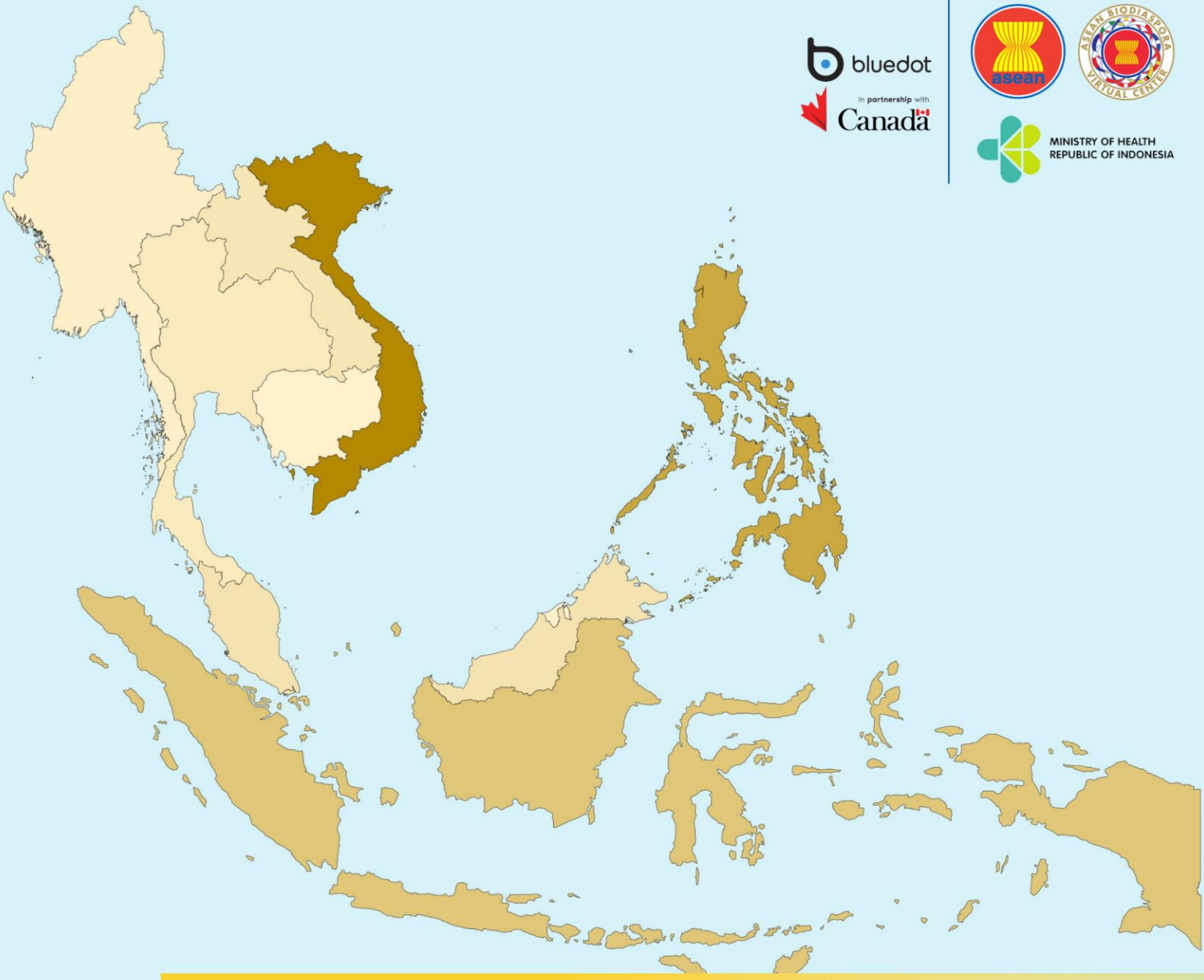

Situational Report in the ASEAN Region

ASEAN Biodiaspora Virtual Center (ABVC)

June 16, 2023 | Issue No. 497

ASSOCIATION OF SOUTHEAST ASIAN NATIONS

ASEAN BIODIASPORA VIRTUAL CENTER

MINISTRY OF HEALTH
REPUBLIC OF INDONESIA

GLOBAL PARTNERS

In partnership with Canada

World Health Organization

Korea Disease Control and Prevention Agency

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COVID-19: Highlights and Situation Overview

Global Update

- **Worldwide**, over 690 million cases and over 6 million deaths have been attributed to COVID-19.
- **Republic of Korea** plans to donate $70 million to Gavi, an international health organization, this year to aid in vaccine development and distribution (Yohnap News Agency, 2023). The announcement was made during a Mid-Term Review of Gavi, which helps run the global COVAX program for COVID-19 vaccines. The South Korean government is committed to improving the global health system. The remaining $30 million will be provided to the United Nations Children's Fund and Unitaid. [Full article]

Regional Update

- **Vietnam:** Deputy Minister of Health Nguyen Thi Lien Huong announced that COVID-19 patients will not receive free treatment when the disease is downgraded from Class A to Class B (VietnamPlus, 2023). The Ministry of Health and the Ministry of Justice have advised the Prime Minister to sign a decision invalidating Decision 447 to switch COVID-19 from group A to group B. The MoH has issued professional guidelines on diagnosis, treatment, and infection prevention of COVID-19, ready to be implemented immediately when the disease is downgraded to flu-like status this month. Phan Trong Lan, Director of the MoH's Health Preventive Department, said the infectious disease surveillance system monitors the situation comprehensively. The number of COVID-19 vaccine doses administered per 100 people in Vietnam is 1.6 times higher than the world average. The MoH has proposed downgrading COVID-19 from group A to group B based on the situation and updated recommendations from the World Health Organization. The ministry has implemented disease prevention measures suitable for the new situation for the period of 2023-2025, reviewed and continuously updated guidelines for COVID-19 prevention and control, and is monitoring severe cases of pneumonia and COVID-19 in the community and enhancing COVID-19 vaccination. [Full article]

Vaccine Update

- **Philippines:** The Department of Health will begin offering bivalent COVID-19 vaccines to healthcare workers and senior citizens next week (Cabico, 2023). The initial rollout targets both the original strain and Omicron subvariants. Eligible Filipinos include health workers and senior citizens who received booster shots at least four to six months ago. Over 390,000 doses were donated by Lithuania, and the jabs will expire in November. [Full article]
- **Singapore:** COVID-19 vaccinations will be available at eight polyclinics starting July 1, offering Pfizer-BioNTech's Comirnaty vaccine for 12 and older, some for 5-11, and Moderna's Spikevax vaccine for 6 months to 4 years (Yong, 2023). The Ministry of Health (MOH) announced the move to streamline vaccination services and optimize resources as COVID-19 becomes endemic. Seniors aged 60 and older and medically vulnerable are advised to take the updated bivalent vaccine booster about a year after their last booster dose. Residents can also visit Joint Testing and Vaccination Centres or Public Health Preparedness Clinics to make an appointment before visiting a clinic. [Full article]

Research Update (Published and peer-reviewed studies)

- CDC has used national genomic surveillance since December 2020 to monitor SARS-CoV-2 variants that have emerged throughout the COVID-19 pandemic, including the Omicron variant (Ma et al., 2023). This report, Genomic ***Surveillance for SARS-CoV-2 Variants: Circulation of Omicron Lineages — United States, January 2022–May 2023,*** summarizes U.S. trends in variant proportions from national genomic surveillance during January 2022–May 2023. During this period, the Omicron variant remained predominant, with various descendant lineages reaching national predominance (>50% prevalence). During the first half of 2022, BA.1.1 reached predominance by the week ending January 8, 2022, followed by BA.2 (March 26), BA.2.12.1 (May 14), and BA.5 (July 2); the predominance of each variant coincided with surges in COVID-19 cases. The latter half of 2022 was characterized by the circulation of sublineages of BA.2, BA.4, and BA.5 (e.g., BQ.1 and BQ.1.1), some of which independently acquired similar spike protein substitutions associated with immune evasion. By the end of January 2023, XBB.1.5 became predominant. As of May 13, 2023, the most common circulating lineages were XBB.1.5 (61.5%), XBB.1.9.1 (10.0%), and XBB.1.16 (9.4%); XBB.1.16 and XBB.1.16.1 (2.4%), containing the K478R substitution, and XBB.2.3 (3.2%), containing the P521S substitution, had the fastest doubling times at that point. Analytic methods for estimating variant proportions have been updated as the availability of sequencing specimens has declined. The continued evolution of Omicron lineages highlights the importance of genomic surveillance to monitor emerging variants and help guide vaccine development and use of therapeutics. [Full text]

- This report, Interim ***Recommendations for Use of Bivalent mRNA COVID-19 Vaccines for Persons Aged ≥6 Months — United States, April 2023,*** summarizes the COVID19 vaccination recommendation in the United Staes (Moulia et al., 2023). During August 2022–April 2023, FDA amended its Emergency Use Authorizations (EUAs) to authorize the use of a single, age-appropriate, bivalent COVID-19 vaccine dose (i.e., containing components from the ancestral and Omicron BA.4/BA.5 strains in equal amounts) for all persons aged ≥6 years, use of bivalent COVID-19 vaccine doses for children aged 6 months–5 years, and additional bivalent doses for immunocompromised persons and adults aged ≥65 years. ACIP voted in September 2022 on the use of the bivalent vaccine, and CDC made recommendations after the September vote and subsequently, through April 2023, with input from ACIP. This transition to a single bivalent COVID-19 vaccine dose for most persons, with additional doses for persons at increased risk for severe disease, facilitates implementation of simpler, more flexible recommendations. Three COVID-19 vaccines are currently available for use in the United States and recommended by ACIP: 1) the bivalent mRNA Pfizer-BioNTech COVID-19 vaccine, 2) the bivalent mRNA Moderna COVID-19 vaccine, and 3) the monovalent adjuvanted, protein subunit-based Novavax COVID-19 vaccine. As of August 31, 2022, monovalent mRNA vaccines based on the ancestral SARS-CoV-2 strain are no longer authorized for use in the United States. Transition to a single bivalent COVID-19 vaccine dose for most persons, with additional doses for persons at increased risk for severe disease, facilitates implementation of simpler, more flexible recommendations. All persons aged ≥6 months should receive ≥1 bivalent vaccine dose. [Full text]

- Acute myocarditis is a rare complication of COVID19 vaccines and often it is self-limiting. This report, ***Relapsing myocarditis following initial recovery of post COVID-19 vaccination in two adolescent males – Case reports***, describe two cases experiencing recurrent myocarditis following mRNA COVID-19 vaccine despite a prior episode with full clinical recovery (Amodio et al., 2023). Between September 2021-September 2022 there were two male adolescents with recurrent myocarditis related to mRNA-based-COVID19 vaccine. During the first episode both patients presented with fever and chest pain few days after their second dose of BNT162b2 mRNA Covid-19 Vaccine (Comirnaty). The

blood exams showed increased cardiac enzymes. In addition, complete viral panel was run, showing HHV7 positivity in a single case. The left ventricular ejection fraction (LVEF) was normal at echocardiogram but cardiac magnetic resonance scanning (CMR) was consistent with myocarditis. They were treated with supportive treatment with full recovery. The 6 months follow-up demonstrated good clinical conditions with normal cardiological findings. The CMR showed persistent lesions in left ventricle wall with LGE. After some months the patients presented at emergency department with fever and chest pain and increased cardiac enzymes. No decreased LVEF was observed. The CMR showed new focal areas of edema in the first case report and stable lesions in the second one. They reached full recovery with normalization of cardiac enzymes after few days. These case reports outline the need of strict follow-up in patients with CMR consistent with myocarditis after mRNA-based-COVID19 vaccine. More efforts are necessary to depict the underlying mechanisms of myocarditis after SARS-CoV2 vaccination to understand the risk of relapsing and the long-term sequelae. [Full text]

- In January 2023, the US Centers for Disease Control and Prevention (CDC) reported a signal for ischemic stroke in people aged 65 years and older who received the BNT162b2 vaccine (Pfizer-BioNTech), bivalent (BA.4/BA.5) (Andrews et al., 2023). Relative risk 1 to 21 days postvaccination vs 22 to 42 days postvaccination was 1.47 (95% CI, 1.11-1.95).2 The increase may have been related to concurrent administration of high-dose or adjuvanted influenza vaccine. Other assessments in the US have not validated this signal and no signal was observed with the mRNA-1273 vaccine (Moderna), bivalent (BA.4/BA.5). In the UK, the COVID-19 autumn 2022 booster campaign for persons aged 50 years or older also used bivalent BNT162b2 and mRNA-1273 vaccines but containing BA.1 rather than BA.4/BA.5 strains. This paper, BA***.1 Bivalent COVID-19 Vaccine Use and Stroke in England*** investigated the association between these vaccines and ischemic stroke and the effect of simultaneous influenza vaccination on the association. National Health Service (NHS) hospital admissions in England from September 5, 2022, to December 4, 2022, for ischemic stroke (including transient ischemic attack) or hemorrhagic stroke (for comparison) in individuals aged 50 years and older on August 31, 2022, were linked to the National Immunization Management System3 via NHS number. In the study period, 14.6million doses of a bivalent mRNA Vaccine were given to persons aged 50 years and older and there were 6882 cases of ischemic stroke and 1510 of hemorrhagic stroke after the booster of these patients, 983 (11.7%) had received simultaneous influenza vaccine; for 822 (94.6%) of those aged 65 years and older, the product was adjuvanted. The median length of the control period was 51 days (IQR, 43-58 days) for individuals receiving mRNA-1273 and 29 days (IQR, 19-36 days) for those receiving BNT162b2. For individuals aged 65 years and older and receiving BNT162b2, the mean person-days in the risk interval were 20.9 vs 26.3 in the control interval (RI for ischemic stroke, 0.90; 95%CI, 0.76-1.05). For patients aged 65 years and older and also receiving influenza vaccine, the mean person-days in the risk interval were 21.0 vs 25.4 in the control interval (RI for ischemic stroke, 0.79; 95%CI, 0.50-1.23). Results were similar for individuals aged 50 years and older, receiving mRNA-1273 vaccine, or with hemorrhagic stroke. This analysis showed no evidence of an increased risk of stroke in the 21 days immediately after vaccination with either of the 2 mRNA COVID-19 bivalent BA.1 vaccines in England, with similar results for ischemic and hemorrhagic stroke and for the subset aged 65 years and older given influenza vaccine on the same day as the bivalent COVID-19 vaccine. For ischemic stroke, the upper bounds of CIs for the RI were all below the point estimate reported by CDC of a relative risk of 1.47. [Full text]

ASEAN Travel Advisories *(new update/s)*

as of 16 June 2023

ASEAN Country	Published	Foreign travelers allowed	COVID-19 vaccination requirement	Required COVID-19 testing for fully vaccinated	Required COVID-19 testing for NOT fully vaccinated	Quarantine upon arrival	Health insurance requirement	Arrival health declaration/ registration/ documents
Brunei Darussalam	December 1, 2022	Yes	No	No	No	No	No	No
Cambodia	October 6, 2022	Yes	No	No	No	No	No	No
Indonesia	June 10, 2023	Yes	No	No	No	No	No	No
Laos	December 29, 2022	Yes	No	No	No	No	No	No
Malaysia	August 2, 2022	Yes	No	No	No	No	No	No
Myanmar	April 3, 2023	Yes	Yes – printed fully vaccinated* certificate for 12 years old and above.	Passengers are subject to medical screening and could be subject to a test upon arrival.	Printed negative COVID-19 RT-PCR test result in English, issued at most 48 hours before arrival.	No	Printed COVID-19 medical insurance.	Passengers must present a Health Declaration Form upon arrival.
Philippines	March 30, 2023	Yes	Yes – fully vaccinated* with booster dose certificate for 15 years old and above.	No	Yes – COVID-19 rapid antigen test upon arrival.	No	No	Traveler is required to download and register an E-arrival card at most 3 days before departure for those without a visa.
Singapore	February 13, 2023	Yes	No	No	No	No	No	No
Thailand	March 1, 2023	Yes	No	No	No	No	No	No
Vietnam	May 16, 2022	Yes	No	No	No	No	No	No

- Reference: IATA Travel Centre
- *Fully vaccinated – at least 14 or 15 days from 2nd dose for a two-dose vaccine or 14 or 15 days from a single-dose vaccine upon arrival.

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Cases and Deaths as of 16 June 2023

- As of 16 June 2023 (1PM, GMT+7), worldwide, there were **690,365,846** confirmed cases, including **6,891,449** deaths. Globally, Case Fatality Rate (CFR) was **1.0%.**
- **36,228,736 confirmed cases** of COVID-19 have been reported in the **ASEAN Region**.
- The Case Fatality Rate in the **ASEAN** Region was **1.1%**

COVID-19 cases in ASEAN region

REGION	COUNTRY	FIRST CONFIRMED CASE(S)	LATEST REPORT ON CONFIRMED CASE(S)	TOTAL CONFIRMED CASES	NEW CASES	TOTAL DEATHS	NEW DEATHS	CUMULATIVE CASES/ 100,000	CUMULATIVE VACCINATED	CUMULATIVE FULLY VACCINATED	CUMULATIVE BOOSTED	FULLY VACCINATED/ 100
ASEAN REGION	**Brunei Darussalam**	10 Mar 20	08-Jun-23	307,686	-	225	-	64,053	450,404	445,929	338,987	99.3
	Cambodia	27 Jan 20	15-Jun-23	138,845		3,056	-	841	15,244,858	14,609,937	10,433,215	87.1
	Indonesia	02 Mar 20	16-Jun-23	6,810,445	42	161,830	2	2,490	203,657,535	172,693,321	67,952,274	62.7
	Lao PDR	24 Mar 20	16-Jun-23	218,355	5	758	-	3,041	5,888,649	5,222,417		69.4
	Malaysia	25 Jan 20	10-Jun-23	5,108,586		37,110		15,788	28,125,245	27,536,657	17,056,957	81.1
	Myanmar	23 Mar 20	13-Jun-23	639,740	-	19,494	-	1,173	34,777,314	27,545,329	2,227,351	50.8
	Philippines	30 Jan 20	15-Jun-23	4,157,172		66,481	-	3,771	78,369,243	73,937,435	21,341,197	64.0
	Singapore	23 Jan 20	06-Jun-23	2,481,404	-	1,727	-	39,049	5,161,990	5,120,768	4,440,289	90.8
	Thailand	13 Jan 20	12-Jun-23	4,747,752	-	34,232	-	6,791	57,005,497	53,486,086	32,143,431	74.6
	Vietnam	23 Jan 20	15-Jun-23	11,618,751		43,206	-	11,950	90,450,881	85,848,363	57,452,750	87.4
	ASEAN COUNTRIES			**36,228,736**	**47**	**368,119**	**2**	**148,946**	**519,131,616**	**466,446,242**	**213,386,451**	

*There have been no tests reported in the last 14 days in the **ASEAN** Region.

REGION	TOTAL CONFIRMED CASES	NEW CASES	TOTAL DEATHS	NEW DEATHS
ASIA	196,104,601	5	1,207,588	
AFRICA	12,826,211		258,789	
AMERICAS	195,635,010		2,992,627	
EUROPE	249,571,288		2,064,326	
TOTAL	**654,137,110**	**5**	**6,523,330**	-

**Data References: Andra Farm, Worldometer, DOH Philippines, and the WHO

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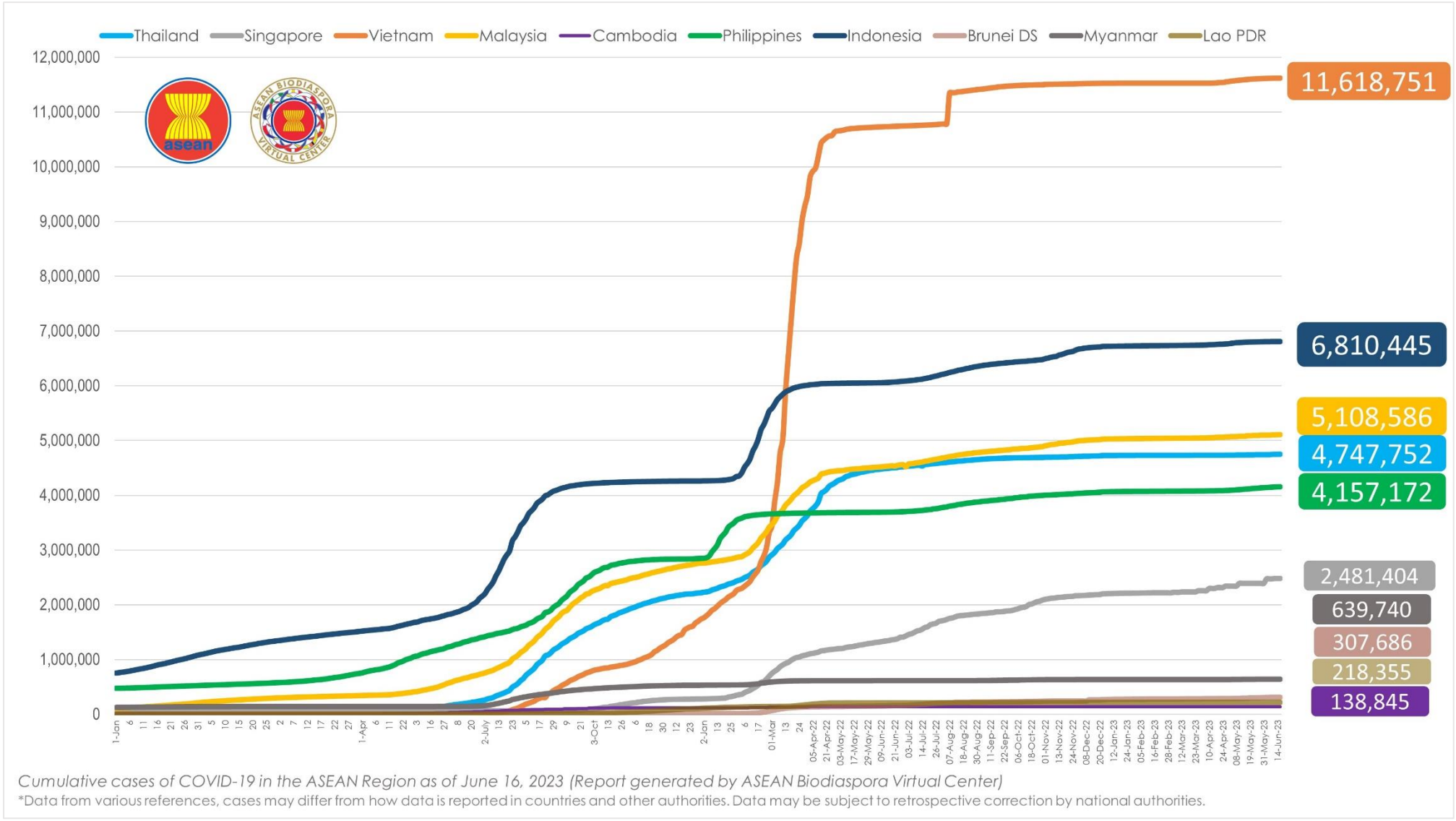
COVID-19 Epi curve among ASEAN Countries

From January 1, 2022, to June 16, 2023



Cumulative cases of COVID-19 in the ASEAN Region as of June 16, 2023 (Report generated by ASEAN Biodiaspora Virtual Center)

*Data from various references, cases may differ from how data is reported in countries and other authorities. Data may be subject to retrospective correction by national authorities.

**Data References: Andra Farm, Worldometer, DOH Philippines, and the WHO

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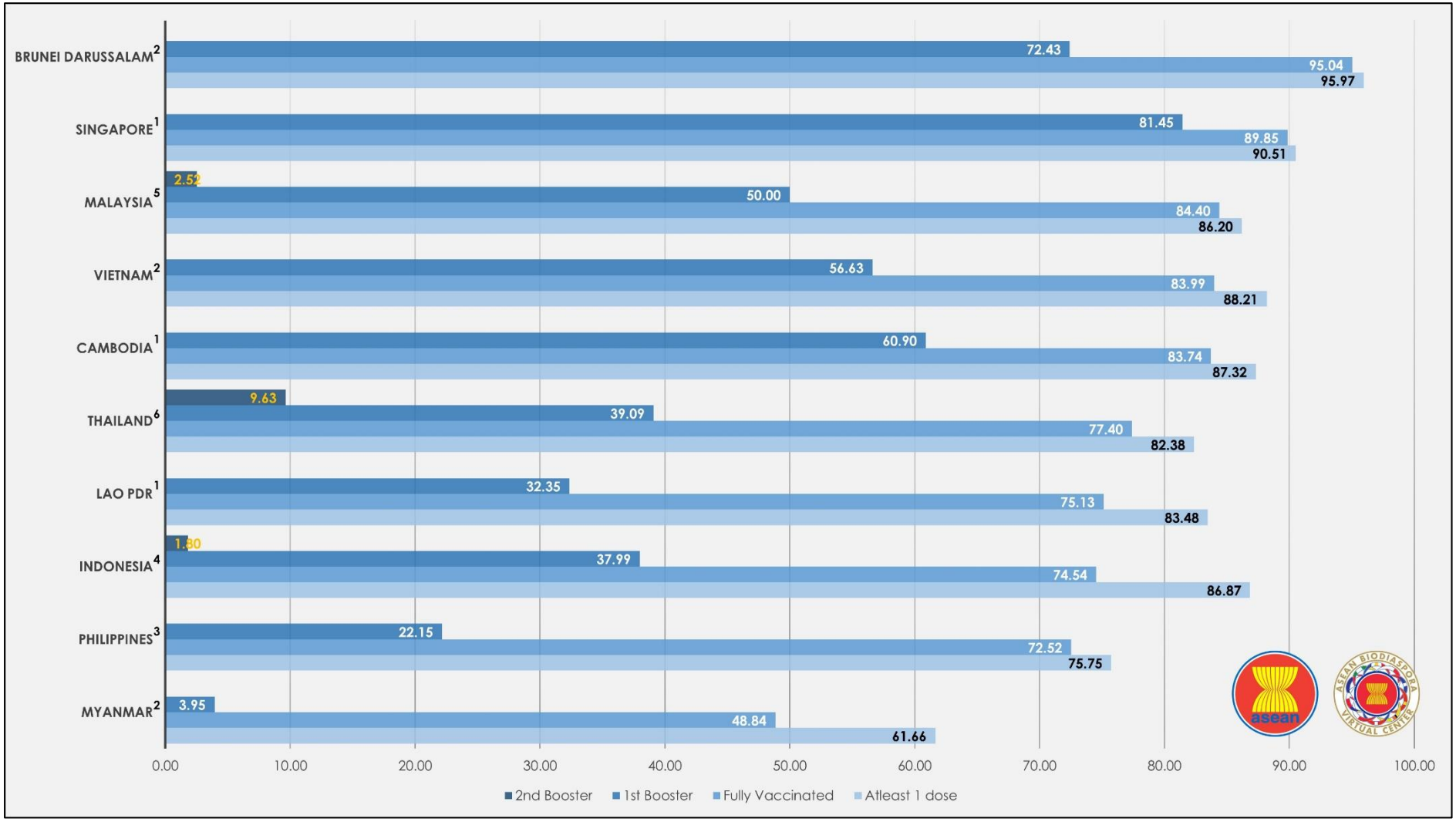
COVID-19 Vaccination Status in ASEAN

as of 09 March 2023



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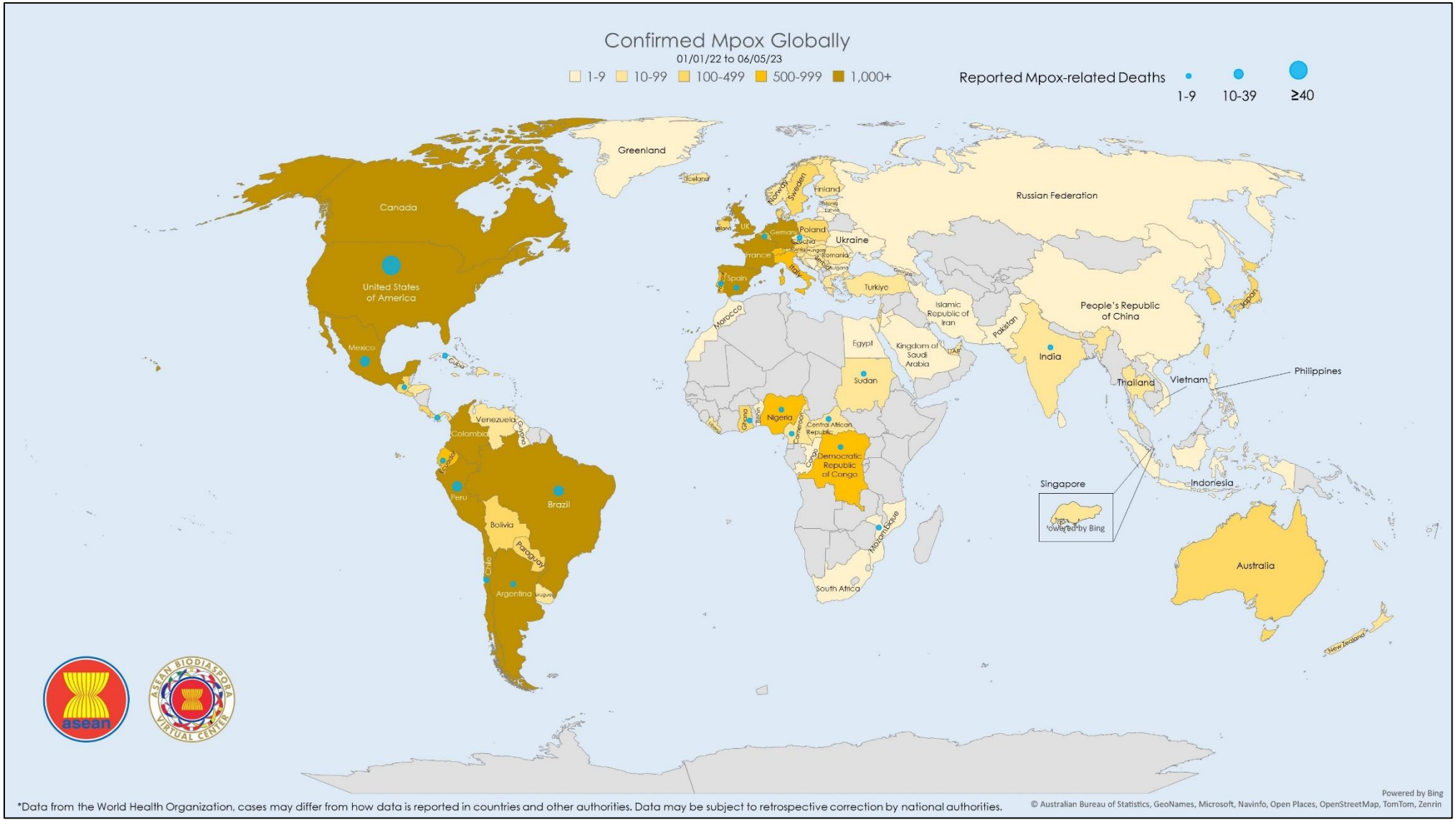
Mpox Cases Reported Globally

as of June 12, 2023



Edouard Mathieu et al., "Mpox (Monkeypox)," Our World in Data, June 12, 2022, https://ourworldindata.org/monkeypox.

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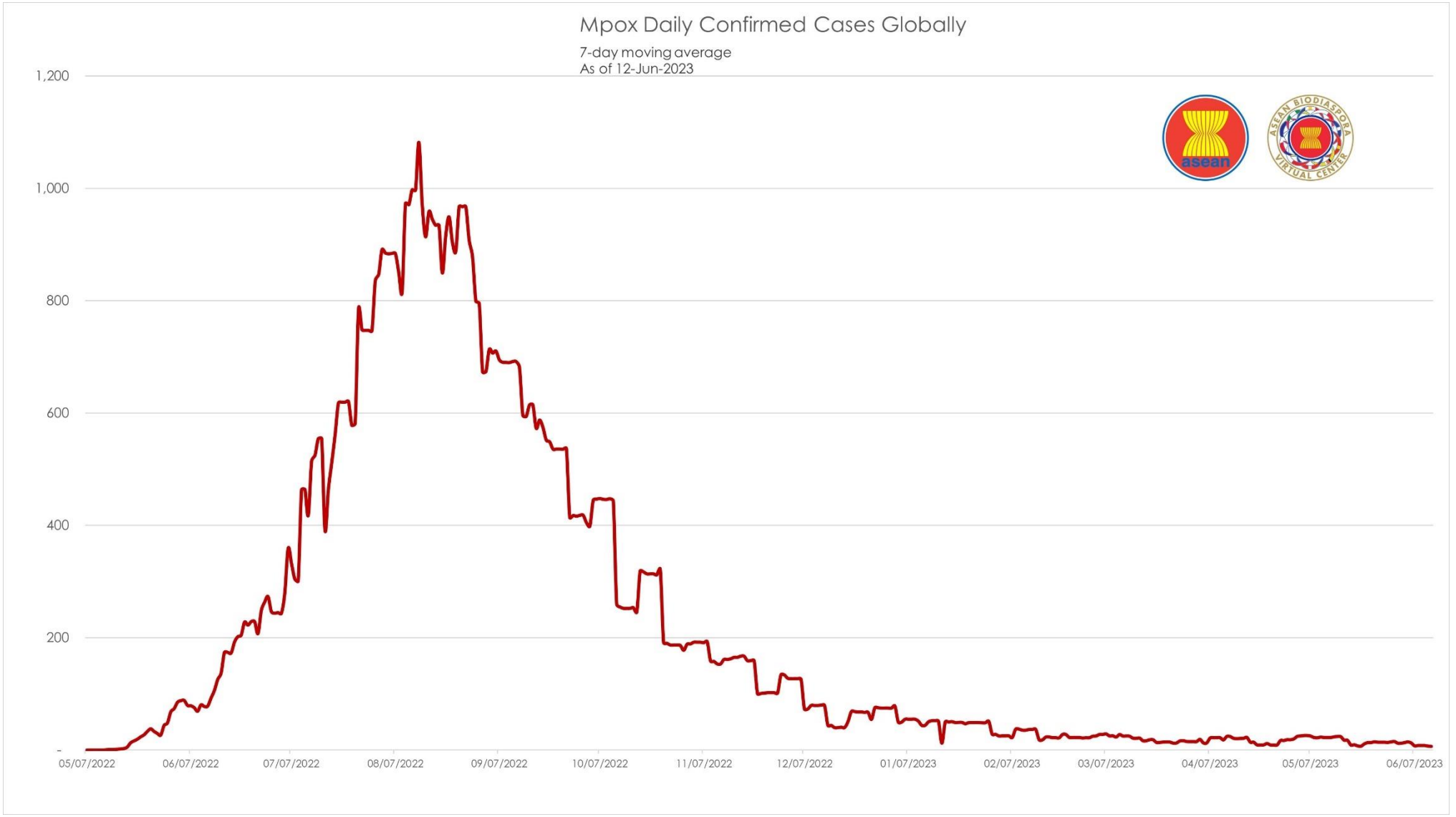
Mpox Daily Trend Globally

as of June 12, 2023



Edouard Mathieu et al., "Mpox (Monkeypox)," Our World in Data, June 12, 2022, https://ourworldindata.org/monkeypox.

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Mpox: Highlights and Situation Overview

- As of 12 June 2023 (1PM, GMT+7), there were **87,979** confirmed cases worldwide, including **147** deaths. Globally, the Case Fatality Rate (CFR) was **0.17%.**
- **85 confirmed cases** in the ASEAN region, with a CFR of **0%.**
- **87,894 confirmed cases** of Mpox have been reported in other **5 regions** (other than the ASEAN region):

Mpox cases in the ASEAN region

Country	Total Cases	New Cases	Deaths	Case Fatality Rate (CFR)
Indonesia	1	-	-	0.00%
Philippines	5	-	-	0.00%
Singapore	25	-	-	0.00%
Thailand	52	-	-	0.00%
Vietnam	2	-	-	0.00%
ASEAN Total	**85**	**-**	**-**	**0.00%**

Mpox cases in the Asia-Pacific region

Country/Territory	Total Cases	New Cases	Deaths	Case Fatality Rate (CFR)
Australia	145	-	-	0.00%
India	22	-	1	4.55%
Japan	169	-	-	0.00%
New Caledonia	1	-	-	0.00%
New Zealand	41	-	-	0.00%
People's Republic of China*	160	-	-	0.00%
The Republic of Korea	104	-	-	0.00%
Sri Lanka	4	-	-	0.00%
Asia-Pacific Total	**646**	**-**	**1**	**0.15%**

*People's Republic of China – including Hong Kong (SAR), Macao (SAR), and Taiwan (Province of China)

Top 5 countries with the most mpox cases globally

Country	Total Cases	New Cases	Deaths	Case Fatality Rate (CFR)
United States of America	30,243	-	42	0.14%
Brazil	10,949	-	16	0.15%
Spain	7,559	-	3	0.04%
France	4,146	-	-	0.00%
Colombia	4,090	-	-	0.00%

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Mpox cases per region

REGION	TOTAL CONFIRMED CASES SINCE JANUARY 1, 2022	NEW CASES SINCE THE PREVIOUS REPORT	TOTAL DEATHS	CASE FATALITY RATE
AFRICA	1,832	-	22	1.15%
AMERICAS	59,450	-	117	0.20%
ASEAN	85	-	-	0.00%
ASIA PACIFIC	646	-	1	0.15%
EUROPE	25,639	-	7	0.03%
MIDDLE EAST	327	-	-	0.00%
TOTAL	**87,979**	**-**	**147**	**0.17%**

Edouard Mathieu et al., "Mpox (Monkeypox)," Our World in Data, June 12, 2022, https://ourworldindata.org/monkeypox.

Research Update (Published and peer-reviewed studies)

- The ongoing Coronavirus Disease 2019 (COVID-19) pandemic further highlighted the need for genomic surveillance and rapid pathogen whole-genome sequencing (Chen et al., 2023). While metagenomic sequencing approaches have been used to sequence many of the early mpox infections, these methods are resource intensive and require samples with high viral DNA concentrations. Given the atypical clinical presentation of cases associated with the outbreak and uncertainty regarding viral load across both the course of infection and anatomical body sites, there was an urgent need for a more sensitive and broadly applicable sequencing approach. Highly multiplexed amplicon-based sequencing (PrimalSeq) was initially developed for sequencing of Zika virus, and later adapted as the main sequencing approach for Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). This report, ***Development of an amplicon-based sequencing approach in response to the global emergence of mpox,*** describes the use of a Primal Scheme for human monkeypox virus that can be used with many sequencing and bioinformatics pipelines implemented in public health laboratories during the COVID-19 pandemic. Sequencing of clinical specimens that tested presumptively positive for the human monkeypox virus with amplicon-based and metagenomic sequencing approaches was done. There was notably higher genome coverage across the virus genome, with minimal amplicon drop-outs, in using the amplicon-based sequencing approach, particularly in higher PCR cycle threshold (Ct) (lower DNA titer) samples. Further testing demonstrated that the Ct value correlated with the number of sequencing reads and influenced the percent genome coverage. To support national and international public health genomic surveillance efforts, primer pool aliquots were sent to 10 laboratories across the United States, the United Kingdom, Brazil, and Portugal. These public health laboratories successfully implemented the human monkeypox virus primer scheme in various amplicon sequencing workflows and with different sample types across a range of Ct values. Thus, amplicon-based sequencing is a rapidly deployable, cost-effective, and flexible approach to pathogen whole-genome sequencing in response to newly emerging pathogens. [Full text]

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