COVID-19 and Mpox

Situational Report in the ASEAN Region

ASEAN BioDiaspora Virtual Center (ABVC)

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COVID-19: Highlights and Situation Overview

Global Update

- **Worldwide**, there have been over 683 million cases and over 6 million deaths attributed to COVID-19.
- **India** logs over 1,800 new COVID-19 cases within 24 hours for the 2nd consecutive day on March 27 (Monday). According to India's Union Health Ministry data updated on Monday, India reported 1,805 new COVID-19 cases, bringing the active caseload over 10,000-mark. Amid rising cases of COVID-19 as well as seasonal influenza, the government is planning a nationwide mock drill on April 10 and 11 to take stock of hospital preparedness. According to a joint advisory issued by the Union Health Ministry and the Indian Council of Medical Research (ICMR) on June 25 (Saturday), both public and private health facilities are expected to join the exercise to check the availability of medicines, hospital beds, medical equipment, and medical oxygen. The joint advisory also highlighted that in the past weeks, COVID-19 testing has declined in some states and the current testing levels are insufficient compared to the standards recommended by the World Health Organization (WHO).

Regional Update

- **Philippines:** According to the Department of Health's (DOH) COVID-19 Tracker data, new COVID-19 cases nationally increased by 127% on March 24, the largest increase in coronavirus infections in recent weeks.[7] However, infectious diseases expert Dr. Rontgene Solante stated on March 25 that the spike was not cause for concern, regardless of whether the current statistics were updated or the consequence of a backlog in case reporting.[7] The daily case count was 311, representing a significant increase from the 137 new infections recorded on March 23.[7] This increased the number of active infections to 8,621, up from 8,414 on Thursday, and the overall national caseload to 4,079,796, up from 4,079,501 the day before.[7] [Full article]
- **Singapore:** The present surge in COVID-19 cases in Singapore is not putting a strain on healthcare capacity, according to the Ministry of Health (MOH) in response to CNA's questions on Monday (Mar 27).[8] New infection waves are predicted on a regular basis, and the MOH has stated that it will continue to closely monitor the local situation and the appearance of new varieties.[8] The frequency of weekly COVID-19 infections in Singapore has increased, with the number of cases per week exceeding 10,000 in the two weeks preceding March 18.[8] This is more than quadruple the previous two weeks' total of less than 4,500 cases per week.[8] [Full article]

Vaccine Update

- **WHO:** According to the World Health Organization's (WHO) COVID-19 Vaccination Insights Report on March 27 (Monday), 13.2 billion doses of COVID-19 vaccines have been administered globally. According to the report, 69% of member states have vaccinated more than 70% of their population. Furthermore, 81% of older adults have received a complete primary series of COVID-19 vaccines across WHO member states and 66% of the general population received primary series across member states and low-income countries (LICs). [Full report]

Research Update (Published and peer-reviewed studies)

- A systematic review of the mental health impact of COVID19 has shown increased prevalence of anxiety and depression among the general population.[2] South Africa is

no exception, and it is widely acknowledged that the pandemic has resulted in a surge in depressive symptoms in the country.[2] This study, ***Mental distress, COVID19 vaccine distrust and vaccine hesitancy in South Africa: A causal mediation regression analysis***, analyzed the relationship between mental health, vaccine distrust and vaccine hesitancy in South Africa.[2] The study used nationally representative panel data of 3241 individuals interviewed prior to and during the COVID19 pandemic.[2] The study used a range of regression techniques including logit, mediation, and gradient-boosted causal mediation models to identify the causal relationship while accounting for selection bias.[2] Using multivariate logit regression, it was shown that vaccine distrust is the most important predictor of vaccine hesitancy.[2] The mediation regression undertaken for this purpose found that mental distress has a positive and significant association with vaccine distrust.[2] The increased vaccine distrust in turn resulted in increased vaccine hesitancy.[2] The results of mediation regression therefore indicate strong and significant mediation effects, whereby mental health effects vaccine hesitancy through the mediating variable of vaccine distrust.[2] These results are robust to the gradient boosted causal mediation model which establishes strong and significant indirect effects, whereby mental health effects vaccine hesitancy through the mediating variable of vaccine distrust.[2] The findings indicate that individuals at high risk of depression were more concerned regarding the safety of vaccines, which in turn led to vaccine hesitancy.[2] [Full text]

- During the COVID-19 pandemic, health professionals were in the front line to manage this pandemic in both screening and managing positive patients regardless of their severity.[3] Because psychological suffering may be associated with the uncertainty of a safe workplace, the World Health Organization (WHO), emphasized the importance of improving the mental health and psychological well-being of health-care workers.[3] Burnout is a syndrome resulting from chronic workplace stress and defined as emotional exhaustion, depersonalization, and low personal achievement.[3] This paper, ***Burnout syndrome among health care workers during the COVID-19 pandemic. A cross sectional study in Monastir, Tunisia,*** described the prevalence of burnout among HCW in care facilities in Tunisia during the COVID-19 pandemic and identified its associated factors.[3] Data collection was carried out using an anonymous self-administered questionnaire composed by three sections: epidemiological and clinical characteristics, professional conditions and the Maslach Burn out Inventory (MBI-HSS).[3] The study included 371 HCW.[3] The prevalence of burnout was 77.9% (CI 95%: 73.6% - 82.1%).[3] The severe level was found in 71 participants (19.1%), the moderate level in 115 (31%) and the low level in 103 (27.8%).[3] The distribution of the levels of the burnout dimensions among the participants was as follows: high emotional exhaustion (EE) (57.4%), high depersonalization (DP) (39.4%) and low personal accomplishment (22.6%).[3] The main determinants of burnout among healthcare professionals during COVID-19 pandemic were: working more than 6 hours per day (OR = 1.19; CI95% [1.06; 1.34]), physician function (OR = 1.17; CI 95% [1.05; 1.31]), feeling a negative impact of work on family life (OR = 1.40; 95% CI [1.13; 1.73]), and high personal estimation of COVID 19 exposure (OR = 1.15; CI95% [1.02; 1.29]).[3] During the COVID19 pandemic, the prevalence of burnout among health professionals was high.[3] Interventions like adjusting working hours, reducing workload, and providing psychological support should be considered by management.[3] [Full text]

- Randomized clinical trials (RCTs) of therapeutic-dose heparin in patients hospitalized with COVID-19 produced conflicting results, possibly due to heterogeneity of treatment effect (HTE) across individuals.[4] Better understanding of HTE could facilitate individualized clinical decision-making.[4] This study, ***Heterogeneous Treatment Effects of Therapeutic-Dose Heparin in Patients Hospitalized for COVID-19***, evaluated HTE of therapeutic-dose heparin for patients hospitalized for COVID-19 and compared approaches to assessing HTE.[4] Exploratory analysis of a multiplatform adaptive RCT of therapeutic-dose heparin vs usual care pharmacologic thromboprophylaxis was done

in 3320 patients hospitalized for COVID-19 enrolled in North America, South America, Europe, Asia, and Australia between April 2020 and January 2021.[4] Heterogeneity of treatment effect was assessed 3 ways: using (1) conventional subgroup analyses of baseline characteristics, (2) a multivariable outcome prediction model (risk-based approach), and (3) a multivariable causal forest model (effect-based approach).[4] Participants were randomized to therapeutic-dose heparin or usual care pharmacologic thromboprophylaxis. Main outcomes included organ support–free days, assigning a value of −1 to those who died in the hospital and the number of days free of cardiovascular or respiratory organ support up to day 21 for those who survived to hospital discharge, and hospital survival.[4] Baseline demographic characteristics were similar between patients randomized to therapeutic-dose heparin or usual care (median age, 60 years; 38% female; 32% known non-White race; 45% Hispanic).[4] In the overall multiplatform RCT population, therapeutic-dose heparin was not associated with an increase in organ support–free days.[4] In conventional subgroup analyses, the effect of therapeutic-dose heparin on organ support–free days differed between patients requiring organ support at baseline or not, between females and males and between patients with lower body mass index (BMI 90% for all comparisons).[4] In risk-based analysis, patients at lowest risk of poor outcome had the highest propensity for benefit from heparin (lowest risk decile: posterior probability of OR >1, 92%) while those at highest risk were most likely to be harmed (highest risk decile: posterior probability of OR<1, 87%).[4] In effect-based analysis, a subset of patients identified at high risk of harm (P = .05 for difference in treatment effect) tended to have high BMI and were more likely to require organ support at baseline.[4] Heparin was more likely to be beneficial in those who were less severely ill at presentation or had lower BMI and more likely to be harmful in sicker patients and those with higher BMI.[4] [Full text]

- This study, ***Sex-Specific Neurodevelopmental Outcomes Among Offspring of Mothers With SARS-CoV-2 Infection During Pregnancy***, determined whether in utero exposure to SARS-CoV-2 is associated with sex-specific risk for neurodevelopmental disorders up to 18 months after birth, compared with unexposed offspring born during or prior to the COVID-19 pandemic period.[5] This retrospective cohort study included the live offspring born at any of 8 hospitals across 2 health systems in Massachusetts of all mothers who delivered between January 1 and December 31, 2018 (born and followed up before the COVID-19 pandemic), between March 1 and December 31, 2019 (born before and followed up during the COVID-19 pandemic), and between March 1, 2020, and May 31, 2021 (born and followed up during the COVID-19 pandemic.[5] Maternal SARS-CoV-2 infection during pregnancy was confirmed by PCR. The COVID-19 pandemic cohort included 18,355 live births (9,399 boys [51.2%]), including 883 (4.8%) with maternal SARS-CoV-2 positivity during pregnancy.[5] The cohort included 1,809 Asian individuals (9.9%), 1,635 Black individuals (8.9%), 12,718 White individuals (69.3%), and 1,714 individuals (9.3%) who were of other race and 2,617 individuals (14.3%) were of Hispanic ethnicity. Mean maternal age was 33.0 (IQR, 30.0-36.0) years.[5] In adjusted regression models accounting for race, ethnicity, insurance status, hospital type (academic center vs community), maternal age, and preterm status, maternal SARS-CoV-2 positivity was associated with a statistically significant elevation in risk for neurodevelopmental diagnoses at 12 months among male offspring (adjusted OR, 1.94 [95% CI 1.12-3.17]; P = .01) but not female offspring (adjusted OR, 0.89 [95% CI, 0.39-1.76]; P = .77).[5] Similar effects were identified using matched analyses in lieu of regression. At 18 months, more modest effects were observed in male offspring (adjusted OR, 1.42 [95% CI, 0.92-2.11]; P = .10).[5] In this cohort study of offspring with SARS-CoV-2 exposure in utero, such exposure was associated with greater magnitude of risk for neurodevelopmental diagnoses among male offspring at 12 months following birth.[5] [Full text]

- Researchers of the study ***Intranasal trimeric sherpabody inhibits SARS-CoV-2 including recent immunoevasive Omicron subvariants*** have developed a molecule that is when

administered nasally, extremely effective in preventing the disease caused by all known variants of the SARS-CoV-2 virus.[6] In laboratory animal studies, a molecule known as TriSb92, developed by researchers at the University of Helsinki, has been confirmed as affording effective protection against coronavirus infection.[6] The molecule identifies a region in the spike protein of the coronavirus common to all current variants of the virus and inhibits its functioning.[6] When administered nasally, the TriSb92 molecule is extremely effective in preventing infection, and experiments carried out in cell cultures indicate that it also encompasses the very latest variants, including XBB, BF7, and BQ.1.1.[6] According to the researchers, the molecule remains fully functional at room temperature for at least 18 months, making it well suited for use as a nasal spray.[6] [Full text]

COVID-19 Cases and Deaths as of 27 March 2023

- As of 27 March 2023 (1PM, GMT+7), worldwide, there were **683,335,331** confirmed cases, including **6,826,922** deaths. Globally, Case Fatality Rate (CFR) was **1.2%.**
- **35,654,545 confirmed cases** of COVID-19 have been reported in the **ASEAN Region**.
- The Case Fatality Rate in the **ASEAN** Region is range between **0.1 to 3.1%**

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 BOOSTERED	FULLY VACCINATED/ 100
ASEAN REGION	**Brunei Darussalam**	10 Mar 20	17-Mar-23	280,790	-	225	-	64,053	450,404	445,929	338,987	99.3
	Cambodia	27 Jan 20	25-Mar-23	138,723	1	3,056	-	841	15,244,858	14,609,937	10,433,215	87.1
	Indonesia	02 Mar 20	26-Mar-23	6,744,033	426	160,994	2	2,490	203,657,535	172,693,321	67,952,274	62.7
	Lao PDR	24 Mar 20	27-Mar-23	218,033	3	758	-	3,041	5,888,649	5,222,417		69.4
	Malaysia	25 Jan 20	22-Mar-23	5,047,040		36,972	-	15,788	28,125,245	27,536,657	17,056,957	81.1
	Myanmar	23 Mar 20	26-Mar-23	634,073	1	19,490	-	1,173	34,777,314	27,545,329	2,227,351	50.8
	Philippines	30 Jan 20	26-Mar-23	4,080,199	227	66,322	-	3,771	78,369,243	73,937,435	21,341,197	64.0
	Singapore	23 Jan 20	27-Mar-23	2,255,812	244	1,722	-	39,049	5,161,990	5,120,768	4,440,289	90.8
	Thailand	13 Jan 20	27-Mar-23	4,728,632	150	33,935	6	6,791	57,005,497	53,486,086	32,143,431	74.6
	Vietnam	23 Jan 20	26-Mar-23	11,527,210	7	43,186	-	11,950	90,450,881	85,848,363	57,452,750	87.4
	ASEAN COUNTRIES			**35,654,545**	**1,059**	**366,660**	**8**	**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	193,451,007	6,092	1,200,140	14
AFRICA	12,808,580	-	258,645	
AMERICAS	193,801,665	-	2,972,744	
EUROPE	247,619,534	-	2,028,733	-
TOTAL	**647,680,786**	**6,092**	**6,460,262**	**14**

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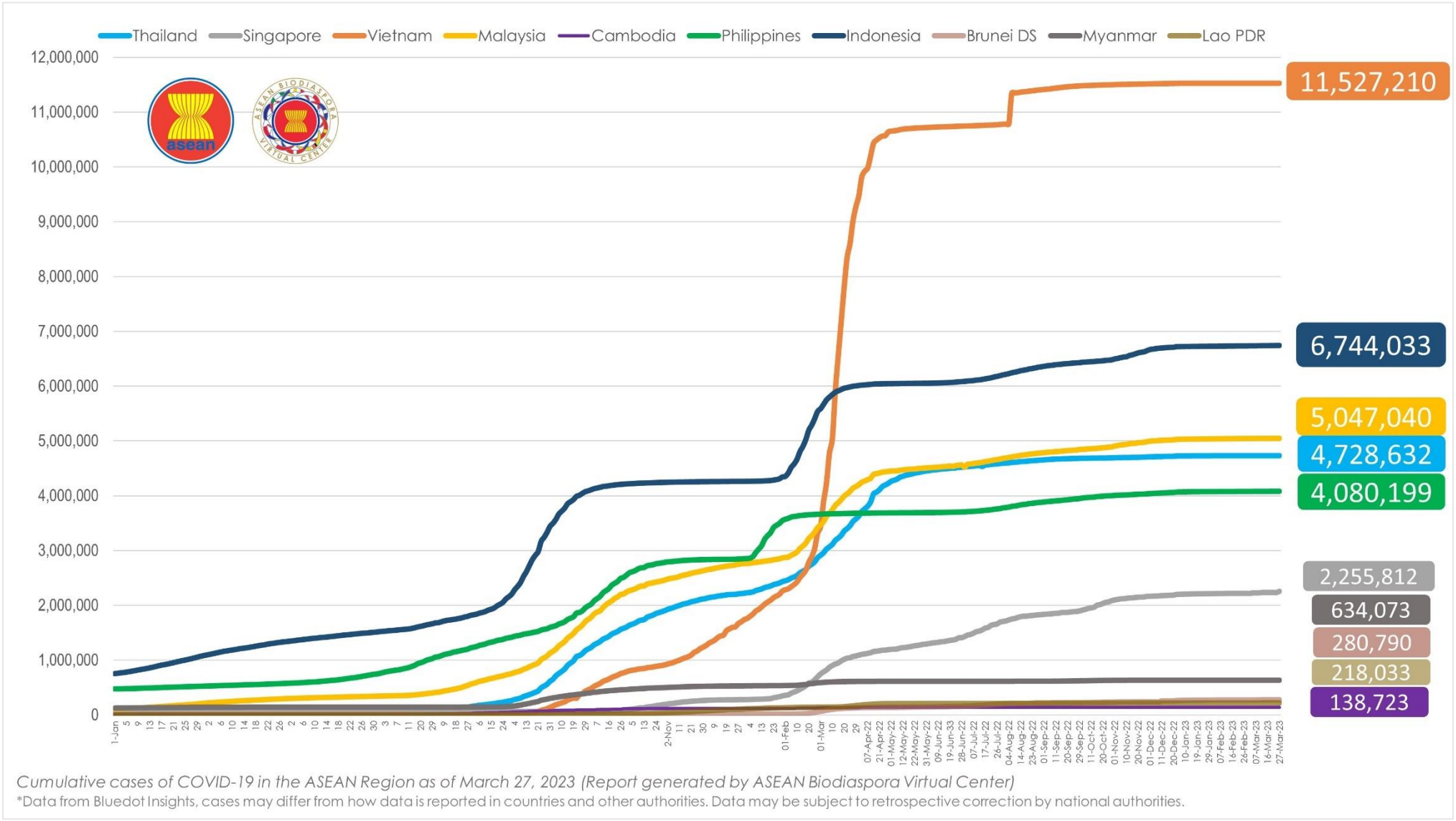
COVID-19 Epi curve among ASEAN Countries:

From January 1, 2022 to March 27, 2023



Cumulative cases of COVID-19 in the ASEAN Region as of March 27, 2023 (Report generated by ASEAN Biodiaspora Virtual Center)

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

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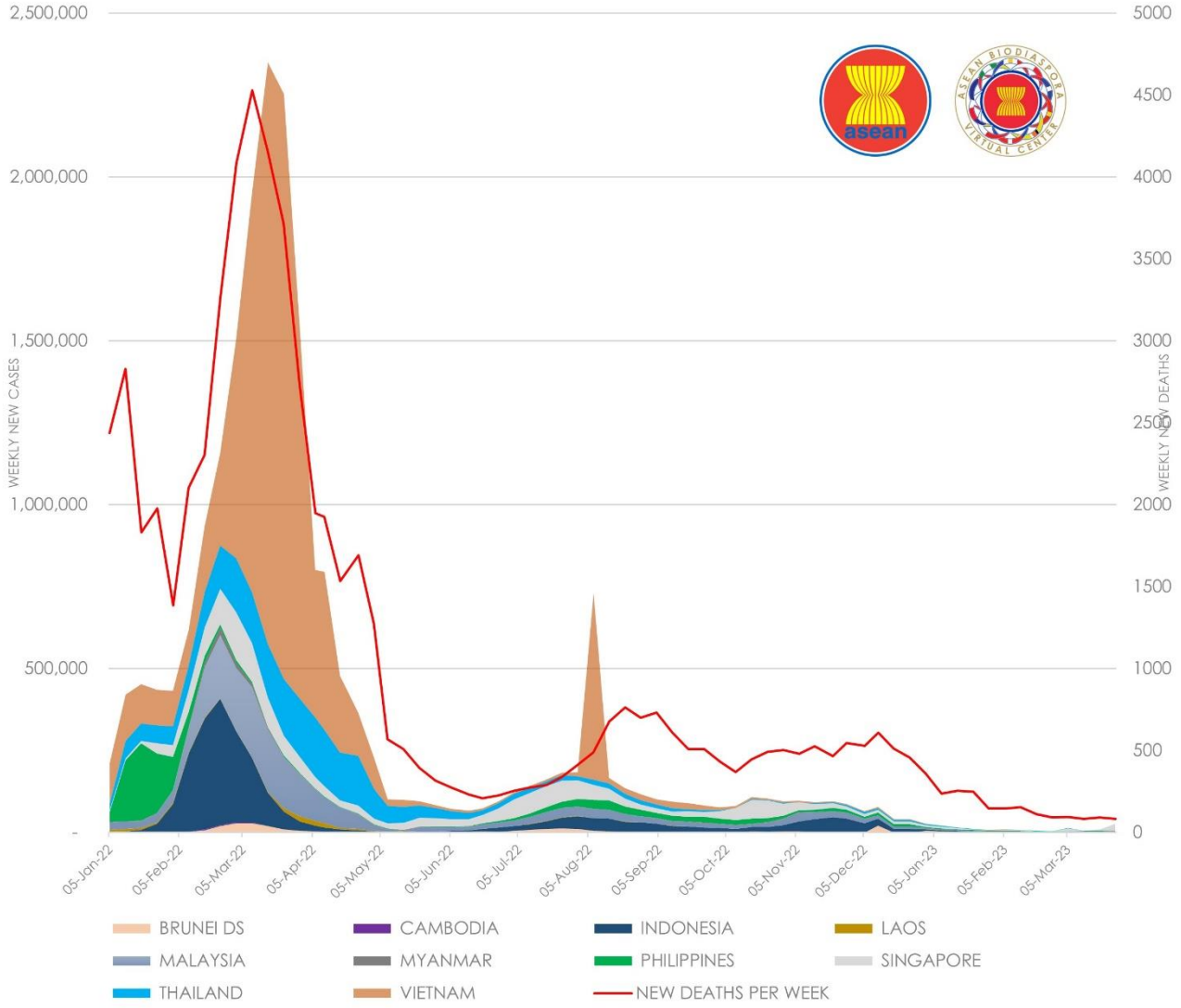
ASEAN Weekly COVID-19 New Cases and New Deaths

From January 1, 2022 to March 26, 2023



ASEAN Country	Weekly New Cases March 20-26, 2023	Weekly New Deaths March 20-26, 2023
Brunei Darussalam	0	0
Cambodia	2	0
Indonesia	2,679	23
Lao PDR	6	0
Malaysia	1,848	5
Myanmar	80	0
Philippines	1,205	50
Singapore	20,816	0
Thailand	178	5
Vietnam	71	0

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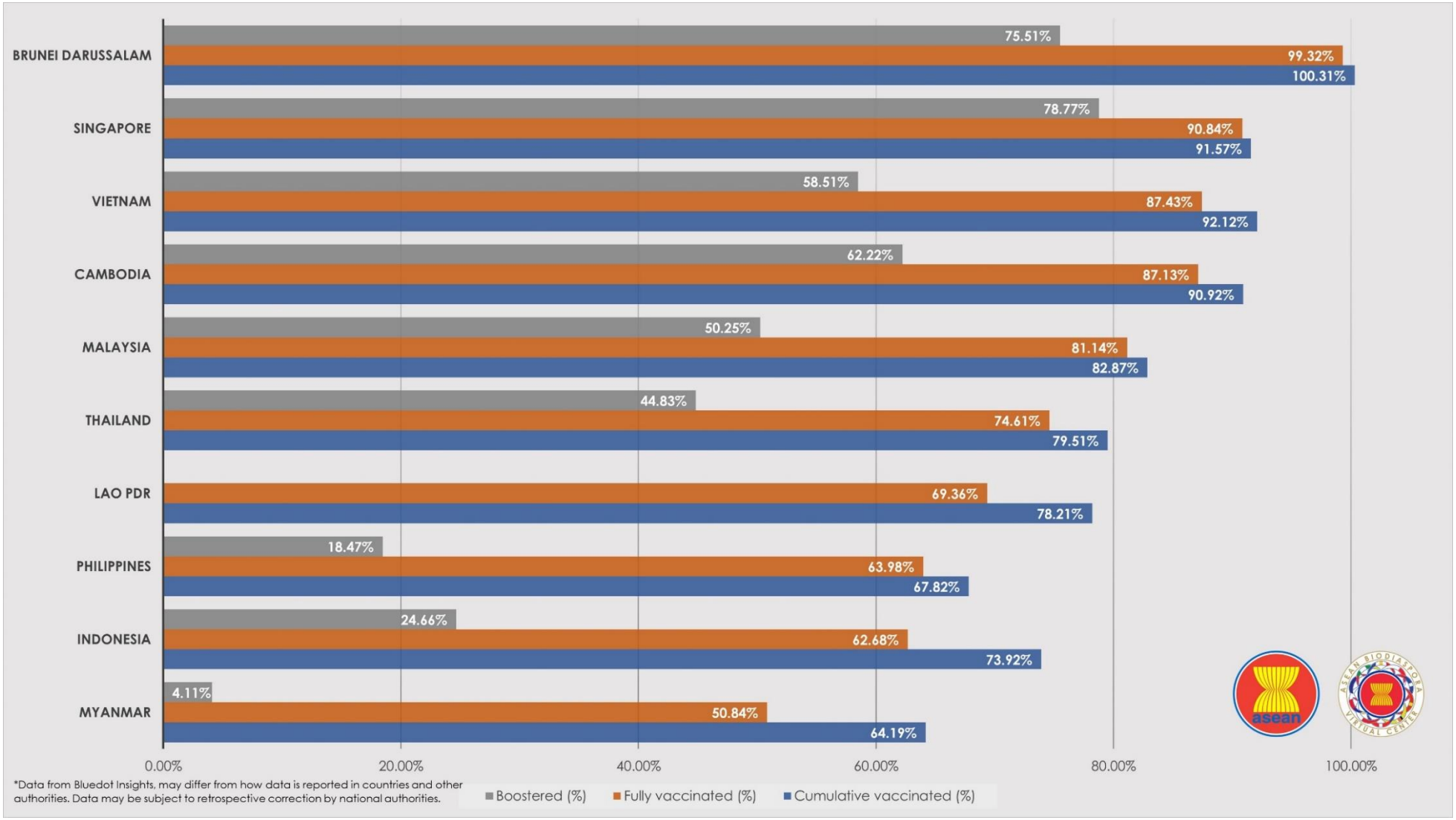
ASEAN COVID-19 Vaccination Status

as of 09 March 2023



*Last update in COVID-19 vaccination status in ASEAN was on March 9, 2023.

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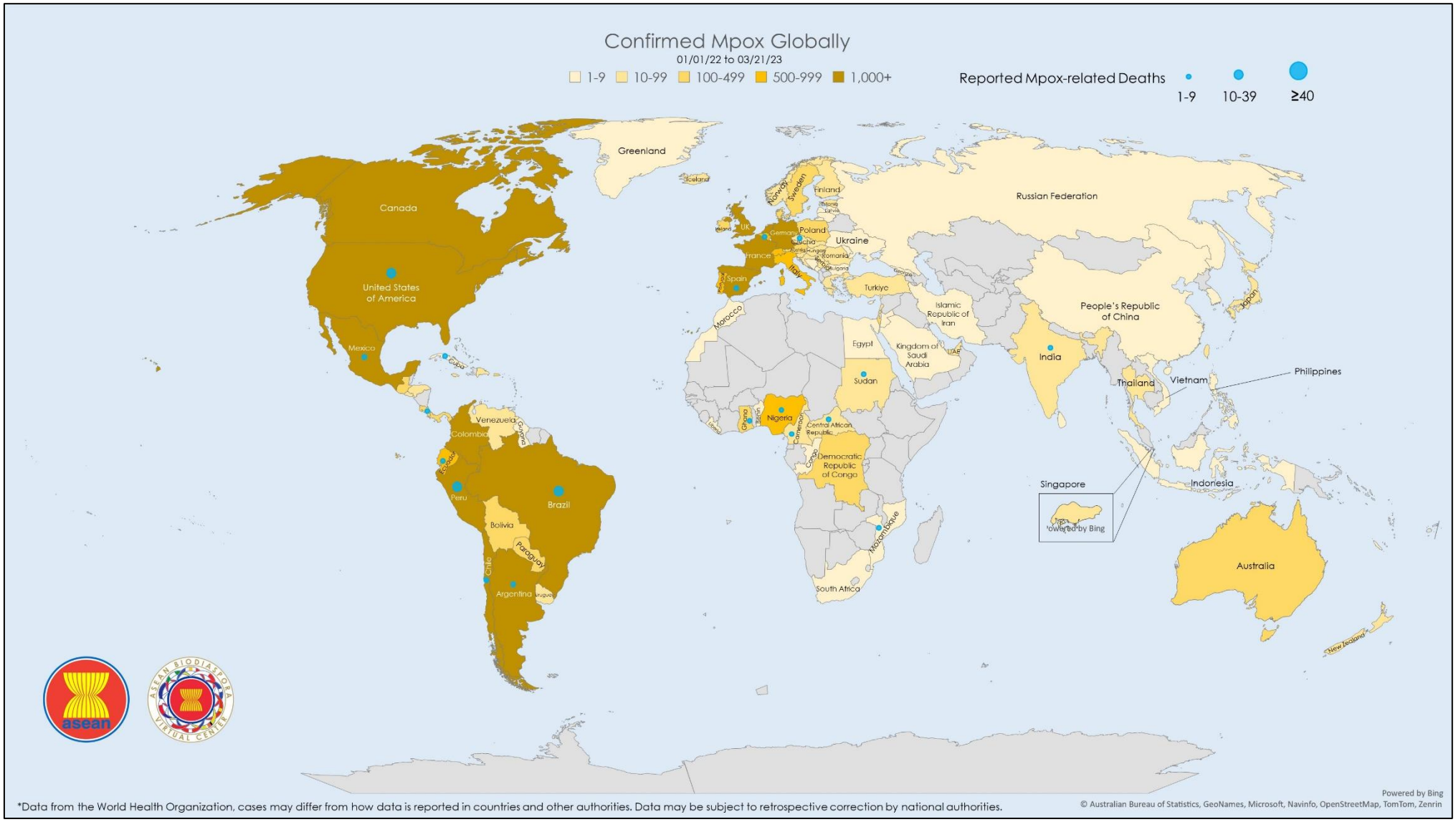
Mpox (Monkeypox) Cases Reported Globally

as of March 21, 2023



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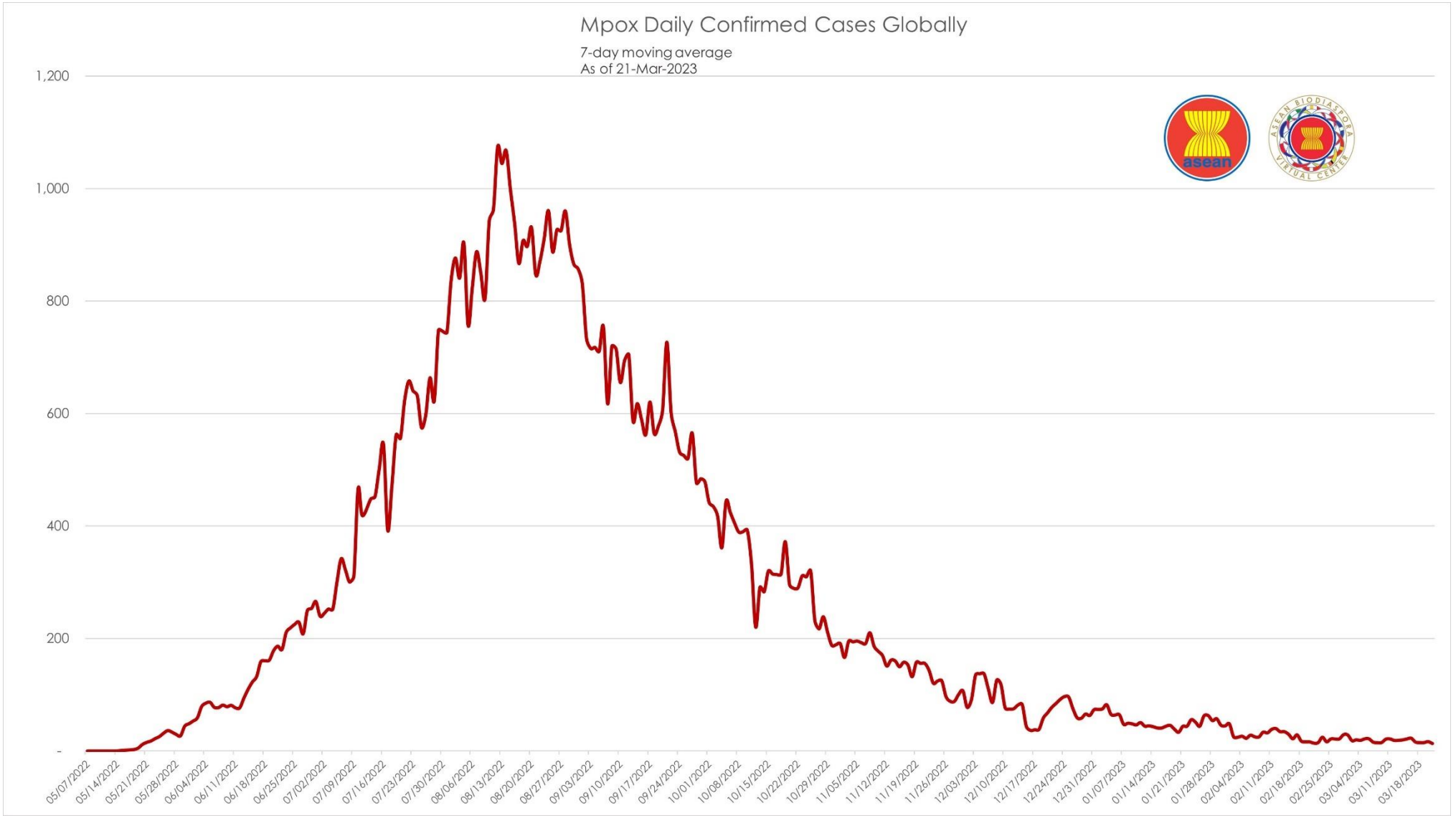
Mpox Daily Trend Globally

as of March 21, 2023



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Mpox: Highlights and Situation Overview

- As of 21 March 2023 (1PM, GMT+7), worldwide, there were **86,646** confirmed cases, including **112** deaths. Globally, Case Fatality Rate (CFR) was **0.13%.**
- **45 confirmed cases** in the ASEAN region, with CFR of **0%.**
- **86,601 confirmed cases** of Mpox have been reported in other **5 regions** (other than ASEAN region):

Mpox cases in ASEAN region

Country	Total Cases	New Cases	Deaths	Case Fatality Rate (CFR)
Indonesia	1	-	-	0.00%
Philippines	4	-	-	0.00%
Singapore	21	-	-	0.00%
Thailand	17	-	-	0.00%
Vietnam	2	-	-	0.00%
ASEAN Total	**45**	**-**	**-**	**0.00%**

Mpox cases in Asia-Pacific region

Country/Territory	Total Cases	New Cases	Deaths	Case Fatality Rate (CFR)
Australia	144	-	-	0.00%
India	22	-	1	5.00%
Japan	59	-	-	0.00%
New Caledonia	1	-	-	0.00%
New Zealand	41	-	-	0.00%
People's Republic of China*	15	-	-	0.00%
Republic of Korea*	5	-	-	0.00%
Sri Lanka	2	-	-	0.00%
Asia-Pacific Total	**289**	**-**	**1**	**0.39%**

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

Top 5 countries with most mpox cases globally

Country	Total Cases	New Cases	Deaths	Case Fatality Rate (CFR)
United States of America	30,048	-	38	0.13%
Brazil	10,878	-	15	0.14%
Spain	7,546	-	3	0.04%
France	4,128	-	-	0.00%
Colombia	4,088	-	-	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	1,481	-	19	1.28%
AMERICAS	58,929	-	86	0.15%
ASEAN	45	-	-	0.00%
ASIA PACIFIC	289	-	1	0.35%
EUROPE	25,581	-	6	0.02%
MIDDLE EAST	321	-	-	0.00%
TOTAL	**86,646**	**-**	**112**	**0.13%**

Research Update (Published and peer-reviewed studies)

- This paper, ***Fatal Case of Progressive Mpox in a Patient with AIDS—Viral Enteropathy and Malabsorption Demanding the Use of Full Parenteral ARV and Endovenous Cidofovir,*** reports a fatal case of disseminated mpox infection that progressed over more than three months in an HIV-infected patient with acquired immunodeficiency syndrome (AIDS).[1] Mucocutaneous, pleuropulmonary, central nervous system, and gastrointestinal involvement was documented.[1] The course of disease resembles progressive vaccinia, a formerly reported disease caused by uncontrolled replication of smallpox vaccination orthopoxviruses in immunosuppressed patients.[1] Severe small bowel involvement jeopardized normal oral tecovirimat and antiretroviral therapy absorption.[1] Thus, the use of full parenteral antiretrovirals and endovenous cidofovir was resorted to.[1] Although a remarkable decrease in HIV viral load occurred in six days, mpox infection continued to progress, and the patient died of septic shock.[1] This case offers new clinical insights on the presentation of severe disease in AIDS patients.[1] Moreover, this case alerts for the need for prompt therapy initiation in patients at risk of ominous clinical progression.[1] [Full text]

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