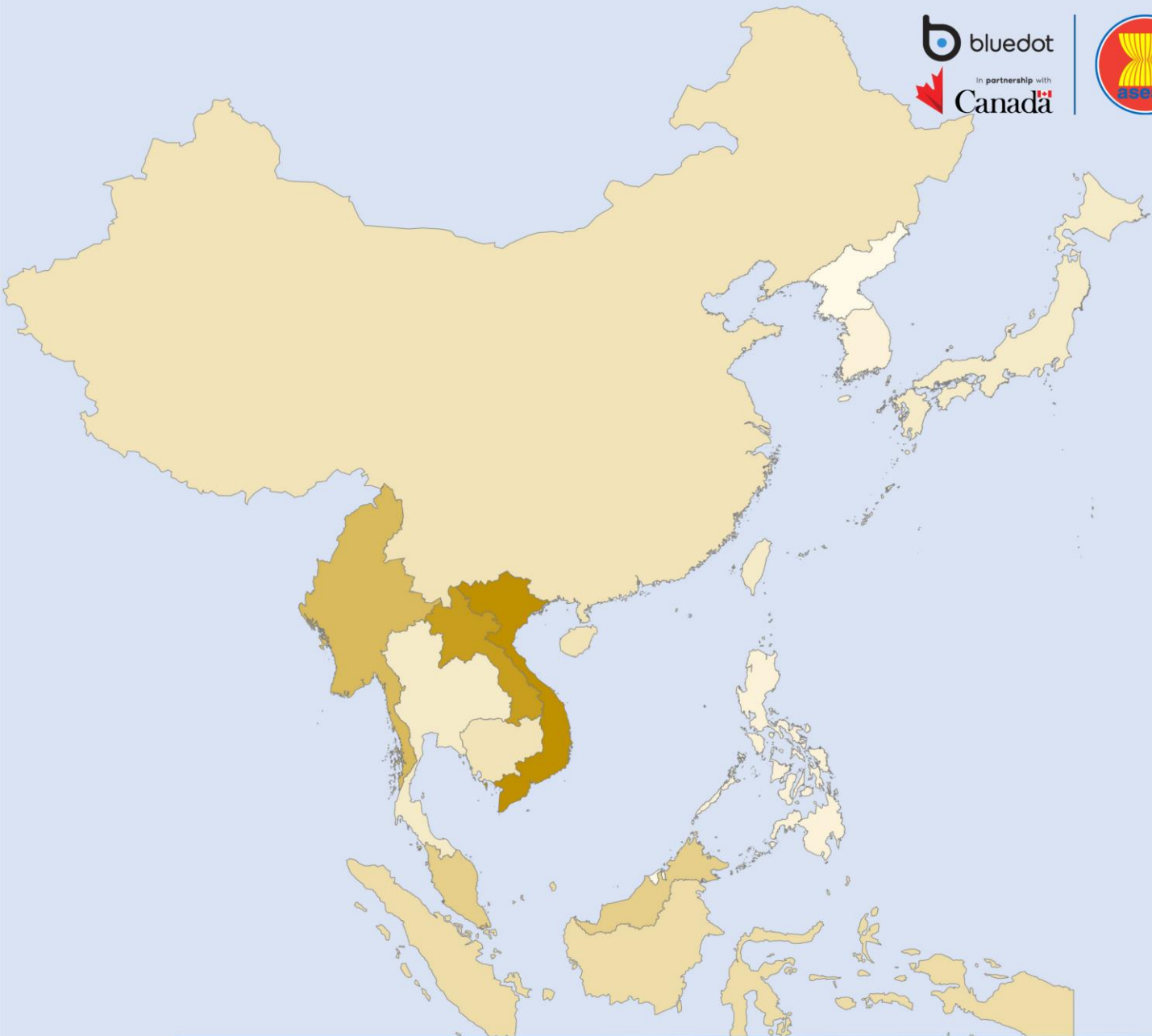




COVID-19, Monkeypox, and Other Infectious Diseases

Situational Report in the ASEAN+3 Region

— ASEAN BioDiaspora Virtual Center (ABVC)

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Table of Contents

COVID-19	1
Highlights and Situation Overview	1
Global Update	1
Regional Update	1
Vaccine Update	2
Research Update	3
Cases and Deaths Table	4
Epi curve Among ASEAN Countries	5
Vaccination Status in ASEAN	6
Outlook Assessment	7
Infectious Diseases	8
Infectious Diseases Map in ASEAN+3 Region	8
Infectious Diseases Other than COVID-19 and Monkeypox	8
Infectious Disease Global Updates	9
Plague	9
Avian Influenza A(H3N8)	9
Infectious Disease ASEAN+3 Updates	9
Dengue	9
Cholera	10
Rabies	10
Chikungunya	10
Hand, Foot, and Mouth Disease (HFMD)	10
Meliodosis	11
Leptospirosis	11
Malaria	11
Dengue	13
Dengue Cases in ASEAN Region Map	13
Dengue Cases in ASEAN Region Table	13
Special Report on Notable Diseases	14
Ebola Disease Outbreak	14
Sudan Ebolavirus in Uganda	14
Monkeypox	15
Monkeypox Cases Globally Map	15
Highlights and Situation Overview	16
Monkeypox Cases in ASEAN+3 Region Table	16
Top 5 Countries with Most Cases Globally	16
Monkeypox per Region Other than ASEAN+3	16



Global Update	17
Vaccine Update	17
Research Update	18
References	19



COVID-19: Highlights and Situation Overview

Global Update

- **Worldwide**, there have been over 631 million cases and over 6 million deaths attributed to COVID-19.
- 13 October 2022 (Reuters Health Information) Another wave of COVID-19 infections may have begun in Europe as cases begin to tick up across the region, the World Health Organization and European Centre for Disease Prevention and Control (ECDC) said on Wednesday. WHO's region-wise data showed that only Europe recorded a rise in COVID-19 cases in the week ended Oct. 2, clocking an increase of 8% from the prior week. Public health experts have warned that vaccine fatigue and confusion over available vaccines will likely limit booster uptake in the region. Millions of people across Europe remain unvaccinated against COVID-19, the WHO and ECDC noted.

Regional Update

- **Malaysia:** According to Dr. Noor Hisham Abdullah, director-general of health, the number of new COVID-19 cases jumped by 8.5% last week to 11,957 from the 11,018 instances reported the week before.⁶ Noor Hisham stated in his update for the week ending October 15 that there had been no changes from the previous week in the number of COVID-19 patients admitted to public hospitals under Categories 1 and 2, but that the number of patients admitted under Categories 3, 4, and 5 had increased by 16.7% per 100,000 cases.⁶ In low-risk quarantine and treatment facilities, there were no beds in use.⁶ Intensive care unit (ICU) bed use decreased by 2%, but overall non-critical bed occupancy remained constant. During the week, there was a 3% drop in active cases, reaching 22,725 total.⁶ [\[Full Article\]](#)
- **Philippines:** The Department of Health said on October 18 that the nation has discovered its first instances of the COVID-19 Omicron XBB subvariant and XBC variant.⁷ 81 Omicron XBB subvariant illnesses were found in two areas, according to DOH Officer-in-Charge Ma. Rosario Vergeire, who also reported 193 XBC variant cases in 11 locations.⁷ She made no mention of the places where the instances were discovered.⁷ 70 of the Omicron XBB subvariant instances discovered have already recovered, eight more are still isolated, and three more patients' conditions are still being verified.⁷ The patients were from Davao and the Western Visayas.⁷ 176 XBC variant patients have already been classified as recovered, three are still isolated, and five have passed away.⁷ [\[Full Article\]](#)
- **Singapore's** Ministry of Health (MOH) reported 11,934 new COVID-19 infections on (October 18) Tuesday, more than double the 5,196 new cases on October 17 (Monday). MOH added that 661 of the COVID-19 patients are currently being hospitalized - up from 490 patients a week ago. Of these, 58 patients need oxygen supplementation and 14 are in the Intensive Care Unit. Of the new local COVID-19 cases on Tuesday, 10,837 were detected through antigen rapid tests (ART). Another 716 were detected through polymerase chain reaction (PCR) tests. There were 381 new imported cases, with 15 detected through PCR tests and 366 through ART. MOH has urged seniors and immuno-compromised people to continue wearing masks in crowded indoor settings. Members of the public should also not go to the hospital emergency departments, unless they have emergency conditions. To relieve the load on general practitioner clinics and polyclinics here, employers have been urged also not to require medical certificates from employees who have self-tested positive for COVID-19 or have symptoms of acute respiratory infection.



- Thailand:** The first instance of the BQ.1 sub-variant of the COVID-19 Omicron BA.5 sub-variant in Thailand has been discovered by the Centre for Medical Genomics at Ramathibodi Hospital.⁸ The US Centers for Disease Control and Prevention have issued a warning over the spread of BQ.1 and BQ.1.1, two offspring of Omicron's BA.5 sub-variant, according to the center's Facebook post from October 18.⁸ They have harmful traits or characteristics that might elude some of the existing therapies, according to Dr. Anthony Fauci, head of the US National Institute of Allergy and Infectious Diseases, who calls them "quite worrisome".⁸ According to the most recent Centers for Disease Control and Prevention data, the two sub-lineages account for more than 10% of all cases now occurring in the US.⁸ According to Dr. Fauci, there is no assurance that any of the two strains would eventually surpass BA.5 as the predominant variety in the nation.⁸ He also noted that if they spread quickly, they may pose a threat to undo a national drop in COVID cases.⁸ [\[Full Article\]](#)
- Hong Kong (SAR)** government said that it will allow up to 12 people to gather in public starting October 20 (Thursday), up from four people currently. Live performances and dancing activities will also be allowed in the following premises such as catering premises, bars/pubs, clubs/nightclubs, cinemas, museums, and meeting rooms/function rooms in club-houses and hotels or guesthouses with conditions that performers must conduct regular tests and wear masks. In addition, eating and drinking are allowed in outdoor areas of theme parks. However, other social distancing measures will remain unchanged, including the requirement for participants in banquets as well as patrons of bars/pubs and clubs/nightclubs to undergo rapid antigen test (RAT); requirements related to the use of "LeaveHomeSafe" and the Vaccine Pass, and restrictions for holders of Red Code/Amber Code in entering relevant premises; as well as mask-wearing for passengers on public transport carriers and in specified public places.

Vaccine Update

- AstraZeneca:** Despite "disappointing" recent trial results for an AstraZeneca spray, researchers suggest nasal vaccinations might still be a potent future weapon in the battle against COVID-19.⁴ Nasal vaccinations attempt to develop protection in the mucous membrane that borders the nose and mouth by entering the body through the same route as the virus.⁴ This may prevent individuals from contracting the disease in the first place and may prevent those who already have COVID from spreading it further.⁴ That would be a significant improvement over conventional injections in the arm, which have shown to be highly successful at avoiding severe COVID but significantly less successful at preventing transmission.⁴ It's vital to "not get too depressed" by the AstraZeneca results, virologist Connor Bamford of Queen's University Belfast told AFP.⁴ He said that figuring out exactly why the nasal spray failed might benefit researchers in learning how to improve a subsequent iteration.⁴ It's vital to "not get too depressed" by the AstraZeneca results, virologist Connor Bamford of Queen's University Belfast told AFP.⁴ He said that figuring out exactly why the nasal spray failed might benefit researchers in learning how to improve a subsequent iteration.⁴ [\[Full Article\]](#)
- US CDC:** On October 18, CDC Director Rochelle P. Walensky, M.D., M.P.H., authorized the use of improved (bivalent) COVID-19 vaccinations for children ages 5 to 11 years.⁵ This comes after the Food and Drug Administration (FDA) approved improved COVID-19 vaccines from Moderna and Pfizer-BioNTech for use in children and adolescents aged 6 to 17 and in children and adolescents aged 5 to 11 years, respectively.⁵ Updated COVID-19 vaccinations target newer Omicron variations that are more transmissible and immune-evading and include Omicron BA.4 and BA.5 spike protein components to the present vaccine composition to assist restore protection that has lost after previous



immunization.⁵ The FDA's approval of revised (bivalent) COVID-19 vaccinations for this younger age range and the CDC's recommendation for usage are crucial next steps for our nation's immunization program, which has helped boost protection against severe COVID-19 illness and mortality.⁵

Research Update

- The study **Association of mRNA Vaccination with Clinical and Virologic Features of COVID-19 Among U.S. Essential and Frontline Workers** analyzed weekly self-collected nasal swabs and whole-genome sequencing results from 1,199 frontline workers infected with COVID-19 from December 14, 2020, to April 19, 2022, with follow-up until May 9, 2022.⁹ Of the 352 COVID-19 infections among the unvaccinated, 12.5% were asymptomatic, and 6.8% had uncharacteristic symptoms. Asymptomatic cases were more often linked to Omicron than Delta infections.⁹ Among participants with symptoms, those with Omicron infections had symptoms for, on average, 12.3 days, compared with 15.6 days with wild-type infections and 16.4 days with Delta.⁹ Omicron-infected participants reported an average of 2.6 days sick in bed, 1.2 days fewer than those with wild-type infections and 2.0 days fewer than those with Delta.⁹ Delta- and Omicron-infected workers who received a second vaccine dose 14 to 149 days earlier had a significantly lower average viral load than their unvaccinated counterparts.⁹ According to authors, although viral RNA shedding cannot be directly attributable to transmission, the relatively high viral load of Omicron infections together with the higher frequency of asymptomatic infection supports previous studies suggesting an association with increased transmission, particularly during the first 3 to 5 days when viral load peaked.⁹ [\[Full Text\]](#)
- In the study **Use of Cardiopulmonary Exercise Testing to Evaluate Long COVID-19 Symptoms in Adults: A Systematic Review and Meta-analysis**, exercise capacity was found to be lower in those with symptoms that were consistent with long-term covid in this systematic review and meta-analysis of 38 studies that included 2160 participants than in people without symptoms more than 3 months after SARS-CoV-2 infection by 4.9 mL/kg/min.¹² According to research on people with exertional intolerance, deconditioning, disordered breathing, chronotropic incompetence, and aberrant peripheral oxygen extraction and/or usage might all be factors in the reduction of exercise tolerance.¹² [\[Full Text\]](#)



Cases and Deaths as of 19 October 2022

- As of 19 October 2022 (2PM, GMT+8), worldwide, there were **631,031,660** confirmed cases, including **6,582,452** deaths. Globally, Case Fatality Rate (CFR) was **1.1%**.
- 90,415,021 confirmed cases** of COVID-19 have been reported in the **ASEAN +3** countries including **34,726,107 cases** in the ASEAN region and **55,688,914 cases** in the PLUS THREE countries.
- The Case Fatality Rate in the **ASEAN +3** region is range between **0.1 to 3.1%**.
- 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-Oct-22	231,833	-	225	-	53,506	449,769	444,757	335,738	99.9
	Cambodia	27 Jan 20	18-Oct-22	137,975	5	3,056	-	837	15,195,683	14,549,947	10,184,141	87.7
	Indonesia	02 Mar 20	18-Oct-22	6,460,265	2,164	158,345	18	2,387	204,261,199	170,841,144	63,783,243	62.4
	Lao PDR	24 Mar 20	18-Oct-22	216,101	-	758	-	3,014	5,888,649	5,222,417		70.3
	Malaysia	25 Jan 20	18-Oct-22	4,870,275	1,873	36,426	3	15,244	28,106,255	27,515,382	16,758,967	82.0
	Myanmar	23 Mar 20	18-Oct-22	628,577	939	19,470	1	1,163	34,777,314	27,545,329	2,227,351	51.2
	Philippines	30 Jan 20	18-Oct-22	3,986,028	1,213	63,581	34	3,687	77,705,048	73,122,738	19,588,463	64.2
	Singapore	23 Jan 20	18-Oct-22	2,013,878	5,196	1,646	2	35,309	5,161,984	5,121,802	4,424,546	93.9
	Thailand	13 Jan 20	18-Oct-22	4,687,281	-	32,882	-	6,732	57,005,497	53,486,086	32,143,431	74.7
	Vietnam	23 Jan 20	18-Oct-22	11,493,894	623	43,158	1	11,915	90,034,165	84,374,202	69,805,302	86.6
	ASEAN COUNTRIES			34,726,107	12,013	359,547	59	133,794	518,585,563	462,223,804	219,251,182	
ASEAN PLUS THREE	South Korea	20-Jan-20	18-Oct-22	25,164,695	33,190	28,856	5	48,666	45,117,391	44,685,795	41,128,632	86.2
	Japan	16-Jan-20	18-Oct-22	21,161,401	-	44,576	-	16,760	104,250,795	102,895,319	120,312,398	82.6
	China	31-Dec-19	18-Oct-22	9,362,818	50,058	27,511	40	55,707	1,332,035,336	1,299,465,631	834,588,493	88.0
		PLUS THREE COUNTRIES			55,688,914	83,248	100,943	45	121,132	1,481,403,522	1,447,046,745	996,029,523
			ASEAN +3	90,415,021	95,261	460,490	104	254,926	1,999,989,085	1,909,270,549	1,215,280,705	

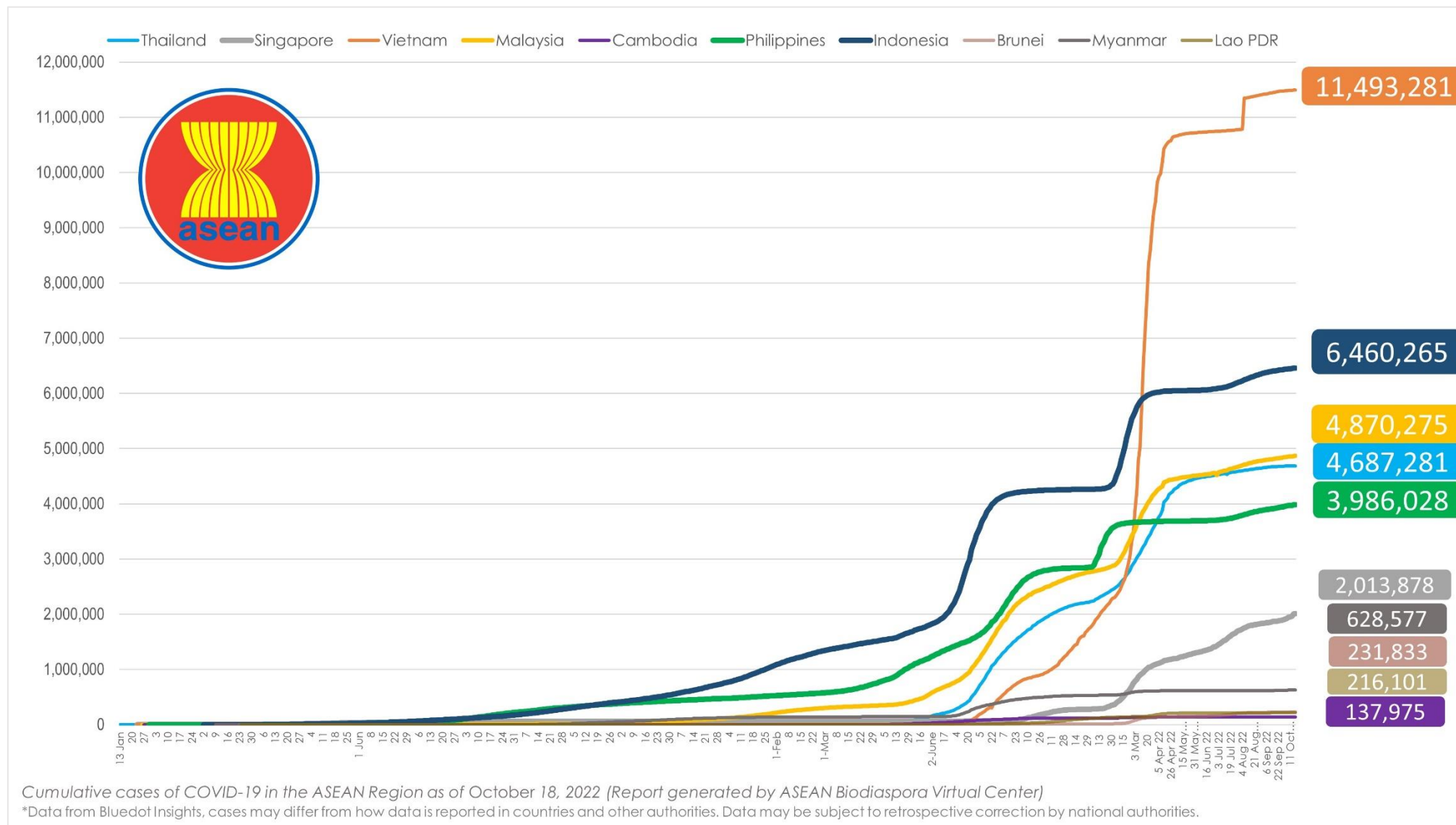
- 540,616,639 confirmed cases** of COVID-19 have been reported in **5 continents** (other than ASEAN +3 countries):

CONTINENT	TOTAL CONFIRMED CASES	NEW CASES	TOTAL DEATHS	NEW DEATHS	CUMULATIVE CASES/ 100,000	CUMULATIVE VACCINATED	CUMULATIVE FULLY VACCINATED	CUMULATIVE BOOSTERED
AFRICA	12,919,806	878	258,713	3	241,699	418,681,335	337,408,582	53,271,937
AMERICAS	182,464,637	16,506	2,883,800	136	1,188,659	826,110,698	725,873,204	480,094,015
ASIA PACIFIC	85,613,557	14,039	751,157	40	485,961	1,448,286,605	1,338,339,260	398,131,706
EUROPE	237,130,967	236,580	1,990,084	531	2,021,497	566,527,354	537,472,884	359,951,078
MIDDLE EAST	22,487,672	2,520	238,208	13	212,295	144,060,461	129,414,201	59,431,407
TOTAL	540,616,639	270,523	6,121,962	723	4,150,111	3,403,666,453	3,068,508,131	1,350,880,143



COVID-19 Epi curve among ASEAN Countries:

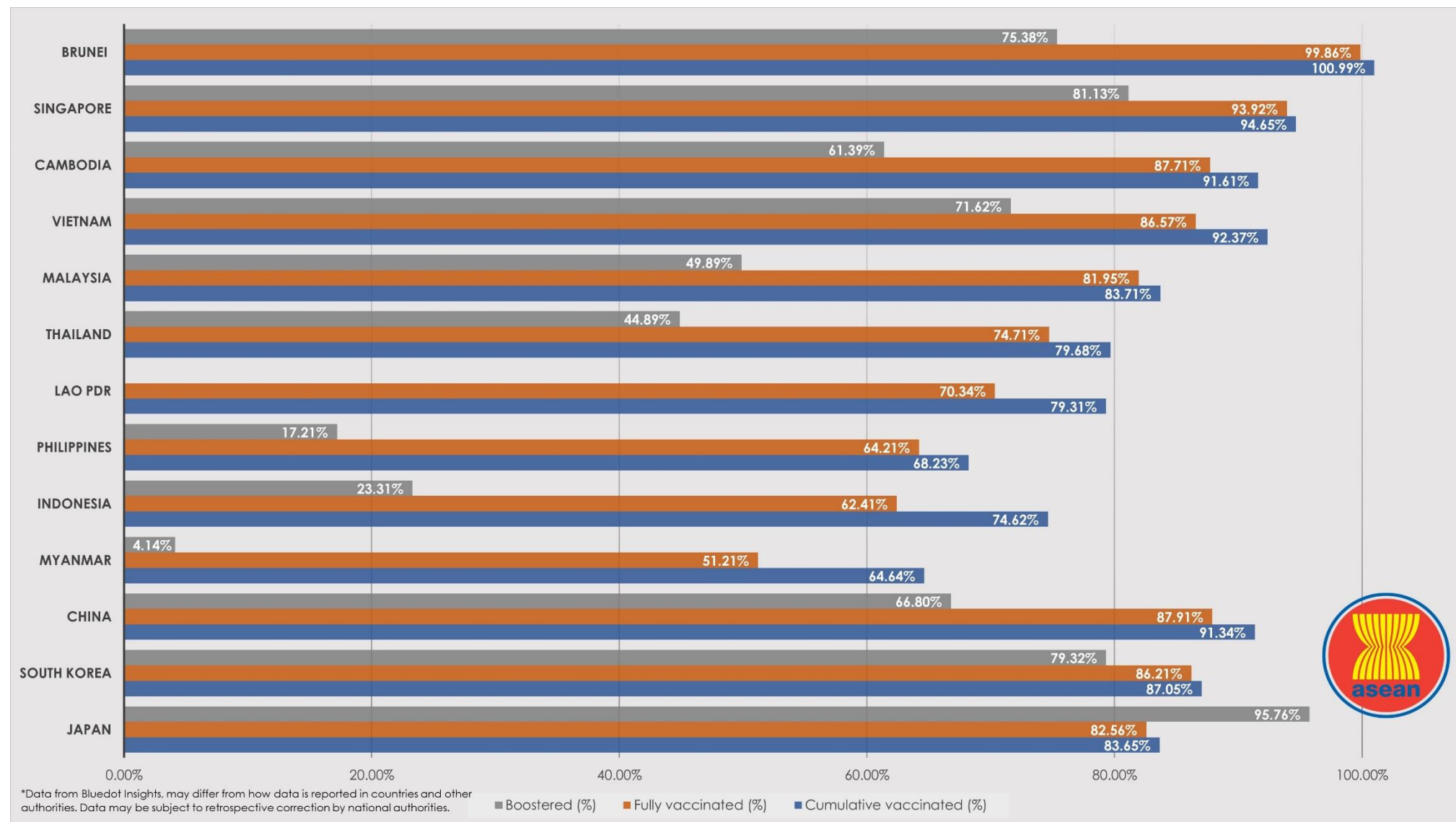
From January 1, 2021 to October 18, 2022





COVID-19 Vaccination Status

as of 18 October 2022





COVID-19 Outlook Assessment

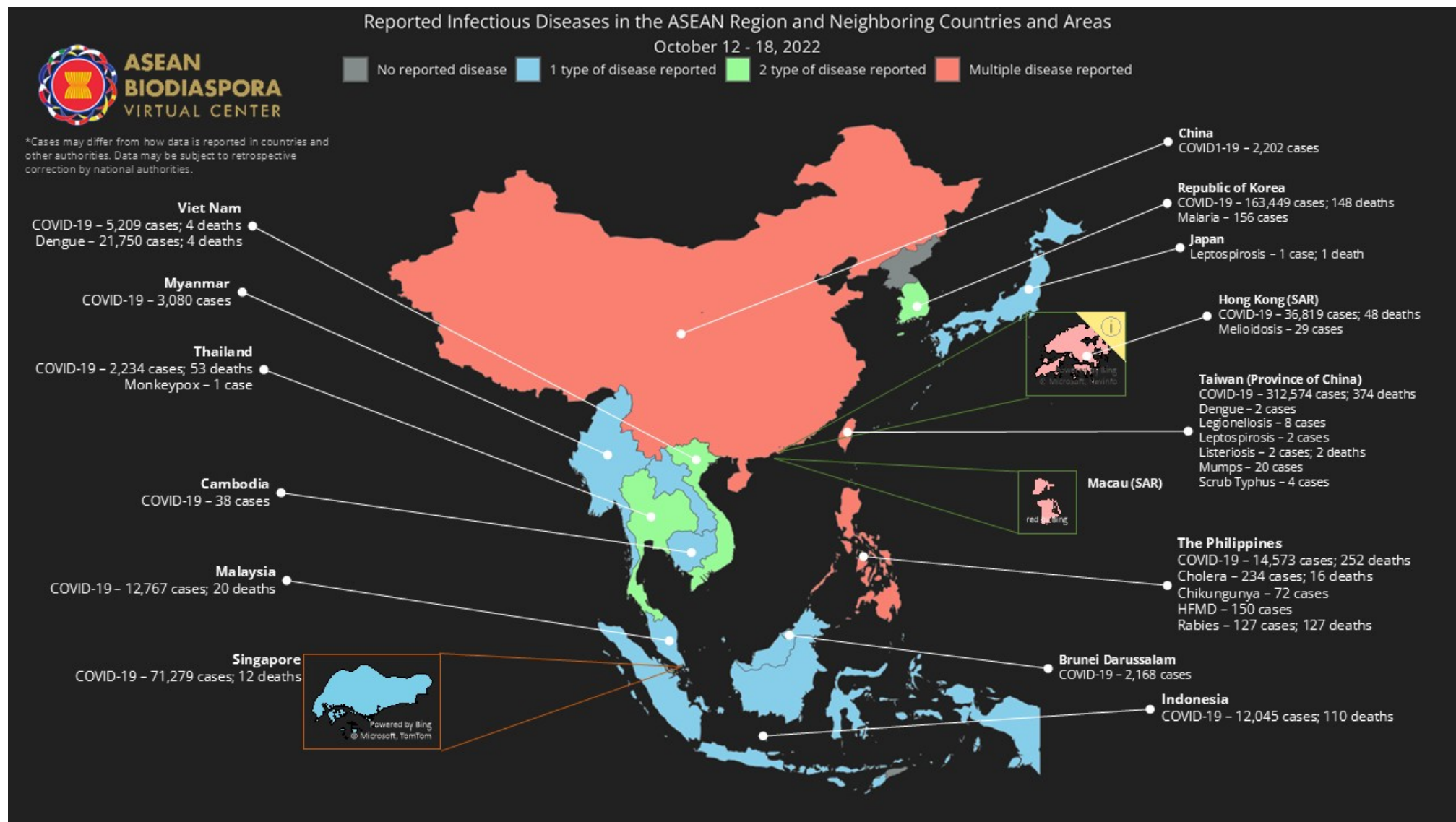
as of 16 October 2022

 ASEAN MEMBER STATE	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)
	% of Total population fully vaccinated / boosted	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)
Brunei	≥90.0/75.4	Unknown	71.48	Unknown	31.0/100
Cambodia	≥90.0/61.4	Unknown	0.03	Unknown	31.5/100
Indonesia	65.4/23.3	Unknown	0.63	Unknown	54.2/100
Lao PDR	77.3/ND	Unknown	0.20	Unknown	61.6/100
Malaysia	84.5/49.9	0%/day	4.91	Unknown	51.8/100
Myanmar	52.1/4.1	Unknown	0.56	Unknown	69.1/100
Philippines	70.8/17.2	Unknown	1.95	Unknown	55.4/100
Singapore	≥90.0/81.1	0%/day	147.45	Unknown	58.9/100
Thailand	77.7/44.9	0.01%/day	1.06	Unknown	31.5/100
Vietnam	≥90.0/71.6	Unknown	0.86	Unknown	43.5/100
Japan	81.3/≥96.3	0%/day	0.00	Unknown	42.9/100
South Korea	86.5/79.3	0%/day	41.92	Unknown	38.1/100
China	≥90.0/56.7	Unknown	0.025	Unknown	84.5/100

All of the countries have achieved the estimated high-risk population fully vaccinated of ≥90.0% except China with 35.3%.
All of the countries have achieved the Population vaccinated/ day (7-day average) except Vietnam

Infectious Diseases in ASEAN+3 Region

From October 12-18, 2022





Infectious Diseases Other than COVID-19 and Monkeypox

October 12-18, 2022

Infectious Disease Global Updates

Plague

- **Madagascar:** The Ministry of Public Health in Madagascar has reported an increase in the number of cases and deaths due to plague in the country. They state that between August 2021 and October 2022, 134 cases and 32 deaths due to plague have been reported. They say this increase is due to the increase in bush and forest fires occurring across the country, which has led to the movement of animals, such as rats carrying plague-infected fleas, into nearby villages and towns. The Ministry of Public Health states that 15 districts spread across the country are currently under monitoring, and public awareness campaigns on the eradication of these animals has begun.

Avian Influenza A(H3N8)

- **Hong Kong:** CDC/EID - The School of Public Health of The University of Hong Kong routinely conducts influenza A surveillance in live poultry market stalls in Hong Kong. Chicken influenza A(H3N8) viruses were detected. These viruses were genetically similar to each other and to a recently reported zoonotic H3N8 virus in mainland China. The viruses were novel reassortants that have virus internal gene segments derived from H9N2 lineage genotype 57 viruses (A/chicken/Zhejiang/HJ/2007-like) established in poultry in mainland China, but the H3 and N8 gene segments were derived from wild aquatic bird influenza A viruses. These H3N8 viruses were also distinct from H3N8 viruses reported in horses, dogs and cats. These novel H3N8 viruses appear to have arisen in a manner analogous to the emergence of previous zoonotic H7N9 and H10N8 viruses, in which the H9N2 viruses enzootic in chicken and other game birds in China acquired HA and NA gene segments from wild, aquatic bird viruses. This study reports the emergence of a novel influenza A(H3N8) virus in chickens in Hong Kong, which might have major zoonotic and pandemic potential.

Infectious Disease ASEAN+3 Updates

Dengue

- **Vietnam:** 12 October 2022 (Outbreak News Today) The Vietnam Ministry of Health reported today, since the beginning of the year, 247,202 cases and 100 deaths from dengue fever have been reported. Compared to the same period in 2021, the number of cases increased by 4.7 times, the number of deaths increased by 80 cases. This number increased by more than 10,000 new cases and 2 deaths compared to the first week of October 2022. Facing the complicated development of the dengue fever epidemic, localities are also trying to implement many measures to monitor the outbreak, prevent the spread of the epidemic, and improve their capacity to respond to the disease. In Hanoi, from the beginning of 2022 until the end of September 2022, Hanoi has recorded over 4,700 cases of dengue fever (an increase of 3.8 times compared to the number of cases in the same period in 2021), including 5 cases of dengue fever deaths. The type of dengue virus circulating in the city is identified as type DEN-1; DEN-2 and DEN-4.



Cholera

- **Philippines:** 14 October 2022 (Sunstar/Manila) Dr. Althea De Guzman of Epidemiology Bureau said the 3,890 cholera cases in the country recorded since January was also higher than in 2021 where only 1,009 cases were recorded. She said most of the cases were in Eastern Visayas with 2,622 cases, Davao Region with 441 cases and Caraga with 289 cases.

Rabies

- **Philippines:** 14 October 2022 (ABS CBN News) Some 284 rabies cases have been reported in the Philippines since the beginning of the year, the Department of Health said Friday. The figure is 33 percent higher than the 214 rabies cases recorded during the same period in 2021. According to Dr. Alethea De Guzman, director of DOH's epidemiology bureau, all of the rabies cases this year resulted in death. DOH data showed that 71 percent or 201 of the rabies cases were male and 14 percent or 41 were aged 60 and above. Majority of the rabies cases or 86 percent (245) were from dog bites, De Guzman said. Of the figure, 35 percent or 86 were unvaccinated dogs. Some 8 percent of the total rabies cases came from cats while the other 6 percent were tagged as unspecified. From January 1 to October 1, Central Luzon (42), Calabarzon (34) and Davao Region and Soccsksargen (both have 29) logged the most number of rabies cases. As of October 1, 8 of the 9 provinces declared as rabies-free zones had no rabies case reported, the DOH said. One has to reapply for rabies-free status due to the detection of rabies among animals by the Bureau of Animal Industry in 2019. Meanwhile, some 45 rabies-free areas remained free from rabies case. The World Health Organization described rabies as a vaccine-preventable, zoonotic, viral disease. The incubation period for rabies is typically 2–3 months but may vary from 1 week to 1 year, dependent upon factors such as the location of virus entry and viral load, the agency said. Initial symptoms of rabies include fever with pain and unusual or unexplained tingling, pricking, or burning sensation at the wound site, it added. The WHO said vaccinating dogs is the most cost-effective strategy in preventing rabies in people. Dog vaccination reduces deaths attributable to dog-mediated rabies and the need for post-exposure prophylaxis as a part of dog bite patient care.

Chikungunya

- **Philippines:** 12 October 2022 (Promed) Philippines health officials reported 23 additional chikungunya cases since our last report [<http://outbreaknewstoday.com/chikungunya-cases-up-573-in-the-philippines-in-2022/>] about 3 weeks ago, according to the latest data the Department of Health Epidemiology Bureau. This brings the country's cumulative total to 501 cases through [17 Sep 2022]. This is a 596 percent increase in cases compared to the same period in 2021 (72). The Calabarzon region accounted for 30 percent of the total (150), followed by the Central Visayas (99), Davao (85), and the Western Visayas (65). In fact, Calabarzon has seen a 7400% increase in cases compared to last year [2021] when 2 cases were reported.

Hand, Foot, and Mouth Disease (HFMD)

- **Philippines:** 18 October 2022 (The Manila Times) THE Department of Health (DoH) has warned the public against the highly-infectious Hand, Foot and Mouth Disease (HFMD) after over 100 children in a town in Batangas were infected. Mayor Antonio Dimayuga ordered the suspension of classes in 15 villages in San Pascual where 150 children were reported to have caught the disease. Some of the affected villages were Pook ni Kapitan; Pook ni Banal; Resplanador; Natunuan North; Antipolo; Mataas na Lupa; Sambat; and Sto. Nino. The HFMD, according to the Mayo Clinic, is caused by the



coxsackievirus, which is part of the same group of viruses that causes polio called enterovirus. The disease is different from Foot and Mouth Disease, which exclusively affects animals and livestock and does not affect humans. According to Health Officer-in-charge Maria Rosario Vergeire, HFMD can be transmitted through droplet transmission from infected persons, open wound lesions or even fecal matter. Most HFMD cases affect children, but Vergeire said that all persons can get the disease. Complications of HFMD, while they are uncommon, are meningitis, encephalitis, or polio-like disease" Vergeire said. The official said that the DoH has yet to find the source of the outbreak of HFMD in the town and are investigating the cause, noting that some parents may not be familiar with its symptoms. She added that the DoH has issued preventive measures such as disinfecting materials in affected villages while being continuously monitored by the local epidemiology and surveillance unit.

Melioidosis

- **Hong Kong:** 12 October 2022 (Outbreak News Today) Hong Kong health authorities said they have received reports from the Hospital Authority (HA) Kowloon West Cluster that 15 melioidosis cases have been recorded from August to October. According to information from the HA, a total of 29 melioidosis cases have been recorded in Hong Kong this year to date. The 29 cases include 21 males and eight females, aged from 42 to 93 years, 20 of them live in Sham Shui Po and the other patients live in Kwun Tong, Wong Tai Sin, Sai Kung, Kwai Tsing, Eastern District and Yau Tsim Mong. Nineteen patients have been discharged, four patients are still hospitalised and six patients passed away, which involved four males and two females aged from 54 to 93 years, and five of them were with underlying diseases.

Leptospirosis

- **Japan:** 18 October 2022 (goo news) Okinawa Prefecture announced on the 17th that a man in his 70s in the Yaeyama Public Health Center who had leptospirosis died. The bacterium that causes leptospirosis is said to be hidden in the kidneys of wild animals such as rats and mongooses, and it was the first death in the prefecture in 16 years. It is transmitted from contaminated rivers and soil through cuts on the skin and mucous membranes of the eyes and nose. Every year, the prefecture calls for caution, as infections occur every year during activities such as swimming in rivers and farming. According to the prefecture's vaccination and testing promotion division, the man was hospitalized on October 5 with symptoms such as a fever, but died three days later. The route of infection is unknown. Leptospirosis has an incubation period of 3-14 days. The main symptoms are headache, fever of 38 degrees or more, and muscle and joint pain. In 2006, a man in his 50s died in the same jurisdiction. Antibiotics such as penicillin are effective in treatment. The prefecture accounts for more than half of the annual number of patients nationwide. In 2020, there were 8 people in the prefecture (47% of the nationwide total), 24 in 2021 (71% of the total), and 11 as of October 9 (37% of the total) this year. According to prefectural officials, Okinawa is a subtropical region where wild animals are active throughout the year, with the northern part and Yaeyama in particular being prone to outbreaks.

Malaria

- **South Korea: 12 October 2022 (Korea Bizwire)** — The number of malaria cases increased sharply this year in South Korea as a spike in outdoor activities resulting from the easing of social distancing rules, data showed Tuesday. According to the Gyeonggi provincial government and the Korea Disease Control and Prevention Agency, 349 individuals were diagnosed with malaria during the first nine months of the year, up 27.8 percent from a year ago. Between June and September, in particular, 305 people were infected

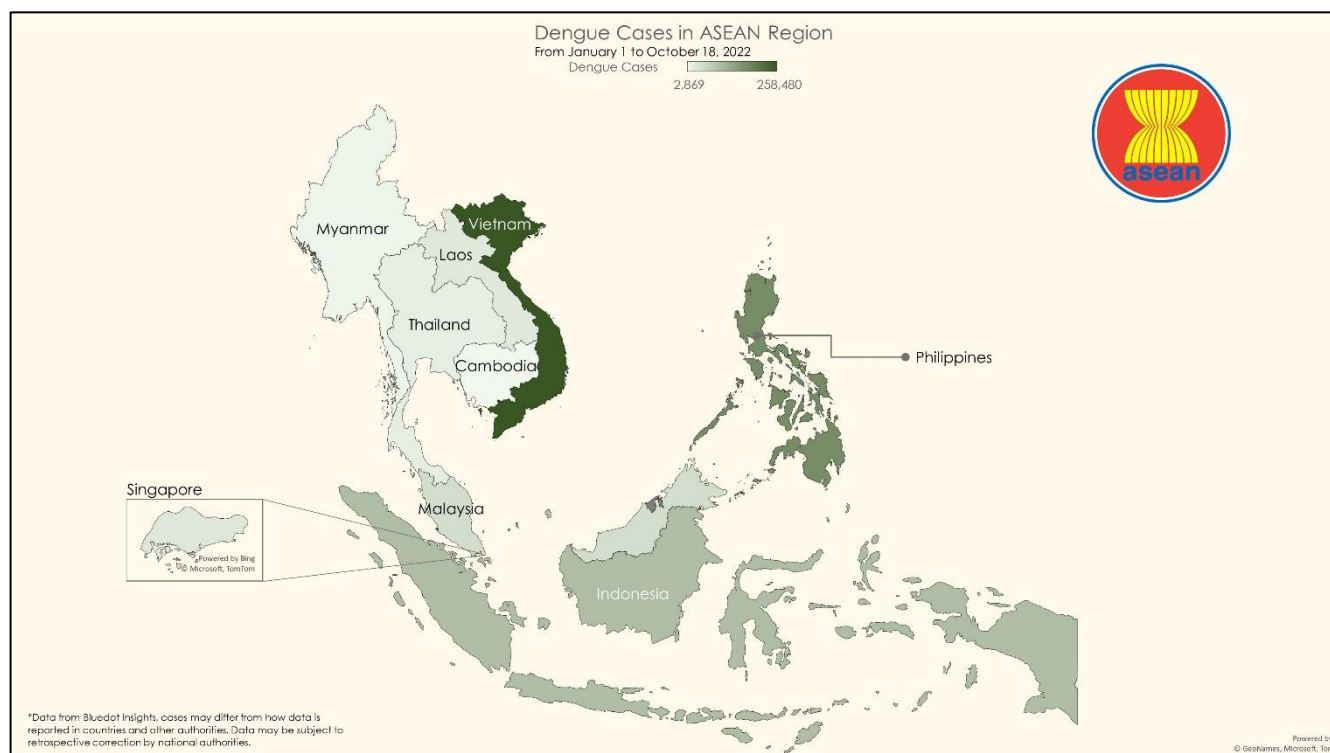


with malaria, a sharp increase from 197 a year before. By region, the greater Seoul area accounted for 86.8 percent of the total. For the pre-pandemic years from 2017 to 2019, the number of individuals diagnosed with malaria remained stable at 515, 576 and 559. However, after the outbreak of the coronavirus in January 2020, which led to the strengthening of social distancing rules, the number of malaria cases dropped to 385 in 2020 and 294 in 2021, the lowest in two decades. "The change in the number of malaria patients is affected by social and environmental factors," an official at the Gyeonggi provincial government said.



Dengue Cases in ASEAN Region

From January 1, 2022 to October 18, 2022



Dengue cases in ASEAN region

Country	Dengue Cases	New Cases in the Past Week	Deaths	Case Fatality Rate
Vietnam	258,480	21,750	102	0.04%
Philippines	173,233	27,892	528	0.30%
Indonesia	94,355	6,854	853	0.90%
Malaysia	43,544	-	26	0.06%
Singapore	28,622	785	-	0.00%
Laos	26,867	-	21	0.08%
Thailand	17,412	-	14	0.08%
Myanmar	7,835	-	31	0.40%
Cambodia	2,869	-	7	0.24%
Brunei	-	-	-	-
Total	653,217	57,281	1,582	0.24%

*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.



Special Report on Notable Diseases

Ebola Disease Outbreak

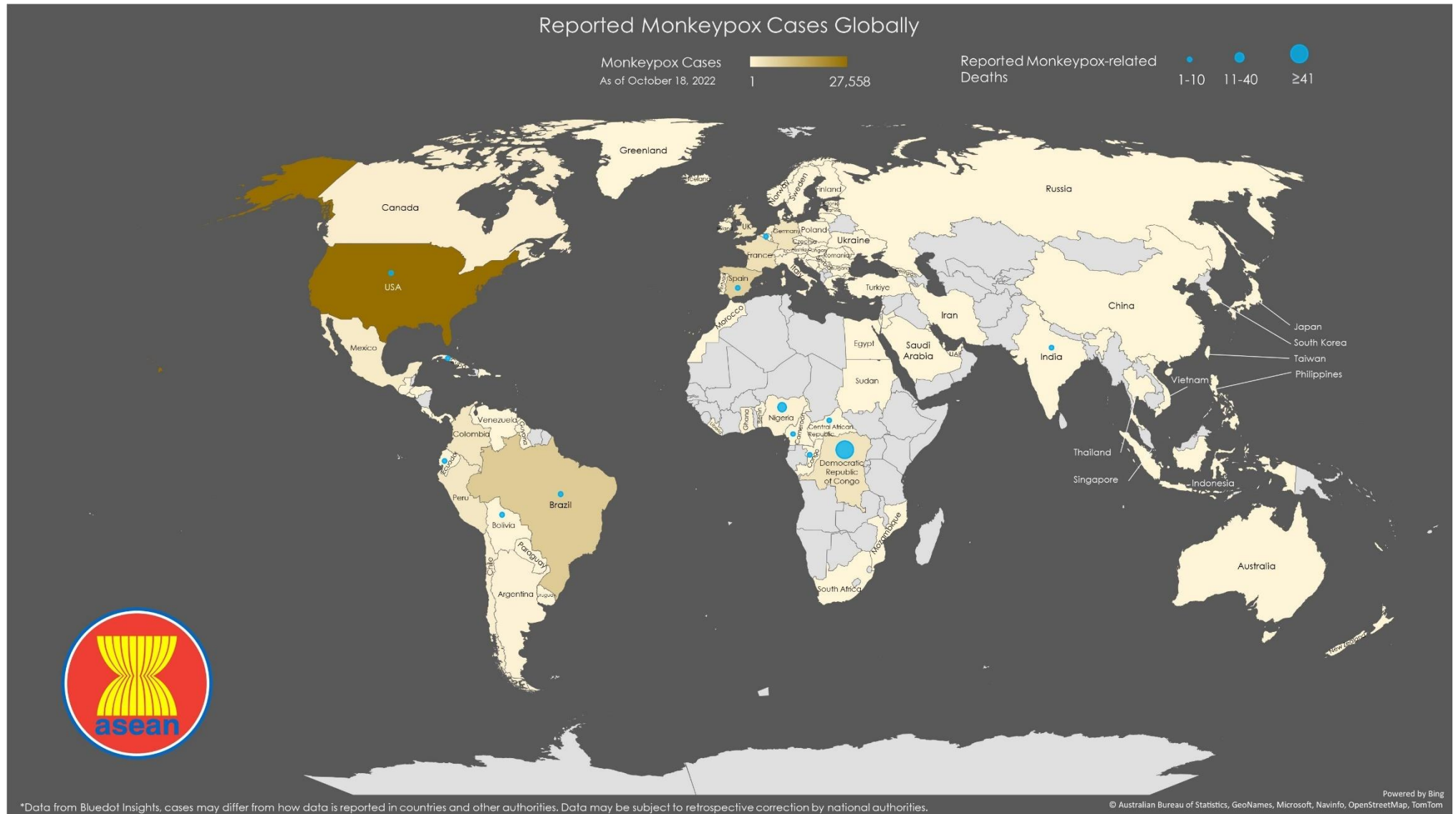
Sudan Ebolavirus in Uganda

- On October 15, the President of Uganda declared a lockdown in the districts of Mubende and Kassanda in Uganda's Central Region. According to the statement, transit in or out of these two districts is halted for at least 21 days with only cargo trucks allowed to enter and leave the areas. Other vehicles are allowed to cross the districts without stopping only with police clearance. Other measures include a curfew that allows population movement during the day only and, while schools will remain open, all places of worship and entertainment will remain closed. Of note, burials will be done by health teams regardless of the cause of death. The most recent update in case counts made by the WHO on October 12 reported over 70 cases and 39 deaths (including probable and confirmed) since the outbreak began.
- The Uganda Ministry of Health announced that it will try two vaccines against the Sudan Ebola strain currently causing cases in that country. The vaccines include one developed at the University of Oxford in the United Kingdom and the other manufactured by Sabin in the United States. According to the latest report from the World Health Organization (WHO) on the current outbreak in Uganda, there have been 20 suspected cases, all fatal. Between September 19 and October 9, 68 cases of the virus were detected, including 20 suspected cases and 48 laboratory-confirmed cases. 37 fatalities have been registered including 17 confirmed cases, for an overall case fatality ratio of 54.4%, and 35.4% among confirmed cases. The WHO said cases seem to be declining, though deaths are increasing. In the news media report, Uganda's President Yoweri Museveni has directed traditional healers to stop treating people during the ongoing Ebola outbreak and also directed security officials to arrest people suspected of having contracted the virus if they refuse to go into isolation.



Monkeypox Cases Reported Globally

as of October 18, 2022





Monkeypox: Highlights and Situation Overview

- As of 19 October 2022 (2PM, GMT+8), worldwide, there were **78,182** confirmed cases, including **175** deaths. Globally, Case Fatality Rate (CFR) was **0.22%**.
- 56 confirmed cases** of Monkeypox have been reported in the **ASEAN+3** region composed of **36 cases** in the ASEAN region and **20 cases** in the PLUS THREE countries, with CFR of **0%**.
- 78,126 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	11	-	-	0.00%
Plus Three	Japan	7	-	-	0.00%
Plus Three	China	5	-	-	0.00%
ASEAN	Philippines	4	-	-	0.00%
Plus Three	Taiwan	4	-	-	0.00%
Plus Three	South Korea	3	-	-	0.00%
ASEAN	Indonesia	1	-	-	0.00%
ASEAN	Vietnam	1	-	-	0.00%
Plus Three	Hong Kong (SAR)	1	-	-	0.00%
ASEAN+3 Total		56	-	-	0.00%

Top 5 countries with most monkeypox cases globally

Region	Country	Total Cases	New Cases	Deaths	Case Fatality Rate
Americas	USA	27,558	462	2	0.01%
Americas	Brazil	8,621	100	6	0.07%
Europe	Spain	7,239	0	2	0.03%
Europe	France	4,064	0	-	0.00%
Europe	United Kingdom	3,673	19	-	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	4,795	0	160	3.34%
AMERICAS	48,053	965	10	0.02%
ASIA PACIFIC	180	0	1	0.56%
EUROPE	24,793	57	4	0.02%
MIDDLE EAST	305	4	-	0.00%
TOTAL	78,126	1,026	175	0.22%



Global Update

- **Africa:** TPOXX, a significant monkeypox treatment trial, will begin in Africa.² TPOXX has been used to treat illnesses during the worldwide monkeypox outbreak, despite the fact that it is only currently authorised to treat smallpox. U.S. health officials have stated that a new clinical trial in Central Africa is directly testing TPOXX's capacity to cure persons who have monkeypox.² Doctors have been treating infections during the worldwide monkeypox outbreak using TPOXX, an antiviral medication that is only licensed to treat smallpox.² The current clinical study, which is being conducted in the Democratic Republic of the Congo (DRC), will offer the first proof of the efficacy of TPOXX as a treatment for monkeypox.² [\[Full Article\]](#)
- The **European Centre for Disease Control and Prevention (ECDC)** has posted its second risk assessment on monkeypox on October 18, adding that cases peaked in July and have steadily declined, likely due to multiple factors that include awareness, immunity due to vaccination and earlier infection, and a decrease in social events frequented by people in the risk group.¹⁰ The ECDC stated that the majority of cases continue to be detected in males between 18 and 50 years (87%), and primarily among men who have sex with men (MSM).¹⁰ It also said that the risk is moderate for men who have sex with men and low for the broader population.¹⁰ [\[Full Article\]](#)
- The **U.S. Centers for Disease Control and Prevention (CDC)** reported on October 18 (Tuesday) an additional 151 monkeypox cases, raising the total to 27,468. On October 17, CDC also reported that a nurse in Florida is the first U.S. healthcare professional to contract the virus via a needle stick.¹¹ According to the report, the nurse used a needle to create an opening in the vesicular lesion to facilitate direct contact of the swab with fluid in the lesion while obtaining swabs from a patient with suspected monkeypox.¹¹ The needlestick occurred when recapping the used needle by hand before disposal and caused a break in the skin on the index finger through the nurse's gloved hand, accompanied by a small amount of bleeding.¹¹ The wound was immediately washed with soap and water and drenched with Betadine antiseptic solution and was promptly reported to the hospital's infection control practitioner and occupational health department.¹¹ Later that day, the lesion swab collected from the patient by the nurse tested positive for non variola Orthopoxvirus using a real-time polymerase chain reaction (PCR) assay at the Florida Department of Health Bureau of Public Health Laboratories reference laboratory; a duplicate swab subsequently tested positive for Clade II (previously known as West African clade) MPXV at CDC using a real-time PCR assay specific for the detection of West African Clade II MPXV.¹¹ The CDC report described the first occupationally acquired MPXV infection in a U.S. health care worker during the 2022 monkeypox outbreak.¹¹ [\[Full Article\]](#)

Vaccine Update

- **Emergex:** A CD8+ T cell adaptive vaccine for smallpox and monkeypox that is mostly composed of early "eclipse phase" antigens has been developed and proven to be synthesized and assembled by Emergex Vaccines Holding Limited.¹ The variola virus, which causes smallpox, and the monkeypox virus both belong to the Poxviridae family of double-stranded DNA viruses and share a number of highly conserved proteins that are excellent targets for T cell vaccines.¹ The current vaccine formulation from Emergex has 20 viral peptides that bind a variety of human leukocyte antigens (HLA) that CD8+ T lymphocytes can present to identify and eliminate virally-infected cells. Infection kinetics are significantly influenced by the pathogen peptides included in the vaccine design, which originate during the "eclipse phase" of viral replication.¹ Preclinical testing is being done in the labs of Emergex USA after the vaccine design was synthesized to preclinical grade in Emergex's own GMP manufacturing facility close to Oxford, United Kingdom.¹ [\[Full Article\]](#)



Research Update

- For practically every infectious illness that impacts people, including polio and monkeypox, wastewater surveillance of infectious diseases is projected to be effective.³ However, a research team lead by epidemiologist David Larsen from Syracuse University asserts that further study is required to utilize the science for the benefit of the public health.³ The team's research, which was published on October 13 in the American Journal of Epidemiology, looked at all peer-reviewed scientific studies about wastewater surveillance that had been released up through July 2020.³ Almost all infectious illnesses that the World Health Organization has categorized as a Public Health Emergency of International Concern (PHEIC), such as the Ebola virus and the Zika virus, were among the pathogens that the researchers discovered in wastewater.³ Nevertheless, despite this encouraging result, few research have linked wastewater-related findings to public health and the prevalence of illness.³ [\[Full Text\]](#)
- The report **Monkeypox Virus Infection Resulting from an Occupational Needlestick — Florida, 2022**, describes the first reported U.S. case and recommends approaches for preventing occupationally acquired MPXV infections in HCP.¹³ On July 12, 2022, a Florida county health department (HD) received notification of an emergency department nurse who was exposed to MPXV through a needlestick that occurred earlier that day.¹³ While obtaining swabs from a patient with suspected monkeypox, the nurse used a needle to create an opening in the vesicular lesion to facilitate direct contact of the swab with fluid in the lesion.¹³ The needlestick occurred when recapping the used needle by hand before disposal. Later that day, the lesion swab collected from the patient by the nurse tested positive for nonvariola Orthopoxvirus and a duplicate swab subsequently tested positive for Clade II (previously known as West African clade) MPXV at CDC.¹³ Within approximately 15 hours of the incident, the nurse, who had no relevant past medical history or previous orthopoxvirus vaccination, received the first dose of a 2-dose JYNNEOS vaccination series as postexposure prophylaxis. Ten days after the exposure, a single skin lesion formed at the site of the needlestick.¹³ The day after the single small vesicular lesion appeared, it was swabbed and subsequently tested positive by PCR for Orthopoxvirus and MPXV at a commercial laboratory and a duplicate swab tested at the Florida Department of Health Bureau of Public Health Laboratories reference laboratory using PCR was positive for nonvariola Orthopoxvirus.¹³ [\[Full Text\]](#)
- In the report **Ocular Monkeypox — United States, July–September 2022**, As of October 11, 2022, a total of 26,577 monkeypox cases had been reported in the United States. Although most cases of monkeypox are self-limited, lesions that involve anatomically vulnerable sites can cause complications. Ocular monkeypox can occur when Monkeypox virus (MPXV) is introduced into the eye (e.g., from autoinoculation), potentially causing conjunctivitis, blepharitis, keratitis, and loss of vision. Ocular monkeypox was defined as the presence of new ocular disease compatible with Orthopoxvirus (OPXV) infection in a patient with probable or confirmed monkeypox and no alternative explanation for the ocular disease. This report describes five patients who acquired ocular monkeypox during July–September 2022. All patients received treatment with tecovirimat; four also received topical trifluridine (Viroptic). All five patients with ocular monkeypox described in this report suffered prolonged illness, four were hospitalized, and one experienced significant vision impairment. Two patients had HIV-associated immunocompromise and experienced delays in initiation of treatment for monkeypox. One of these patients experienced vision loss; he remains in treatment and his prognosis for vision recovery is currently unknown. [\[Full Text\]](#)



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