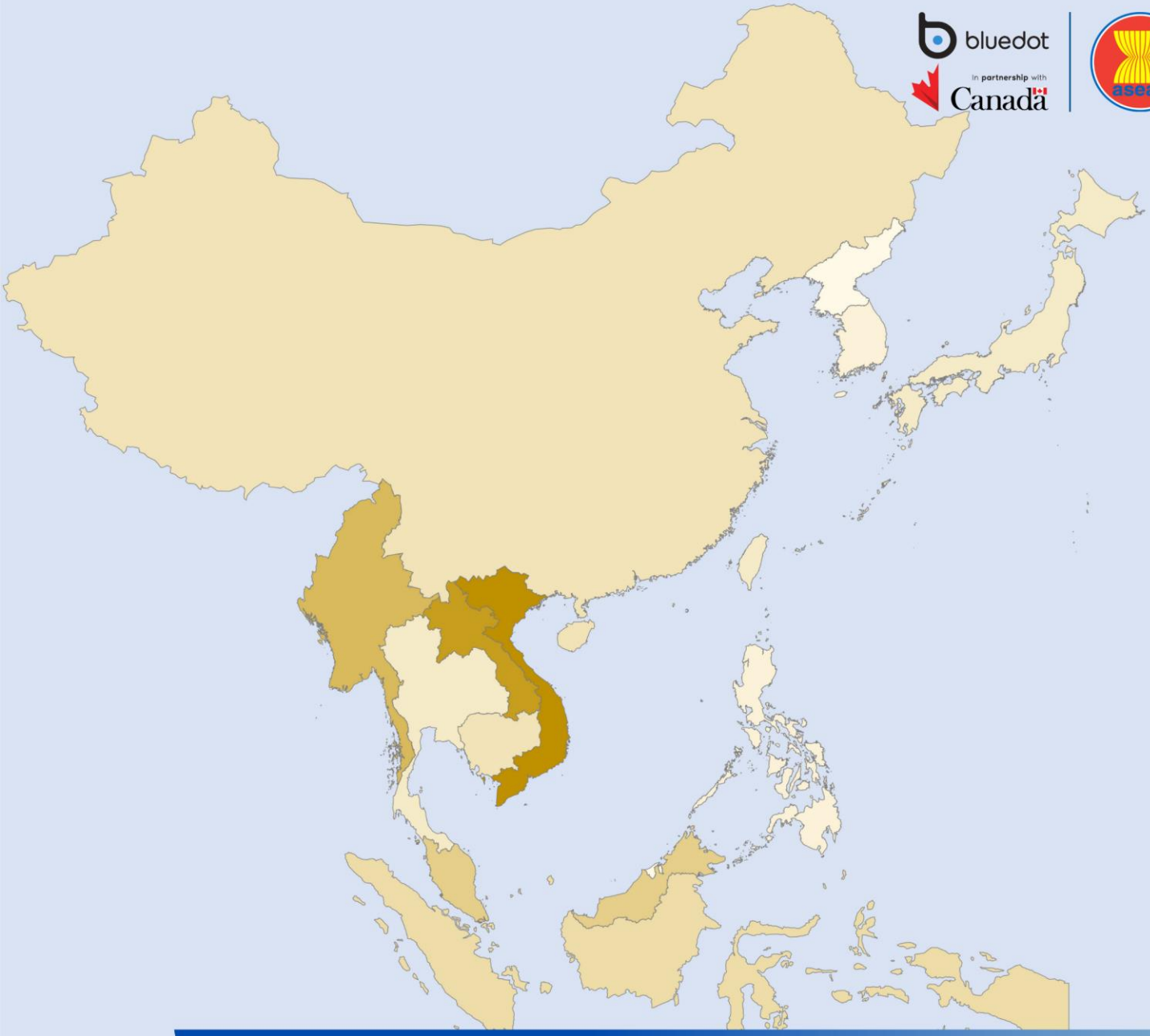

COVID-19 and Monkeypox

Situational Report in the ASEAN+3 Region

ASEAN BioDiaspora Virtual Center (ABVC)

September 19, 2022 | Issue No. 390

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COVID-19: Highlights and Situation Overview

Global Update

- **Worldwide**, there have been over 618 million cases and over 6 million deaths attributed to COVID-19.

Regional Update

- **Indonesia:** The World Health Organization (WHO) claimed that the COVID-19 epidemic is nearing an end since the number of weekly recorded fatalities from the illness has fallen to its lowest level since March 2020.[5] The Indonesian Health Ministry's spokesperson, Mohammad Syahril, objected to this claim.[5] Nevertheless, those are only warning signs; let's hope the enthusiasm does not cause it to spiral out of control.[5] Syahril cited the WHO's recommendation that individuals uphold this condition by following health standards and receiving vaccinations.[5] Additionally, the WHO issues six concise policy statements outlining the actions that all nations must take to halt the COVID-19 epidemic.[5] [Full Article]

- **Myanmar:** According to a report released on September 16 by the country's Ministry of Health, 80% of COVID-19 infections in Myanmar between January 28 and September 7 were among those who had not had a COVID-19 vaccination.[7] During the fourth COVID-19 wave that hit Myanmar at the end of January this year, over 80,000 new instances of the virus have been recorded, along with over 130 additional COVID-19 deaths, according to government statistics.[7] According to the health ministry, the overall number of illnesses from January 28 to September 7 included 80% of those who were unvaccinated, 15.9% of those who received the first doses of the vaccine, 4% of those who were completely vaccinated, and 0.1% of those who received booster injections.[7] According to the ministry, the number of persons who died from COVID-19 at that time included 84.1% of those who were unvaccinated or only received the first dose, 14.4% of those who received the entire course of vaccination, and 1.5% of those who received booster doses.[7] [Full Article]

- **Singapore:** Singapore's Ministry of Health reported on September 18 (Sunday) an estimated 2,490 "excess deaths" during the pandemic from January 2020 to June 2022. The term "excess deaths" refers to the increased death rate during the pandemic, compared to the rate expected in the absence of a pandemic. Nearly three in five excess deaths in Singapore during the COVID-19 pandemic were directly caused by COVID-19, and the remainder were patients who had died of other illnesses within 90 days of being infected. MOH's report also explored possible reasons for the excess deaths, with MOH suggesting that the pandemic may have changed people's "health-seeking behaviors", such as putting off health screening and medication for chronic illnesses. However, a more significant explanation is death due to underlying medical conditions made worse by COVID-19. MOH also added that among COVID-19 deaths, people who were not fully vaccinated were "over-represented", accounting for 28% of deaths occurring in the first half of 2022, and about 5% of the eligible population had not been fully vaccinated as of mid-March.

- **Thailand:** An uninfected 105-year-old COVID-19 patient has been successfully treated by Thai doctors using a combination of antiviral medicine, long-acting antibodies (LAAB), and antiseptics.[8] The director-general of the Disease Control Department, Dr. Opart Karnkawinpong, said that he was released from the hospital in less than two weeks.[8] He said that the patient was given antiviral medicine on the first day after being taken to the hospital on September 3rd with a high temperature, low blood oxygen level, and lung irritation.[8] The next day, physicians there gave the patient the LAAB therapy

and antiseptics after taking into account his advanced age and the fact that he had not had a vaccination, according to Dr. Opart. He said that his health gradually improved until he was released on September 14th.[8] He revealed that on July 27th, Thailand imported LAAB medication for the first time, to be used in patients with chronic kidney disease who have undergone dialysis at the Bamrasnaradura Infectious Diseases Institute.[8] The medications were then distributed to hospitals throughout the nation for use in dialysis patients as well as patients who have undergone organ or bone marrow transplants.[8] [Full Article]

Vaccine Update

- **Philippines:** As of September 14, the PinasLakas campaign had immunized 30,363 elderly folks and given the first booster doses to 2,558,086 people.[6] Dr. Carmela Granada, the division chief of the Department of Health Public Operations Center, stated on an online forum that just 2.83% of the 1,074,110-target age group have received all recommended vaccinations.[6] The number of people who were given boosts amounts to 10.73% of the 23,840,032-target population.[6] [Full Article]
- **South Korea:** South Korea authorized the use of SKYCovione on September 19 (Monday), a domestically-developed COVID-19 vaccine developed by SK Bioscience Co., for booster shots against COVID-19 in addition to its use as primary inoculations. SKYCovione is a recombinant-protein vaccine based on novel two-component nanoparticles that can maximize the immune effect and was jointly developed with the Institute for Protein Design at the University of Washington. Hospitals and clinics will be allowed to administer SKYCovione vaccines as third and fourth inoculations starting September 26. According to the state-run Center for Infectious Disease Research, SKYCovione has confirmed its efficacy in neutralizing the BA.1 and BA.5 omicron subvariants when used after two prior vaccine jabs. When inoculated with SKYCovione as a booster shot, the virus neutralizing effect was 51.9 times higher against the BA.1 subvariant and 28.2 times higher against the BA.5 subvariant.

Research Update

- In a ***new data on Heterologous COVID-19 Vaccine Combinations***, the findings offer guidance on how to blend vaccine types in primary immunization and booster schedules, which is crucial for middle- and lower-income nations to enhance their immunization programs.[9] The study found that the best way to increase serum antibodies and neutralizing titers was to provide a messenger RNA (mRNA) vaccination dosage between 34 and 80 days after receiving a first dose of an inactivated viral or non-replicating adenovirus vaccine.[9] Although the strategy also led to more adverse reactions to vaccinations, none of them were significant.[9] [Full Text]
- In the study ***Factors Associated With COVID-19 Vaccination Among Individuals With Vaccine Hesitancy in French-Speaking Belgium***, many people who had reservations about becoming immunized did so for a variety of reasons, most of which had to do with avoiding political pressure, moral obligation, and a group effort to stop the epidemic.[10] Importantly, individual protection against COVID-19 was not cited as the primary cause, unlike the community of completely immunized individuals who had faith in the vaccination.[10] The cited causes were correlated with age, gender, and educational attainment, indicating the need for more individualized pandemic response tactics.[10] [Full Text]
- In the study ***Durability of Immune Response After COVID-19 Booster Vaccination and Association With COVID-19 Omicron Infection***, 3972 healthcare professionals, while

Omicron's neutralizing response was lower compared with other variations of concern, the drop in antibody levels 5 months after the third BioNTech/Pfizer vaccination dosage was slower than after the second.[11] After the third treatment, peak antibody levels were linked to Omicron infection.[11] indicating that the humoral response following the third vaccination dose persisted for 5 months and that Omicron infection was related with antibody kinetics.[11] [Full Text]

- In the cross-sectional study ***Persistence and Protective Potential of SARS-CoV-2 Antibody Levels After COVID-19 Vaccination in a West Virginia Nursing Home Cohort***, antibody levels declined over time following immunization in 2139 individuals from West Virginia nursing homes, but were recovered with booster doses.[12] Individuals who experienced breakthrough infections had considerably lower antibody levels during the Delta surge, but during the Omicron surge there was no significant correlation between antibody level and infection.[12] Although these results back the advice to use booster dosages to increase diminishing antibody responses, the evidence is inconclusive about the correlation between antibodies and infection resistance.[12] [Full Text]

- In the ***Evaluation of Risk Factors for Conversion From a COVID-19 Household Contact to a Case in New York City***, in NYC, out of almost 600 000 home contacts, 24.1% resulted in a case. When measured against comparable research, such as a pooled estimate of 21.1% published in a systematic evaluation of 29 studies of COVID-19 secondary attack rates among a total of 22 214 household contacts, the contact-to-case conversion rate is greater.[13] The likelihood of converting from a household contact to a case was inversely correlated with the proportion of New Yorkers in the household contact's age group who had received a COVID-19 vaccination by the month of the household contact's exposure.[13] This suggests that receiving a COVID-19 vaccination protected against doing so.[13] When compared to males, women, people with comorbidities, and people who were exposed to a symptomatic case had higher conversion rates from household contacts to cases.[13] This study had a number of limitations, including the fact that not all household contacts were tested for COVID-19, that data for contacts who did not become cases were less thorough than data for contacts who did, and that medical history information, including comorbidities, was self-reported.[13] [Full Text]

- In the study ***Two-Year Health Outcomes in Hospitalized COVID-19 Survivors in China***, the most prevalent symptoms at 2 years after SARS-CoV-2 infection were fatigue, chest tightness, anxiety, dyspnea, and myalgia.[14] Most symptoms improved from 1-year to 2-year follow-up, though the incidence of dyspnea showed no significant change.[14] 1864 patients who survived COVID-19 at 2 COVID-19-designated hospitals in Wuhan, China, from February 12 to April 10, 2020.[14] Patients who required admission to the critical care unit while hospitalized had a greater likelihood of continuing to experience symptoms, and their scores on the chronic obstructive pulmonary disease assessment test were higher.[14] These results imply that a percentage of COVID-19 survivors may experience persistent symptoms for up to two years following SARS-CoV-2 infection.[14] [Full Text]

Cases and Deaths as of 19 September 2022

- As of 19 September 2022 (2PM, GMT+8), worldwide, there were **618,564,655** confirmed cases, including **6,542,170** deaths. Globally, Case Fatality Rate (CFR) was **1.1%.**
- **87,366,054 confirmed cases** of COVID-19 have been reported in the **ASEAN +3** countries including **34,347,278 cases** in the ASEAN region and **53,018,776 cases** in the PLUS THREE countries**.**
- The Case Fatality Rate in the **ASEAN +3** region is range between **0.1 to 3.2%.**
- There have been no tests reported in the last 14 days in the **ASEAN** Region.

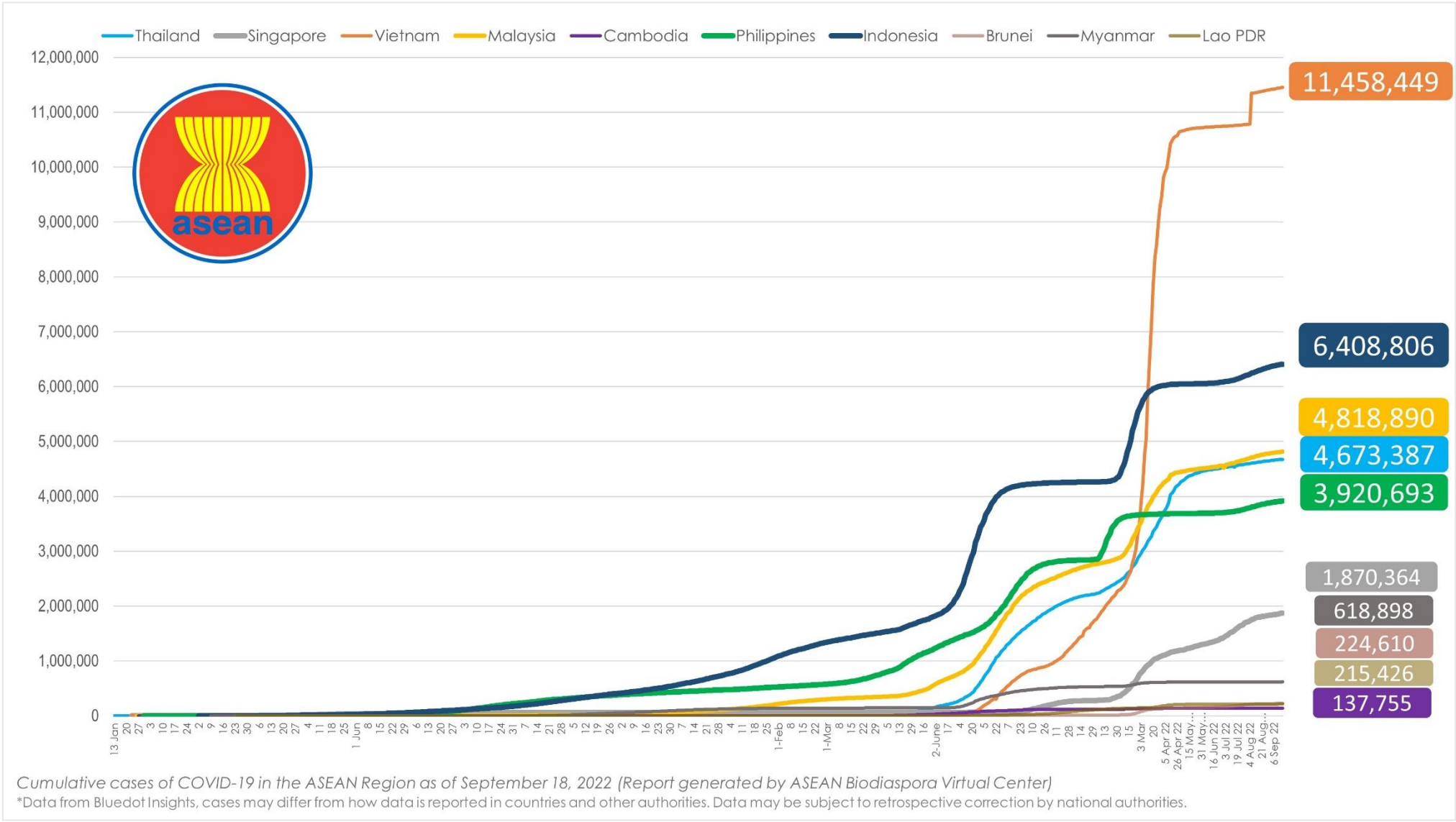
REGION	COUNTRY	FIRST CONFIRMED CASE(S)	LATEST REPORT ON CONFIRMED CASE(S)	TOTAL CONFIRMED CASES	NEW CASES	TOTAL DEATHS	NEW DEATHS	CUMULATIVE CASES/ 100,000	CUMULATIVE VACCINATED	CUMULATIVE FULLY VACCINATED	CUMULATIVE BOOSTERED	FULLY VACCINATED/ 100
ASEAN REGION	Brunei	10 Mar 20	18-Sep-22	224,610	-	225	-	51,839	449,429	444,412	333,420	99.8
	Cambodia	27 Jan 20	18-Sep-22	137,755	3	3,056	-	836	15,172,499	14,513,433	10,038,861	87.5
	Indonesia	02 Mar 20	18-Sep-22	6,408,806	1,683	157,892	8	2,368	203,882,351	170,498,655	61,936,549	62.3
	Lao PDR	24 Mar 20	18-Sep-22	215,426	35	757	-	3,005	5,888,649	5,222,417		70.3
	Malaysia	25 Jan 20	18-Sep-22	4,818,890	1,639	36,312	4	15,083	28,098,746	27,503,336	16,720,246	81.9
	Myanmar	23 Mar 20	18-Sep-22	618,898	234	19,446	2	1,145	34,777,314	27,545,329	2,227,351	51.2
	Philippines	30 Jan 20	18-Sep-22	3,920,693	2,364	62,549	35	3,626	77,253,008	72,568,579	18,095,217	63.7
	Singapore	23 Jan 20	18-Sep-22	1,870,364	-	1,607	-	32,793	5,024,384	5,004,693	4,297,217	91.8
	Thailand	13 Jan 20	18-Sep-22	4,673,387	477	32,632	12	6,712	56,979,403	53,442,075	31,945,382	74.6
	Vietnam	23 Jan 20	18-Sep-22	11,458,449	1,891	43,139	1	11,879	89,618,505	83,666,271	68,087,543	85.8
	ASEAN COUNTRIES			**34,347,278**	**8,326**	**357,615**	**62**	**129,285**	**517,144,288**	**460,409,200**	**213,681,786**	
ASEAN PLUS THREE	South Korea	20-Jan-20	18-Sep-22	24,394,466	34,764	27,828	46	47,176	45,109,586	44,672,314	40,911,358	86.2
	Japan	16-Jan-20	18-Sep-22	20,697,405	63,548	43,323	72	16,392	104,184,141	102,772,415	114,080,982	82.5
	China	31-Dec-19	18-Sep-22	7,926,905	46,987	25,671	62	48,964	1,331,874,083	1,298,104,686	830,944,176	87.4
	PLUS THREE COUNTRIES			**53,018,776**	**145,299**	**96,822**	**180**	**112,532**	**1,481,167,810**	**1,445,549,415**	**985,936,516**	
	ASEAN +3			**87,366,054**	**153,625**	**454,437**	**242**	**241,818**	**1,998,312,098**	**1,905,958,615**	**1,199,618,302**	

- **531,198,601 confirmed cases** of COVID-19 have been reported in **5 continents** (other than ASEAN +3 countries):

CONTINENT	TOTAL CONFIRMED CASES	NEW CASES	TOTAL DEATHS	NEW DEATHS	CUMULATIVE CASES/ 100,000	CUMULATIVE VACCINATED	CUMULATIVE FULLY VACCINATED	CUMULATIVE BOOSTERED
AFRICA	12,893,136	181	258,501	3	251,022	397,791,803	314,150,650	49,359,971
AMERICAS	180,500,436	4,120	2,866,207	7	1,171,909	822,112,492	721,372,392	469,752,471
ASIA PACIFIC	85,190,578	9,102	749,180	40	472,178	1,442,800,477	1,331,844,771	357,298,412
EUROPE	230,221,642	112,913	1,976,019	175	1,981,223	565,203,298	536,897,753	349,893,356
MIDDLE EAST	22,392,809	5,270	237,826	39	210,304	143,629,266	128,992,622	58,933,077
TOTAL	**531,198,601**	**131,586**	**6,087,733**	**264**	**4,086,636**	**3,371,537,336**	**3,033,258,188**	**1,285,237,287**

COVID-19 Epi curve among ASEAN Countries:

From January 1, 2021 to September 18, 2022

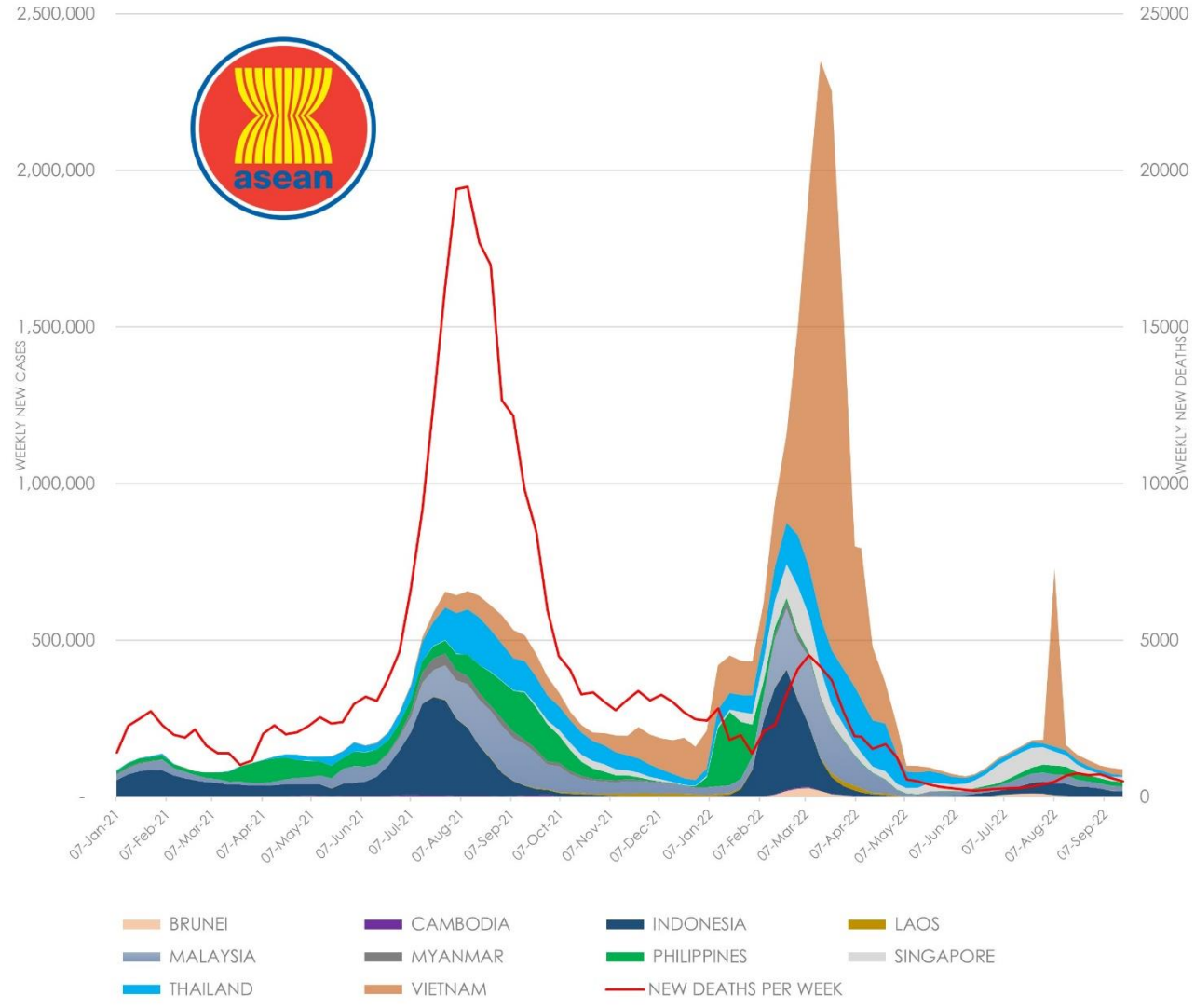


Cumulative cases of COVID-19 in the ASEAN Region as of September 18, 2022 (Report generated by ASEAN Biodiaspora Virtual Center)

*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.

Weekly COVID-19 New Cases and New Deaths

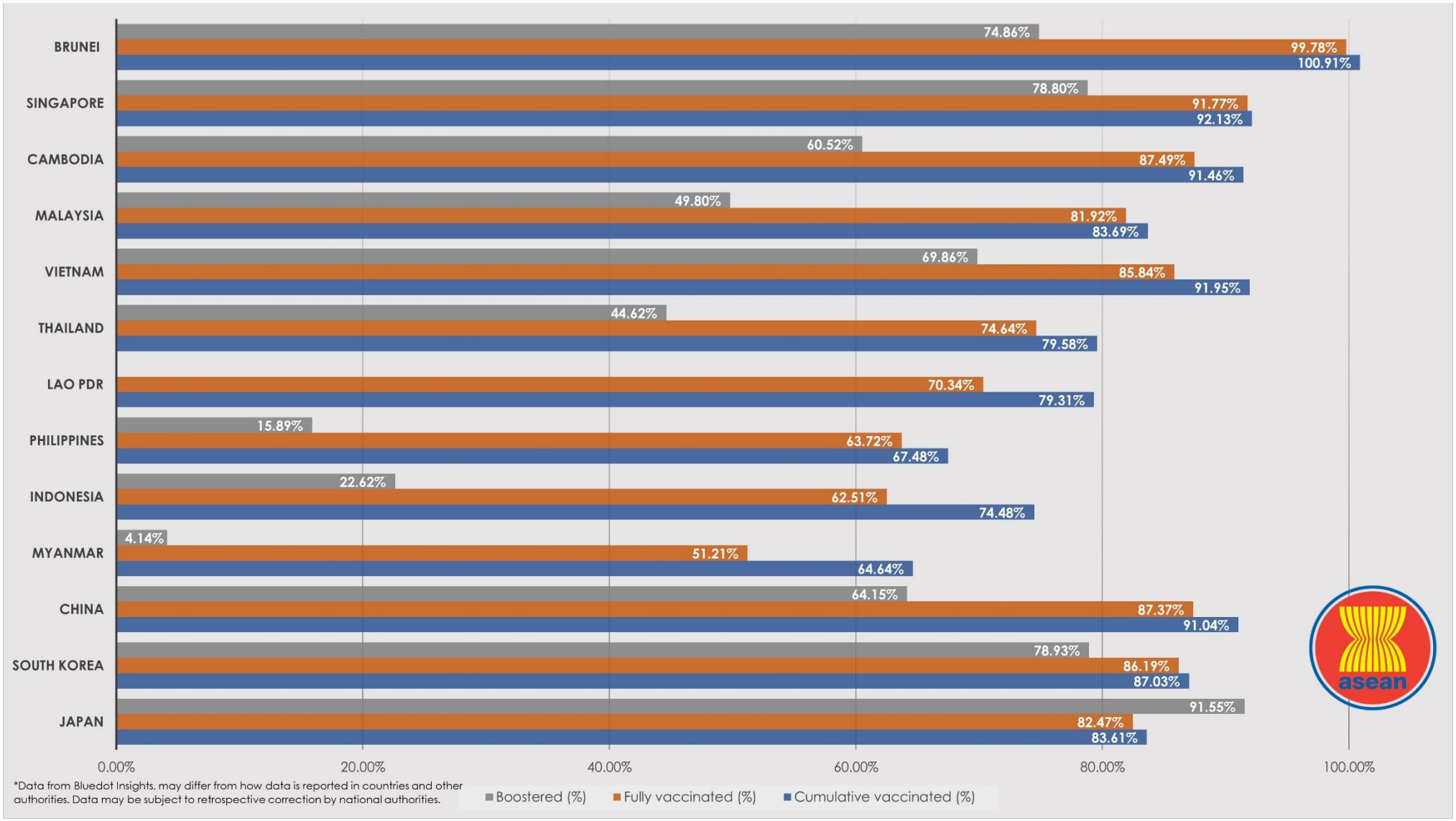
From January 1, 2021 to September 18, 2022



ASEAN Country	Weekly New Cases September 12-18, 2022	Weekly New Deaths September 12-18, 2022
Brunei	1,551	0
Cambodia	45	0
Indonesia	16,314	122
Lao PDR	478	0
Malaysia	13,783	32
Myanmar	2,046	4
Philippines	14,424	245
Singapore	15,250	5
Thailand	5,841	90
Vietnam	18,836	10

COVID-19 Vaccination Status

as of 18 September 2022



COVID-19 Outlook Assessment

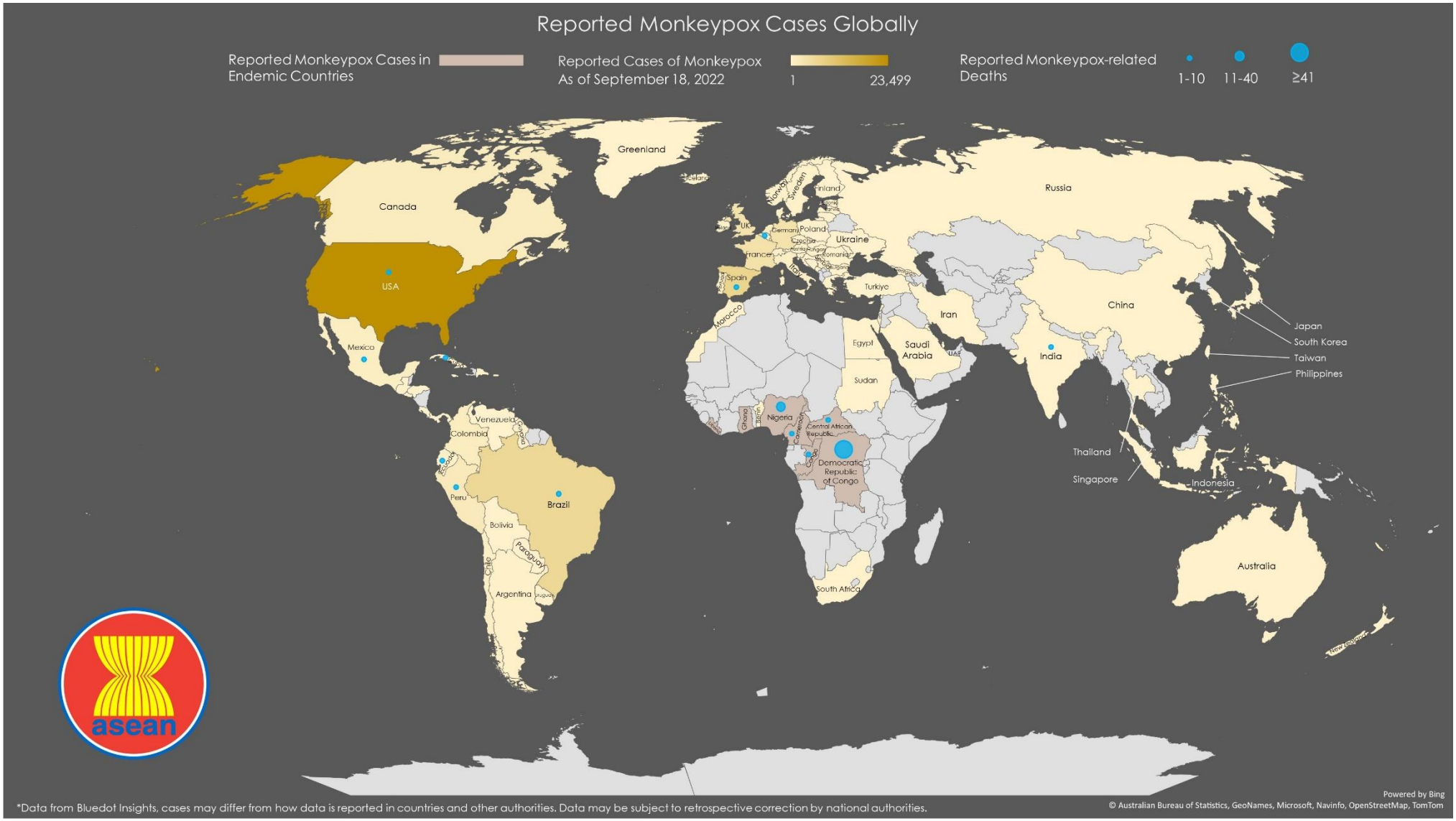
as of 16 September 2022

ASEAN MEMBER STATE	REQUIREMENT						
	At least **80% of the high-risk population has been vaccinated** with at least one dose of a COVID-19 vaccine.	At least **65% of the total population has a level of immunity** to COVID-19; either recovered from COVID-19 or have been vaccinated with at least one dose of a COVID-19 vaccine.		**Case levels are generally low** (a 7-day rolling average number of daily new cases that is <10 cases per 100,000, with each day's past-14-day test positivity is consistently <5%).		**Government Policy** on containment and health (strictness and comprehensiveness in COVID-19 related government policies)	
	Population vaccinated/ day *(7-day average)*	% of Total population fully vaccinated / boostered	Population vaccinated/ day *(7-day average)*	Daily cases/ 100,000	Test positivity last 14 days	Containment and health index score - *Oxford COVID-19 Government Response Tracker (OxCGRT)*	Change over the past 30 days
Brunei	0%/day	≥90.0/74.9	Unknown	51.14	Unknown	31.0/100	undefined
Cambodia	0%/day	≥90.0/60.2	Unknown	0.04	Unknown	31.5/100	undefined
Indonesia	0%/day	65.5/22.6	Unknown	0.87	Unknown	54.2/100	undefined
Lao PDR	0%/day	77.3/ND	Unknown	0.98	Unknown	61.6/100	undefined
Malaysia	0%/day	84.4/49.8	0.01%/day	5.39	Unknown	51.8/100	undefined
Myanmar	0%/day	52.1/4.1	Unknown	0.52	Unknown	69.1/100	undefined
Philippines	0%/day	70.2/15.9	Unknown	1.87	Unknown	55.4/100	undefined
Singapore	0%/day	88.8/78.8	0.01%/day	38.14	Unknown	58.9/100	undefined
Thailand	0%/day	77.6/44.5	0.01%/day	1.33	Unknown	31.5/100	undefined
Vietnam	Unknown	≥90.0/69.9	Unknown	2.75	Unknown	43.5/100	undefined
Japan	0%/day	81.2/≥90.4%	0%/day	62.17	Unknown	42.9/100	undefined
South Korea	0%/day	86.5/78.9	0%/day	105.82	Unknown	38.1/100	undefined
China	Unknown	≥90.0/56.5	Unknown	0.014	Unknown	84.5/100	undefined

All of the countries have achieved the estimated high-risk population fully vaccinated of ≥90.0% except China with 35.1%.

Monkeypox Cases Reported Globally

as of September 18, 2022



Monkeypox: Highlights and Situation Overview

- As of 19 September 2022 (2PM, GMT+8), worldwide, there were **64,465** confirmed cases, including **90** deaths. Globally, Case Fatality Rate (CFR) was **0.14%.**
- **45 confirmed cases** of Monkeypox have been reported in the **ASEAN+3** region composed of **32 cases** in the ASEAN region and **13 cases** in the PLUS THREE countries, with CFR of **0%.**
- **64,420 confirmed cases** of Monkeypox have been reported in other **5 regions** (other than ASEAN +3 countries):

Monkeypox cases in ASEAN+3 region

Region	Country	Total Cases	New Cases	Deaths	Case Fatality Rate
ASEAN	Singapore	19	-	-	0.00%
ASEAN	Thailand	8	1	-	0.00%
ASEAN	Philippines	4	-	-	0.00%
Plus Three	Japan	4	-	-	0.00%
Plus Three	Taiwan	4	-	-	0.00%
Plus Three	South Korea	3	-	-	0.00%
ASEAN	Indonesia	1	-	-	0.00%
Plus Three	China	1	1	-	0.00%
Plus Three	Hong Kong (SAR)	1	-	-	0.00%
ASEAN+3 Total		**45**	**2**	**-**	**0.00%**

Top 5 countries with most monkeypox cases globally

Region	Country	Total Cases	New Cases	Deaths	Case Fatality Rate
Americas	USA	23,499	869	2	0.01%
Europe	Spain	7,037	90	3	0.04%
Americas	Brazil	6,129	0	1	0.02%
Europe	France	3,898	66	-	0.00%
Europe	Germany	3,556	26	-	0.00%

Monkeypox cases per region other than ASEAN+3

REGION	TOTAL CONFIRMED CASES SINCE JANUARY 1, 2022	NEW CASES SINCE THE PREVIOUS REPORT	TOTAL DEATHS	CASE FATALITY RATE
AFRICA*	3,683	0	79	2.14%
AMERICAS	35,610	905	7	0.02%
ASIA PACIFIC	146	0	1	0.68%
EUROPE	23,620	168	4	0.02%
MIDDLE EAST	288	1	-	0.00%
TOTAL	**64,420**	**1,071**	**91**	**0.14%**

Global Update

- **WHO:** According to the World Health Organization, there has been a decline in the number of cases of monkeypox worldwide.[3] Comparing the 5,029 instances from August 29 to September 4 to the 6,746 cases from August 22 to 28, the WHO reported a drop in worldwide cases of 25.5%.[3] But according to WHO Director-General Dr. Tedros Ghebreyesus, the struggle against COVID-19 was comparable and the world should not yet let its guard down.[3] The countries with the most instances reported—the United States, Spain, Brazil, France, Germany, the United Kingdom, Peru, Canada, the Netherlands, and Portugal—account for 88% of all cases registered worldwide.[3] [Full Article]

Regional Update

- **Thailand:** A 23-year-old Thai male who just returned from Qatar has been identified as Thailand's eighth confirmed case of monkeypox, according to the Disease Control Department, Dr. Opart Karnkawinpong, the department's director-general, on September 16.[1] He said that before the guy arrived in Bangkok from Qatar on September 13, he had experienced a fever, headache, rashes, and blisters all over his body.[1] The man arrived and met his two pals.[1] He entered one of their rooms, where they had a meal. Without going into his room, he left his belongings with the second buddy.[1] For a diagnosis of his ailment, the patient checked into the Bamrasnaradura Infectious Diseases Institute.[1] The Department of Medical Sciences and the institution both received samples for testing.[1] Both verified the infection with monkeypox.[1] [Full Article]

- **China:** A day after the mainland Chinese government verified its first case of monkeypox, a senior health official in China issued a warning against contacting foreigners.[2] The country's COVID-19 restrictions and stringent border controls had thus far prevented the spread of monkeypox until a case "slipped through the net," according to Wu Zunyou, chief epidemiologist at the Chinese Center for Disease Control and Prevention, who wrote on September 17 on China's Twitter-like platform Weibo.[2] Local officials stated that a "international arrival" was quarantined for COVID-19 after the illness was found; however, they did not specify whether the person was a foreign or Chinese native.[2] [Full Article]

- **Indonesia:** The first verified case of monkeypox in Indonesia was in close contact with three citizens of Depok, West Java Province, and Tangerang, Banten Province, who were all in excellent health, according to the Health Ministry.[4] The three individuals were a 24-year-old male friend of the patient from Tangerang and two Depok locals, ages 38 and 24, who were also family members of the patient.[4] A 27-year-old man from Jakarta who had previously visited the Netherlands, Switzerland, Belgium, and France before contracting the illness was the first verified case of monkeypox in Indonesia.[4] [Full Article]

Research Update

- In the study ***Two Cases of Monkeypox-Associated Encephalomyelitis — Colorado and the District of Columbia, July–August 2022,*** describes two cases of young, healthy homosexual males in Colorado and Washington, DC, who developed encephalomyelitis linked to monkeypox.[16] They both developed encephalomyelitis that manifested within 5 and 9 days, respectively, following the start of their illnesses.[16] Both both had proven systemic MPXV infections.[16] Uncertain underlying pathophysiology may be caused by systemic MPXV infection or a parainfectious autoimmune process, but it may also be caused by CNS MPXV invasion.[16] Acute disseminated encephalomyelitis (ADEM), which generally affects children but can potentially affect adults, is a monophasic parainfectious autoimmune demyelinating illness of the central nervous system (CNS).[16] Both patients showed certain clinical and radiographic characteristics of ADEM.[16] Throughout history, persons with suspected Variola virus infections have been reported to exhibit ADEM-like disorders.[16] [Full Text]

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