Vaccination Report – 18 October 2022

1. Vaccine Implementation

- WHO's Emergency Use Listing(EUL) Vaccines (Last Updated 21 September 2022）

	Manufacturer	Name of Vaccine	NRA of Record	Vaccine type
1	Pfizer-BioNTech (US)	BNT162b2/COMIRNATY Tozinameran (INN)	EMA,USFDA	Nucleoside modified mRNA
2	AstraZeneca (UK)	AZD1222 Vaxzevria	EMA, MFDS KOREA, Japan MHLW/PMDA, Australia TGA, COFEPRIS(Mexico), ANMAT(Argentina)	Recombinant ChAdOx1 adenoviral vector encoding the Spike protein antigen of the SARS-CoV-2
3	Serum Institute of India (India)	Covishield (ChAdOx1_nCoV-19)	DCGI	Recombinant ChAdOx1 adenoviral vector encoding the Spike protein antigen of the SARS-CoV-2
4	Johnson &Johnson (US)	Ad26.CoV2.S	EMA, DCGI	Recombinant, replication incompetent adenovirus type 26 (Ad26) vectored vaccine encoding the (SARS-CoV-2) Spike (S) protein
5	Moderna (US)	mRNA-1273	EMA, USFDA, MFDS	mRNA-based vaccine encapsulated in lipid nanoparticle (LNP)
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	Recombinant nanoparticle prefusion spike protein formulated with Matrix-M™ adjuvant
10	NOVAVAX (US)	NVX-CoV2373/Nuvaxovid	EMA	Recombinant nanoparticle prefusion spike protein formulated with Matrix-M™ adjuvant
11	CanSinoBIO (China)	Ad5-nCoV	NMPA	Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector)

- **47** 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	8	9	11	17	1	1	**47**

Source: https://covid19.trackvaccines.org/vaccines/approved/#vaccine-list（Last Updated 12 Oct 2022）

- Vaccination against COVID-19 has now started in **218** locations
  (Source: Our World in Data. Last Updated 17 Oct 2022)

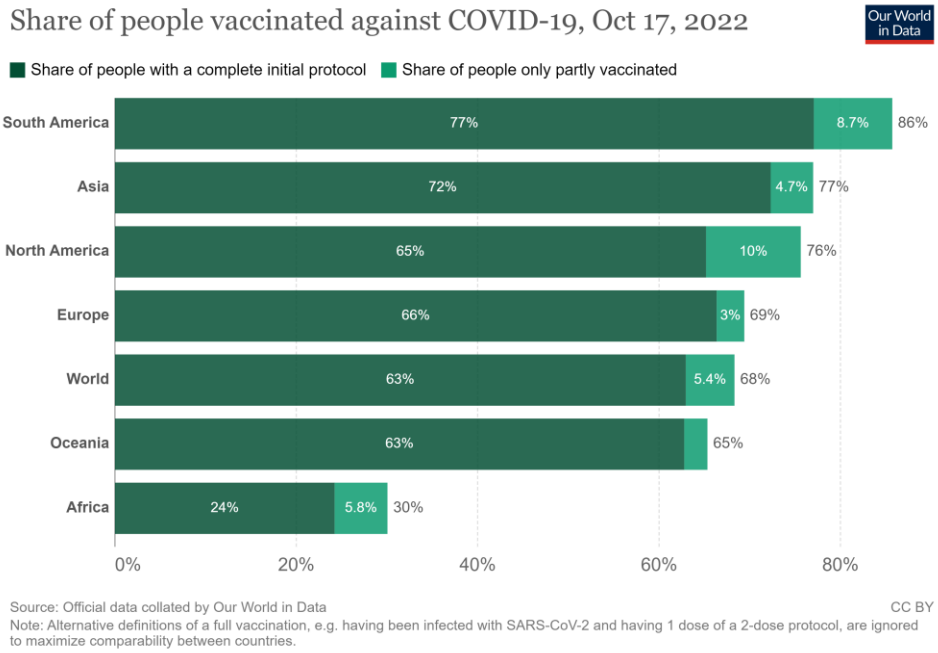
Location	Doses Given	Complete Initial Protocol (% of population)	Partly Vaccinated (% of population)
Worldwide	12.84 billion	4.98 billion (62.95 %)	5.40 billion (68.33 %)

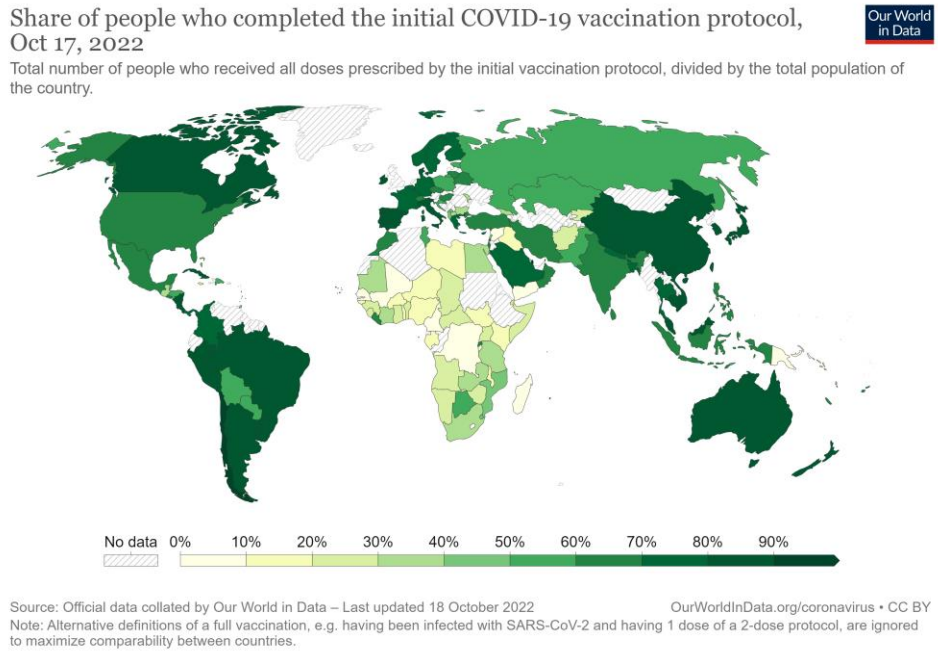
About this data:

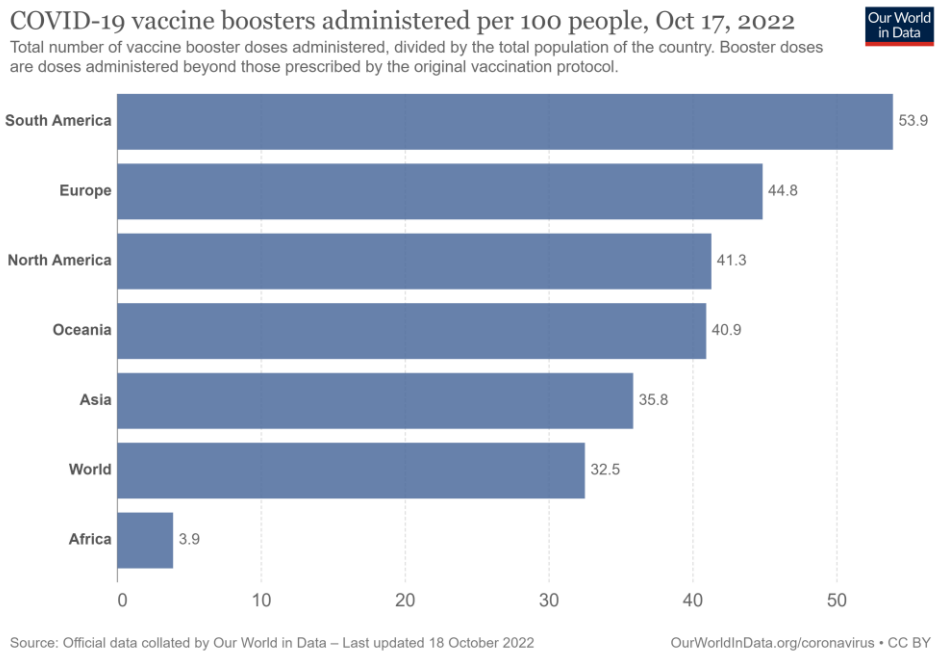
a: This data changes rapidly and might not reflect doses still being reported. It may differ from other sites & sources.

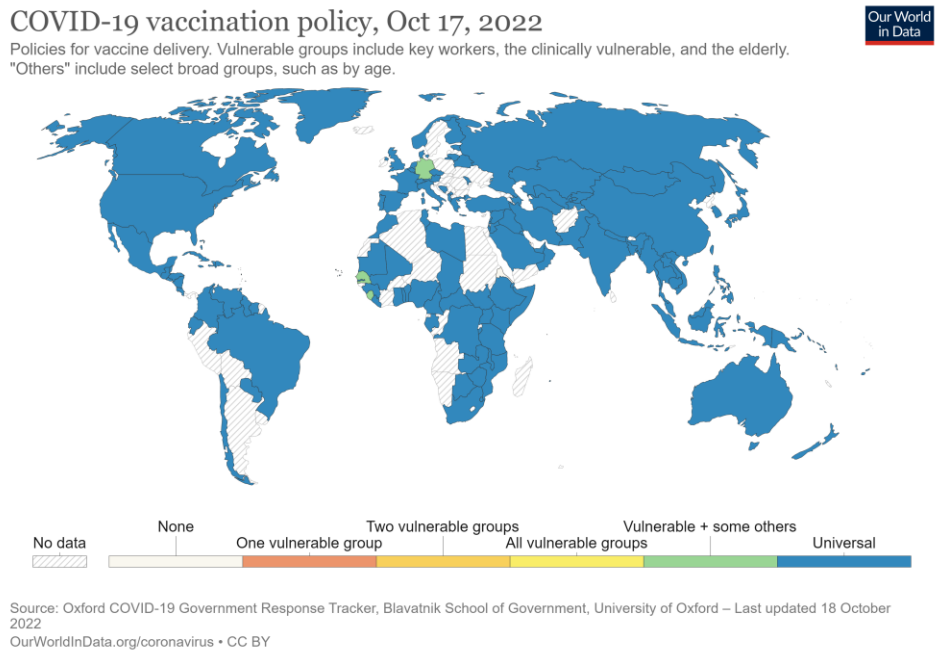
b: Where data for full vaccinations is available, it shows how many people have received at least 1 dose and how many people have been fully vaccinated (which may require more than 1 dose).Where data for full vaccinations isn't available, the data shows the total number of vaccine doses given to people.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









2. Effectiveness of Vaccine and/or Previous Infection 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%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]	**88%** (95%CI: 85.3-90.1%)[1]	**50%** (95% CI: 35%–62%)[8]

	76% (95%CI: 69-81%)[2] 89% [4]	**42%** (95% CI: 13-62%)[2] **87%**[4] **93%**(95% CI: 88-97%/12-18Y)[5] **93%** (95% CI: 88-97%)[7]	
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
2) Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence
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) 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) Protection of SARS-CoV-2 natural infection against reinfection with the BA.4 or BA.5 Omicron subvariants

3. Latest Relevant Articles

- Immune Imprinting and Protection against Repeat Reinfection with SARS-CoV-29(Published October 12,2022)

- Post-acute symptoms four months after SARS-CoV-2 infection during the Omicron period: a nationwide Danish questionnaire study(Published October 12,2022)

- Signs of immunosenescence correlate with poor outcome of mRNA COVID-19 vaccination in older adults(Published October 14,2022)

- Severe COVID-19 outcomes after full vaccination of primary schedule and initial boosters: pooled analysis of national prospective cohort studies of 30 million individuals in England, Northern Ireland, Scotland, and Wales(Published October 15,2022)

- Association of mRNA Vaccination With Clinical and Virologic Features of COVID-19 Among US Essential and Frontline Workers (Published October 18,2022)

4. Other Information

- Pfizer and BioNTech announce positive early data from Clinical Trial of Omicron BA.4/BA.5-Adapted Bivalent Booster in individuals 18 years and older(Published October 13,2022)

- Lancet: Prioritisation of COVID-19 boosters in the omicron era(Published October 15,2022)