old: A nationwide, retrospective cohort study in Sweden (Published: July 13, 2022)

- <u>Immune boosting by B.1.1.529 (Omicron) depends on previous SARS-CoV-2</u> exposure (Published 14 Jun 2022)
- Neutralizing antibody activity against 21 SARS-CoV-2 variants in older adults vaccinated with BNT162b2(Published: 14 July 2022)
- <u>Maternal Vaccination and Risk of Hospitalization for Covid-19 among Infants</u>(Published: 14 July 2022)
- <u>SARS-CoV-2 Variant Vaccine Boosters Trial: Preliminary Analyses</u>(Posted on June 15, 2022)
- Novavax NVX-COV2373 triggers potent neutralization of Omicron sub-lineages (Posted on July 17, 2022)

4. Other Information

- FDA Authorizes Emergency Use of Novavax COVID-19 Vaccine (July 13, 2022)
- UK Covid-19 vaccine boosters to be expanded to all over-50s this autumn. (July 15,2022)
- CDC: Rates of COVID-19 Cases and Deaths by Vaccination Status (July,2022)