

This report aims to provide the current situation on infectious and emerging diseases in the ASEAN Region. We collate various information from multiple official sources and publicly available sources and is published every week on Wednesday. For feedback and/or suggestions, please write to [support@biodiaspora.org](mailto:support@biodiaspora.org)

## Editorial

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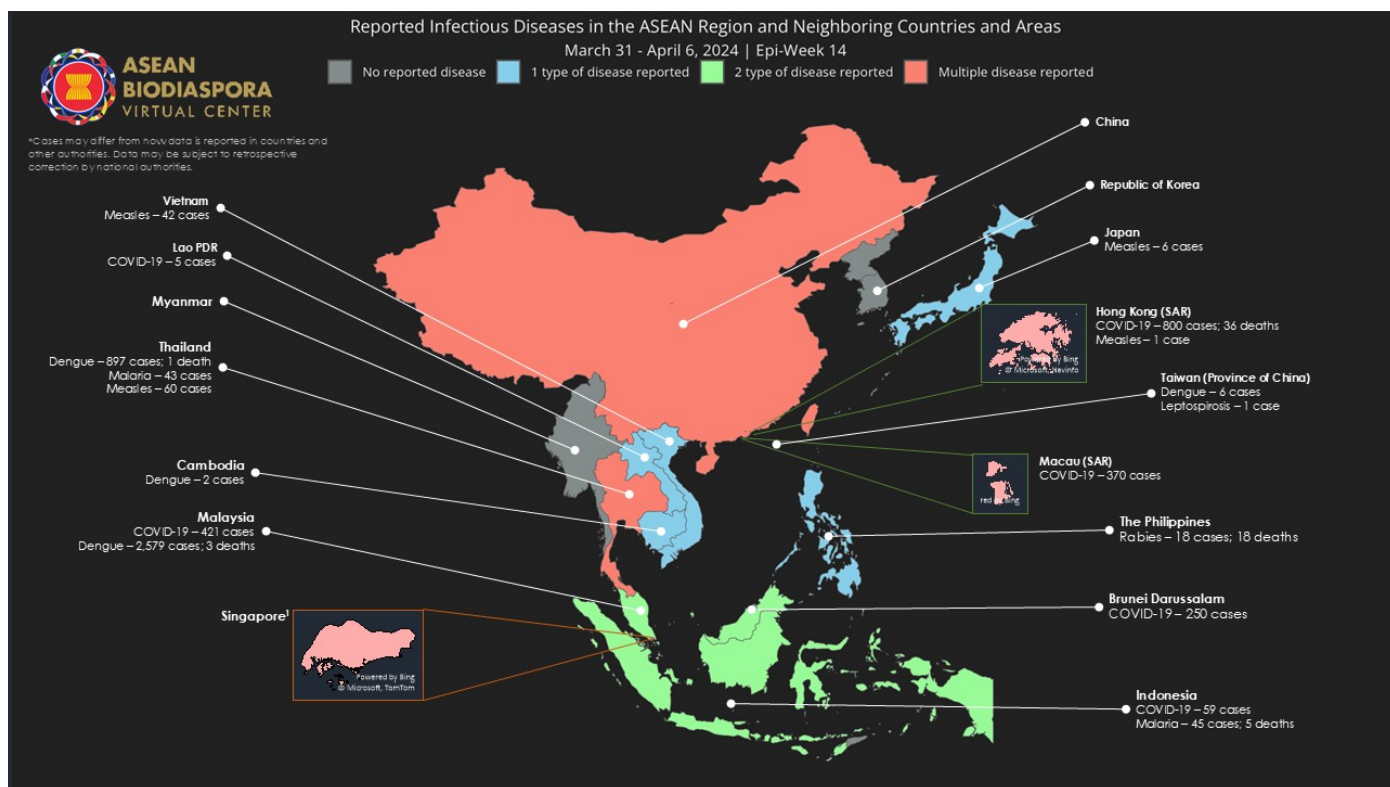
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## Key Findings

- In recent months, trends of COVID-19 cases and deaths in the ASEAN region have gradually decreased.
- The **JN.1**, which is subtypes of **BA.2.86**, remains a dominant variant of interest spreading in the ASEAN region until the end of March 2024.
- **18** rabies case has been detected since the last report.
- Dengue cases has increased by **4,143** since the last report. Meanwhile, **88** new malaria cases have been found since the last report for vector-borne diseases in the ASEAN region.
- There have been **77** new measles since the last report of vaccine-preventable diseases in the ASEAN region.
- Based on media monitoring, we notice there is incident of Virus B infection (Herpes B virus) in Hong Kong (Special Administrative Region of People's Republic of China).

## Reported Infectious Diseases in the ASEAN Region and Neighboring Countries

Epidemiological Week 14 | March 31 – April 6, 2024



Source: AMS Official Sources, [Worldometer](#), [WHO](#), [Our World in Data](#), and [Bluedot Platform](#), accessed on April 9, 2024

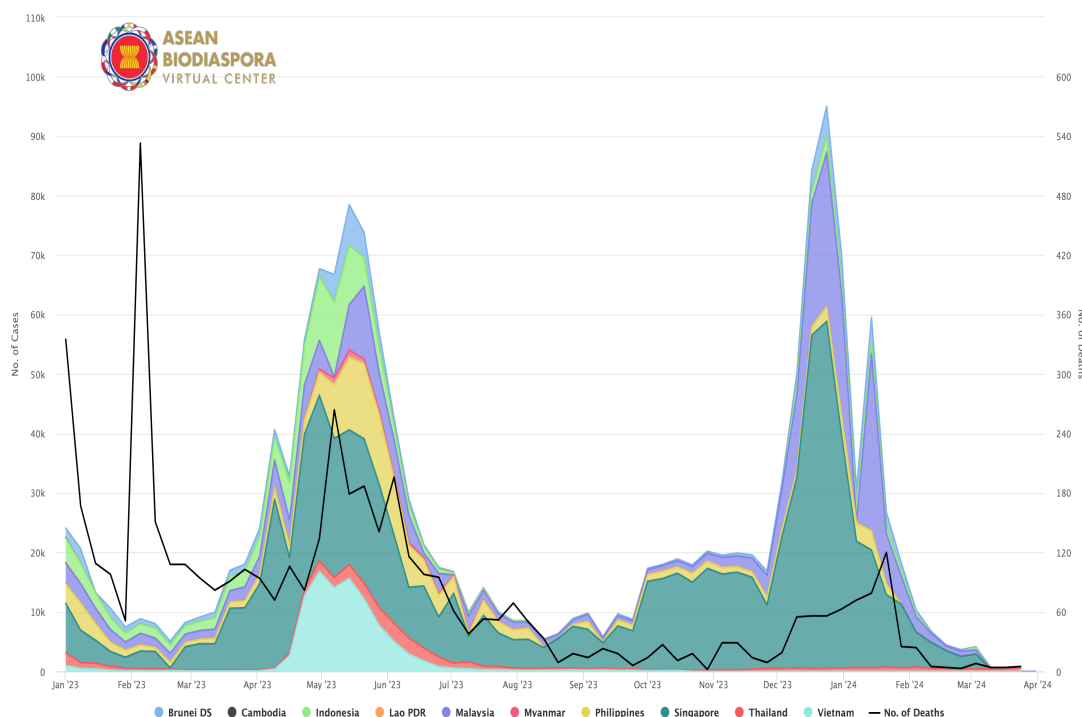
## EMERGING DISEASES

### COVID-19: Highlights and Situation Overview

- As of 6 April 2024 (5PM, GMT+7), there were **704,688,779** confirmed cases **worldwide**, including **7,009,994 deaths**. Globally, Case Fatality Rate (CFR) was **1.00%**.
- 36,992,298 total confirmed cases** of COVID-19 have been reported in the **ASEAN Region**.
- The CFR in the **ASEAN Region** was **1.00%**.

### ASEAN Weekly COVID-19 Cases and Deaths

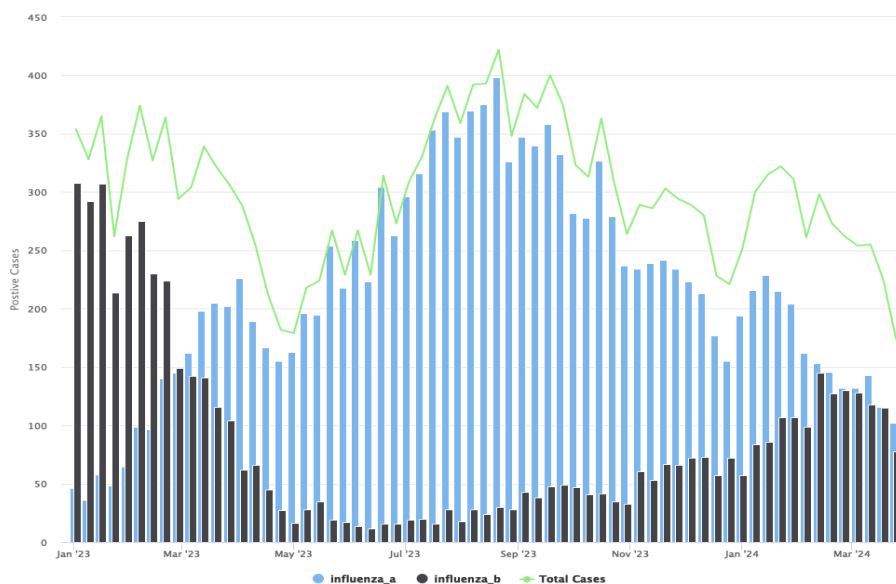
From January 1 to April 6, 2024



Source: [Worldometer](#), [WHO](#), and [Our World in Data](#)

### Trends of Influenza Confirmed Cases in the ASEAN region

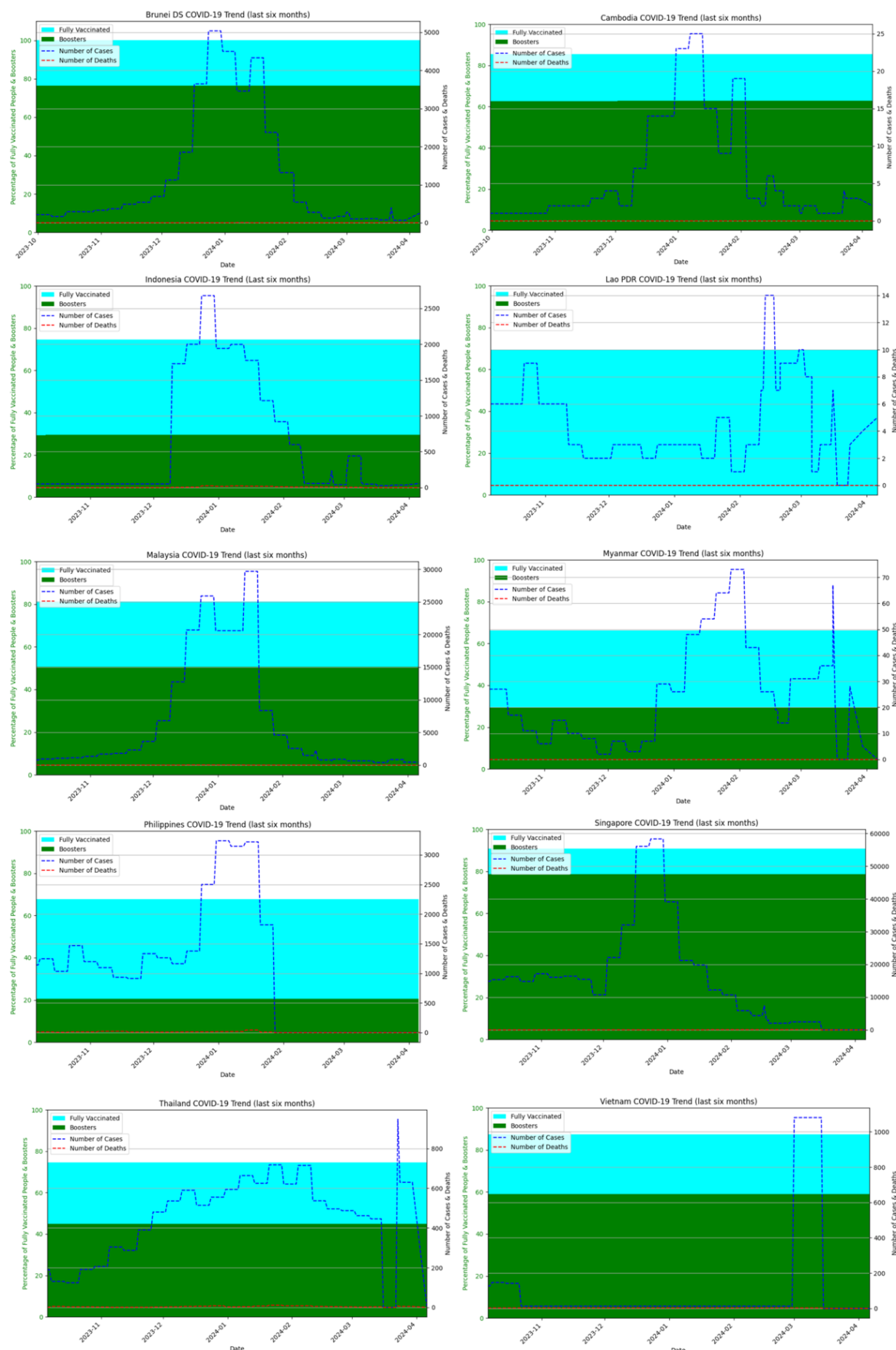
From January 1 to April 6, 2024



Source: FluNet, accessed on April 9, 2024 (<https://www.who.int/tools/fluinet>)

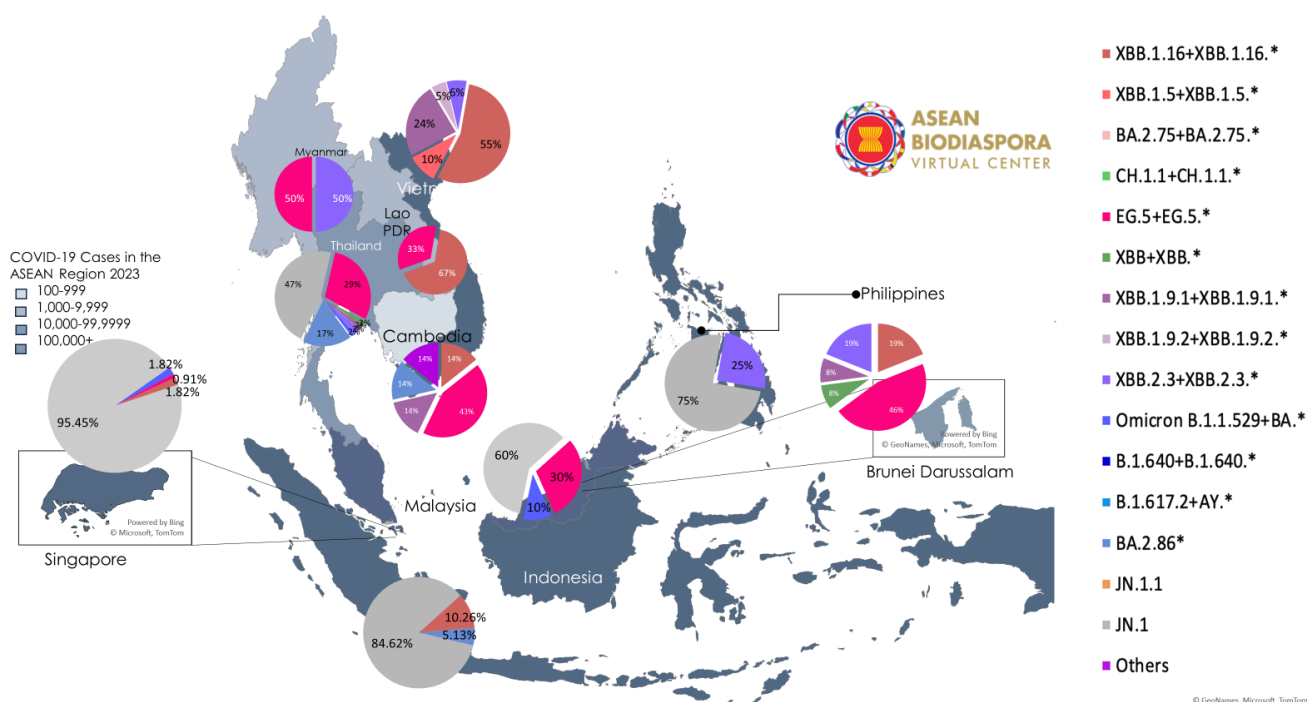
## Trends of COVID-19 Cases, Deaths, and Vaccine Coverage among AMS

From September 30, 2023 to April 6, 2024

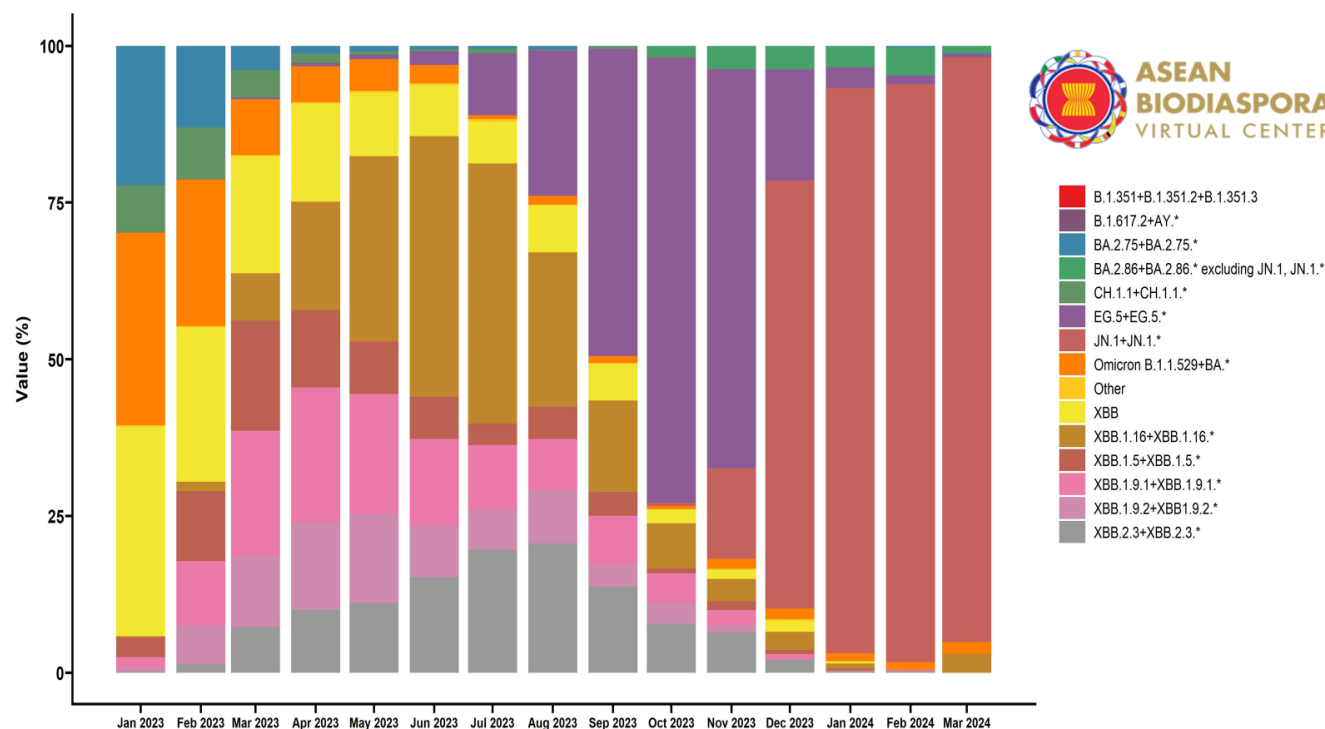


Source: [Worldometer](#), [Our World In Data](#), and [WHO](#)

## COVID-19 Variants Frequencies Among the ASEAN Member States In March 2024



## COVID-19 Variants Frequencies in the ASEAN Region From January 2023 to March 2024

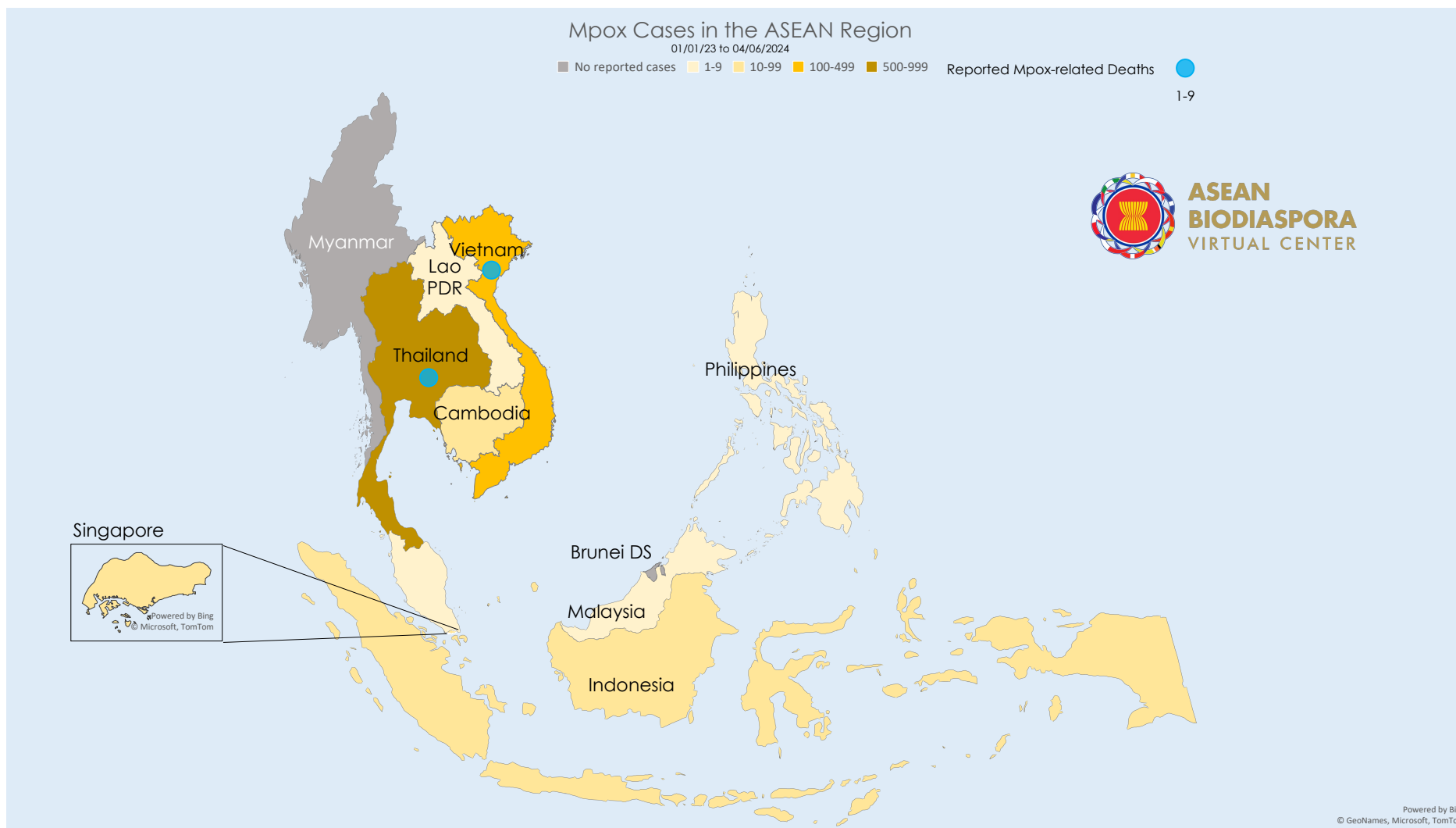






## Mpox Cases Reported in the ASEAN Region

January 1, 2023 – April 6, 2024



Source:

1. Ministry of Health Republic of Indonesia
2. Bluedot Platform, accessed on April 9, 2024 (<https://portal.bluedot.global>)
3. Ministry of Health Singapore, accessed April 9, 2024 (<https://www.moh.gov.sg/resources-statistics/infectious-disease-statistics/2023/weekly-infectious-diseases-bulletin>)

## Mpox: Highlights and Situation Overview

- From 1 January 2023 to 6 April 2024, **11,699** confirmed cases worldwide since 2023, including **123** deaths. Globally, the CFR was **1.05%**.
- 1038 confirmed cases** including **eight deaths** in the **ASEAN** region, with a CFR of **0.77%**.
- 10,661 confirmed cases** of mpox have been reported in **other regions** (other than the **ASEAN** region):

## Mpox cases in the ASEAN region (Jan. 1, 2023 to April 6, 2024)

ASEAN Member States	Cumulative Cases 2023-2024	New Cases Since Previous Report	Cumulative Deaths 2023	CFR
Cambodia <sup>1</sup>	13	0	0	0.00%
Indonesia <sup>2</sup>	85	0	0	0.00%
Lao PDR <sup>1</sup>	1	0	0	0.00%
Malaysia <sup>1</sup>	9	0	0	0.00%
Philippines <sup>1</sup>	5	0	0	0.00%
Singapore <sup>3</sup>	39	1	0	0.00%
Thailand <sup>1</sup>	731	0	1	0.14%
Vietnam <sup>1</sup>	155	0	7	4.52%
<b>ASEAN Total</b>	<b>1038</b>	<b>1</b>	<b>8</b>	<b>0.77%</b>

Source:

1. Bluedot Platform, accessed on April 9, 2024 (<https://portal.bluedot.global/>)
2. Ministry of Health Republic of Indonesia
3. Ministry of Health Singapore, accessed on April 9, 2024, (<https://www.moh.gov.sg/resources-statistics/infectious-disease-statistics/2023/weekly-infectious-diseases-bulletin>)

## Top 5 countries with the most mpox cases globally (Jan. 1, 2023 to April 6, 2024)

Country	Cumulative Cases	New Cases Since Previous Report	Cumulative Deaths	CFR
United States of America	2,197	0	37	1.68%
People's Republic of China	2,028	0	1	0.05%
Democratic Republic of Congo	1,356	0	2	0.15%
Thailand	731	0	1	0.14%
Brazil	456	0	2	0.44%

Source: Our World in Data, accessed on April 9, 2024 (<https://ourworldindata.org/monkeypox>)

## Mpox cases per region (Jan. 1, 2023 to April 6, 2024)

REGIONS	CUMULATIVE CASES	NEW CASES SINCE THE PREVIOUS REPORT	CUMULATIVE DEATHS	CFR
AFRICA	1,543	31	7	0.45%
AMERICAS	4,276	0	86	2.01%
ASEAN	1,037	1	8	0.77%
ASIA & OCEANIA	3,522	0	17	0.48%
EUROPE	1,320	0	5	0.38%
<b>TOTAL</b>	<b>11,698</b>	<b>32</b>	<b>123</b>	<b>1.05%</b>

Source: Our World in Data, accessed on April 9, 2024 (<https://ourworldindata.org/monkeypox>)



## Media Monitoring for Emerging Diseases

Epidemiological Week 14 | March 31 – April 6, 2024

### Global Situation for Emerging Diseases

#### COVID-19

- **Australia:** South Australia (SA) reported 880 new COVID-19 cases and 23 deaths in the past week (Mirage News, 2024). The total number of cases has been readjusted due to data reconfiguration. In the past week, 2,775 people received a PCR test, a 19% decrease from the previous week. SA Health encourages everyone to be up to date with vaccinations and to have a plan with their GP for PCR testing and antiviral treatments if symptoms develop. [\[Full article\]](#)
- **Bangladesh** reported 18 COVID-19 cases in April 1, increasing its total caseload to 2,049,560 (Daily Bangladesh, 2024). The official death toll remained at 29,493, with a daily positivity rate of 5.26%. Recovery count increased to 2,016,914, with recovery and death rates at 98.4% and 1.44%, respectively. [\[Full article\]](#)
- **India:** Chhattisgarh has reported a sudden increase in COVID-19 cases, with 11 cases detected after a two-month gap (The Times of India, 2024). A total of 241 samples were tested across the state, with Durg district reporting 10 cases and one in Balod. All patients have been placed under quarantine and are under observation. The health department advises health centres to be vigilant and continue regular COVID-19 tests in all districts. As part of the strategy to combat further spread, instructions have been issued to wear masks in public places, avoid crowds, and maintain social distancing. The number of active patients across the state has reached 14, with Durg having 10 active patients, Raipur having two, and Balod and Dhamtari having one active patient each. [\[Full article\]](#)
- **Nepal:** A growing number of patients with COVID-19 infection symptoms have been reported in Nepal within a week, with 28 cases detected last week (Samiti, 2024). The new variant of COVID-19 virus, JN.1, has also started to emerge in Nepal. People who have not received the vaccine, chronic patients, and senior citizens remain at risk. Director at Teku-based Sukraraj Tropical and Infectious Diseases Hospital, reported that three COVID-19 patients were receiving treatment in the ICU. [\[Full article\]](#)
- The **United States (US):** Ohio reported a small decrease in new COVID-19 cases by fewer than 100 cases this week (Washington, J., 2024). Marked the seventh consecutive week of drop, from 2,291 to 2,224, with the last low being in late July and a year ago. [\[Full article\]](#)

In Michigan reported 1,463 confirmed and probable COVID-19 cases, down 18% from the previous week, with 36 additional deaths (Bridge Staff, 2024). The number of confirmed hospital patients fell to 247, with experts predicting a significant undercount due to people not testing or relying on home tests. [\[Full article\]](#)

#### Mpox

- The **United States (US):** Mpox cases in the U.S. have nearly doubled in the past year, with 511 cases reported as of mid-March, compared to 287 cases in the same period last year (Benadjaoud, 2024). Mpox is rarely fatal and has milder symptoms compared to smallpox. The outbreak began in May 2022 and has since led to over 32,000 cases and 58 deaths. The administration declared a public health emergency in 2022, but vaccination uptake in high-risk groups has helped contain the outbreak. [\[Full article\]](#)

## Regional Situation for Emerging Diseases

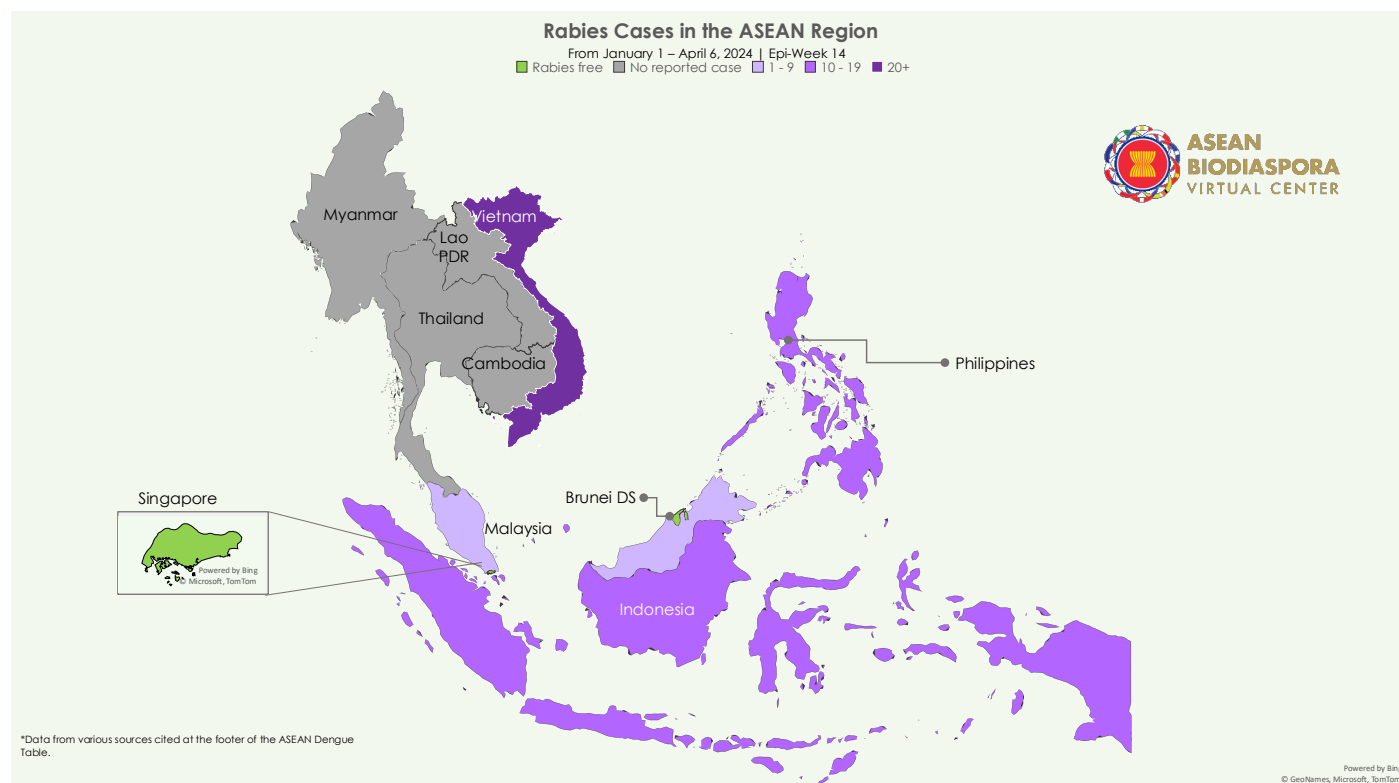
### COVID-19

- **The Philippines** COVID-19 situation has improved four years after the pandemic, with the average daily cases now less than 40 (Ombay, 2024). The country implemented a mass vaccination campaign and reported 251 new cases from February 27 to March 4, 2024, a 27% decrease from the previous year. The Philippines has moved past the worst of the pandemic, with only 115 (10%) ICU beds occupied and 1,119 (11%) dedicated non-ICU beds in use. Only 156 severe and critical cases were admitted to hospitals, and seven deaths were recorded. The Department of Health is prepared to handle another pandemic, citing lessons learned from COVID-19. The Philippines lifted the State of Public Health Emergency due to COVID-19 in July 2021. [\[Full article\]](#)

## ZOONOSIS

### Rabies Cases in the ASEAN Region

From January 1 to April 6, 2024 (Epi-Week 14)



### Rabies cases in the ASEAN region

Country	Epi-Week Reported	Cumulative Rabies Cases	New Cases Since Previous Report	Cumulative Deaths	CFR
Brunei Darussalam		Rabies-free country			
Cambodia	-	-	-	-	-
Indonesia <sup>1</sup>	Week 13	20	0	20	100%
Lao PDR	-	-	-	-	-
Malaysia <sup>2</sup>	Week 4	3	0	3	100%
Myanmar	-	-	-	-	-
Philippines <sup>2</sup>	Week 14	89	18	89	100%
Singapore		Rabies-free country			
Thailand <sup>3</sup>	Week 11	0	0	0	0%
Vietnam <sup>2</sup>	Week 12	27	0	27	100%
<b>Total</b>		<b>139</b>	<b>18</b>	<b>139</b>	<b>100%</b>

1. Ministry of Health, Republic of Indonesia
2. Bluedot Platform, accessed April 9, 2024 (<https://portal.bluedot.global/>)
3. Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health Thailand, accessed April 9, 2024 (<http://doe.moph.go.th/surdata/index.php>)

- The **ASEAN** region reported **18** new rabies cases since the previous report. The region reported **139** total cases with **100%** CFR.

## Media Monitoring for Zoonosis

Epidemiological Week 14 | March 31 – April 6, 2024

### Global Situation for Zoonosis

#### Influenza A (H1N2)

- The **United States (US)**: Pennsylvania Department of Health reported the first variant H1N2 infection in 2024, involving a patient under 18. The patient had contact with pigs before symptoms began, and two close contacts also reported mild illness. No person-to-person spread of H1N2v has been identified. [[Full article](#)]

#### H5N1

- The **United States (US)**: The second case of the highly pathogenic bird flu in the US was confirmed in Texas, where a dairy worker was exposed (Vickers, 2024). The Centers for Disease Control and Prevention (CDC) considers the public health risk assessment for the H5N1 bird flu to be low. The spread of the virus is attributed to cattle movement across state lines, particularly from Texas, and temporary restrictions on cattle imports. [[Full article](#)]

#### Rabies

- **Nepal**: An eight-year-old boy from Tanahun died from rabies infection at the Sukraraj Tropical and Infectious Disease Hospital in the last eight months (The Kathmandu Post, 2024). The case is among eleven deaths at the Sukraraj hospital from rabies infection since the start of the fiscal year 2023-24. The country's aim to eliminate dog-transmitted rabies by 2030 is challenged by the alarming rise in dog bite incidents. The majority of victims dying of rabies are children and the poor, who often avoid the vaccine due to fear of scolding or injections. The government provides anti-rabies vaccines free of cost from state-run health facilities, but many people are not aware of them. The World Health Organisation states that rabies causes 59,000 deaths globally every year, mostly children and the poor. [[Full article](#)]

### Regional Situation for Zoonosis

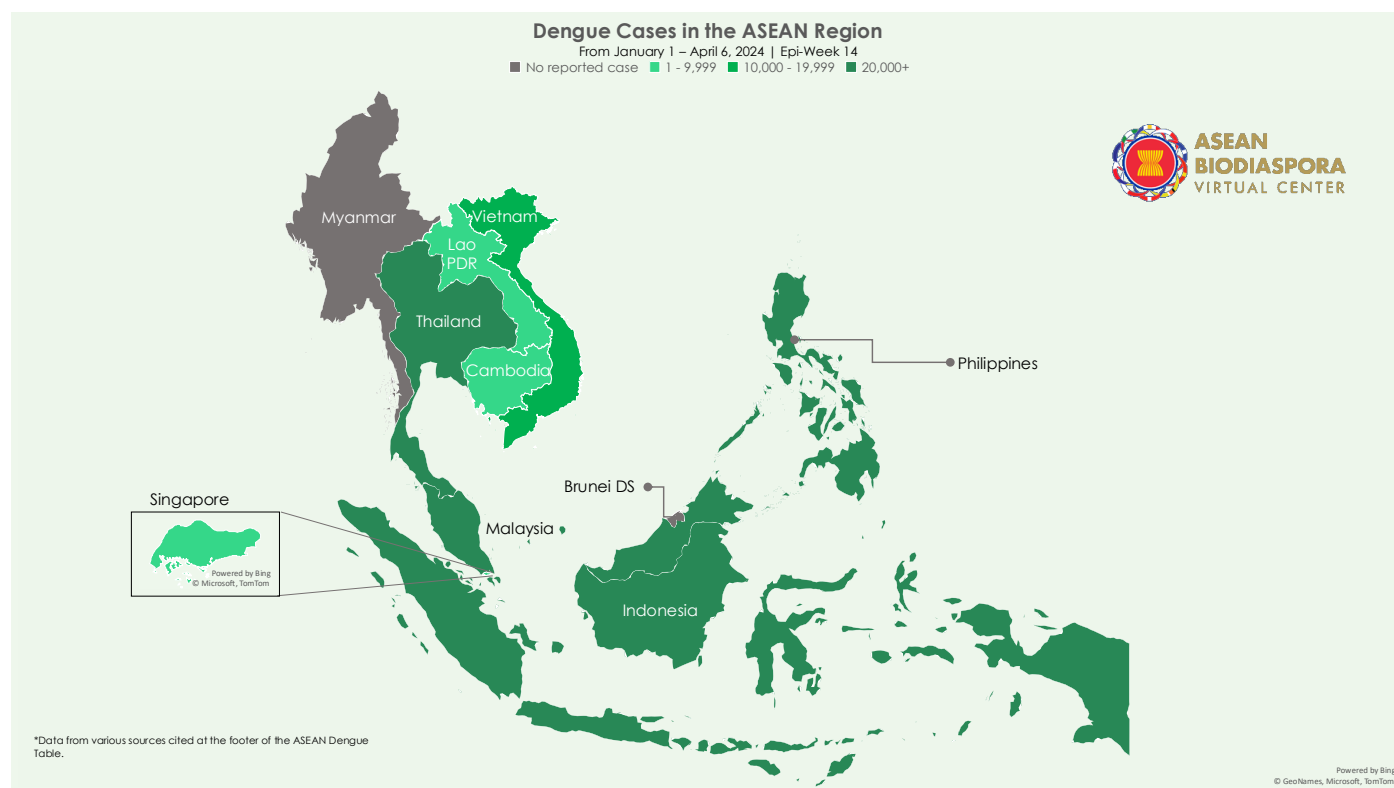
#### Rabies

- **Indonesia**: A 43-year-old woman from Tanakepi Hamlet in Tanarawa Village, Waiblama District, died from rabies (Gomez, 2024). She was referred to TC Hillers Maumere Regional Hospital, where she experienced fever, dizziness, nausea, and vomiting. She had a history of dog bites, having had her own pet puppy. The puppy died three days later, and she had been experiencing symptoms since puppy congestion. She had three puppies, two of which died suddenly, and one was vaccinated and healthy. The rabies outbreak in Sikka District has been declared as an outbreak since March 17, 2024. She is the second death victim after the outbreak was determined, and a Palue resident died, also suspected of having rabies symptoms. Throughout 2024, four residents of Sikka District have died due to rabies. [[Full article](#)]
- The **Philippines**: The Department of Health in the Philippines reported 89 rabies cases from January to March 2024, 2% lower than in 2023 (Sarao, Z., 2024). The majority were caused by dog bites, with five cat bites and two from other animals. Only one case was bitten by a fully vaccinated animal. No reported cases of livestock-to-human transmission were reported. [[Full article](#)]

## VECTOR-BORNE DISEASES

### Dengue Cases in the ASEAN Region

From January 1 to April 6, 2024 (Epi-Week 14)



### Dengue cases in the ASEAN region

Country	Epi-Week Reported	Cumulative Dengue Cases	New Cases Since the Previous Report	Cumulative Deaths	New Deaths	CFR
Brunei Darussalam	-	-	-	-	-	-
Cambodia <sup>1</sup>	Week 11	4,113	0	13	0	0.32%
Indonesia <sup>2*</sup>	Week 10	27,417	0	250	0	0.91%
Lao PDR <sup>1</sup>	Week 11	1,499	0	0	0	0.00%
Malaysia <sup>3</sup>	Week 13	44,144	2,579	31	3	0.07%
Myanmar	-	-	-	-	-	-
Philippines <sup>4</sup>	Week 11	21,069	0	67	0	0.32%
Singapore <sup>5**</sup>	Week 13	5,166	667	0	0	0.00%
Thailand <sup>6***</sup>	Week 12	23,441	897	22	1	0.09%
Vietnam <sup>1</sup>	Week 11	12,937	0	0	0	0.00%
<b>Total</b>		<b>139,786</b>	<b>4,143</b>	<b>383</b>	<b>4</b>	<b>0.27%</b>

1. WHO WPRO, "Dengue," World Health Organization, accessed April 9, 2024 (<https://www.who.int/westernpacific/emergencies/surveillance/dengue>).

2. Ministry of Health, Republic of Indonesia

3. Disease Control Division, Ministry of Health Malaysia, accessed April 9, 2024, [https://www.moh.gov.my/index.php/database\\_stores/store\\_view/17](https://www.moh.gov.my/index.php/database_stores/store_view/17)

4. Bluedot Developer Portal, accessed April 9, 2024, <https://developer-portal.bluedot.global/>.

5. Ministry of Health, "Weekly Infectious Disease Bulletin", accessed April 9, 2024, <https://www.moh.gov.sg/resources-statistics/infectious-disease-statistics/2024/weekly-infectious-diseases-bulletin>

6. Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health Thailand, accessed April 9, 2024, <http://doe.moph.go.th/surdata/index.php>

- Data were updated and collected from official sources, which may have a 2-8 weeks delay in reporting. Data must be interpreted cautiously.

\*Notified dengue cases only includes severe cases Dengue Hemorrhagic fever (DHF) and Dengue Shock Syndrome (DSS)

\*\*Notified dengue cases only includes Dengue Fever (DF) and DHF

\*\*\*Notified dengue cases include all type of cases DF, DHF, and DSS

- The **ASEAN** region reported **4,143** new dengue cases since the previous report. The region reported **139,786** total cases with **0.27%** CFR.

## Malaria Cases in the ASEAN Region

From January 1 to April 6, 2024 (Epi-Week 14)



## Malaria cases in the ASEAN region

Country	Epi-Week Reported	Cumulative Malaria Cases	New Cases Since the Previous Report	Cumulative Deaths	CFR
Brunei Darussalam	-	-	-	-	-
Cambodia	-	-	-	-	-
Indonesia <sup>1</sup>	Week 14	754	45	7	0.93%
Lao PDR	-	-	-	-	-
Malaysia <sup>1</sup>	Week 10	2	0	0	0.00%
Myanmar <sup>1</sup>	-	-	-	-	0.00%
Philippines <sup>1</sup>	Week 6	2	0	0	0.00%
Singapore <sup>3</sup>	Week 11	5	0	0	0.00%
Thailand <sup>2</sup>	Week 12	530	43	0	0.00%
Vietnam <sup>1</sup>	Week 11	1	0	0	0.00%
<b>Total</b>		<b>1,294</b>	<b>88</b>	<b>7</b>	<b>0.54%</b>

1. Bluedot Platform, accessed April 9, 2024 (<https://portal.bluedot.global/>)
2. Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health Thailand, accessed April 9, 2024 (<http://doe.moph.go.th/surdata/index.php>)
3. Ministry of Health Singapore, accessed April 9, 2024 (<https://www.moh.gov.sg/resources-statistics/infectious-disease-statistics/2023/weekly-infectious-diseases-bulletin>)

- The **ASEAN** region reported **88** new malaria cases since the previous report. The region reported **1,294** total cases with **0.54%** CFR.



## Media Monitoring for Vector-borne Diseases

Epidemiological Week 14 | March 31 – April 6, 2024

### Global Situation for Vector-borne Diseases

#### Dengue

- **Bangladesh** has reported no new dengue cases, 11 patients were hospitalized with viral fever (New Age, 2024). Since January 1, 2024, there are 1,684 cases have been reported, with September being the deadliest month with 396 deaths and 79,598 cases. The Directorate General of Health Service (DGHS) recorded 321,179 cases and 318,749 recoveries last year. [\[Full article\]](#)
- **Italy:** A female councilor in the municipality of Avio, Brazil, experienced severe symptoms after being bitten by a mosquito carrying the Dengue virus (Urso, 2024). Despite being positive, she was still in danger of death. The patient returned to Italy and was hospitalized at the S. Chiara hospital in Trento for five days. She is concerned about the high risk of Dengue arriving in Italy due to globalization. Experts advise using repellent products and mosquito nets, but in Valdirene's case, it was not enough. The infection usually resolves after two weeks but can lead to internal bleeding and even fatal consequences. To prevent further spread, she recommends blocking the reproduction of mosquitoes and checking swimming pools and fountains. [\[Full article\]](#)
- **Kenya:** The health authorities have reported 71 dengue cases in Dagahaley refugee camp, Garissa county, with 43 confirmed and 28 suspected cases. No deaths have been reported (iO Foundation, 2024). The last reported outbreak was in 2022, with 2,359 cases and 2 deaths in Mandera and Mombasa counties. [\[Full article\]](#)
- **Sri Lanka** has reported over 20,000 dengue cases this year, with eight fatalities, according to the National Dengue Control Unit (Xinhua, 2024). The Western Province had the highest number, followed by the Northern Province. [\[Full article\]](#)
- The **United States (US):** Dengue cases are surging across the Americas, with 3.5 million reported so far this year, three times the number reported last year (Radio Jamaica News, 2024). The majority of cases are in the Southern Hemisphere, with Brazil having the highest number. Over 25,000 cases have been reported in the Caribbean, with French Guiana, Martinique, Guadeloupe, Puerto Rico, and the Dominican Republic most affected. The surge in cases has led to public health emergencies in Rio de Janeiro, Peru, and other provinces. [\[Full article\]](#)

#### Leptospirosis

- **France:** La Réunion's health agency has issued an alert due to a surge in leptospirosis cases, with 119 detected since January (FranceTV, 2024). 70% of affected individuals have been hospitalized, with 26% in intensive care and one death. Protective measures include gloves and antibiotic treatment. [\[Full article\]](#)

#### Malaria

- **Russia:** Doctors at the Naberezhnye Chelny Infectious Diseases Hospital in Russia successfully treated African Doreen of tropical malaria (Duty Editor, 2024). The girl, who had been in Russia for three days, was initially admitted with fever, nausea, and severe muscle pain. The disease typically appears within 14 days, but the girl had previously experienced it and had poor treatment with quinine. The hospital confirmed the diagnosis and stabilized Doreen's condition, allowing her to be discharged. [\[Full article\]](#)

## Regional Situation for Vector-borne Diseases

### Dengue

- **Indonesia:** Dengue hemorrhagic fever (DHF) remains a significant issue in Indonesia. Until the 12th week of this year, 350 people had died from dengue fever with 46,168 cases so far (Sofyandari, 2024). Director of Prevention and Control of Infectious Diseases, Ministry of Health, suggests high cases may be due to a low mosquito nest eradication program. Bandung and Subang are identified as high cases due to high *Aedes* mosquitos populations. [\[Full article\]](#)

The Klaten District Health Office in Central Java has reported 204 cases of DHF and 14 deaths since the beginning of the year (Newswire, 2024). The majority of the deceased patients were under 7 years old. The cause of death was attributed to a decrease in platelets during the 4th and 5th days of fever. The health service has appealed to the public to seek medical attention if the fever persists for more than three days. [\[Full article\]](#)

- **Lao PDR:** Dengue cases in Laos reached 1,837 between January and March 2024, with three deaths (Xinhua, 2024). Health authorities are calling for people to clear mosquito breeding sites and increase public understanding of the disease's danger. Sekong province reported the highest number of cases, with 336 confirmed in Vientiane and 247 in Luang Namtha province. [\[Full article\]](#)
- **Malaysia:** Penang recorded 1,592 cases of dengue fever during the 13th Epidemiological Week, with two deaths (Bernama, 2024). The state Health Department reported that Timur Laut and Seberang Perai Selatan districts each had one fatality. Seberang Perai Tengah had the highest number of dengue outbreaks at 16. The state Health Department (JKNPP) advises public to take preventive measures. [\[Full article\]](#)
- **Singapore:** Seven people have died from local dengue infection in Singapore, surpassing the six deaths from 2023. The National Environment Agency reported over 5,000 cases in 2024, a rise from 2,360 in the first quarter of 2023. The *Aedes aegypti* mosquito population remains high, with breeding habitats doubled in January 2024. The campaign aims to raise community awareness and reduce infection risk. [\[Full article\]](#)

### Leptospirosis

- **Indonesia:** Around 10 people in Semarang City were infected with mild leptospirosis after a flood, according to the Head of Semarang City Health Office (Qudstia, F.I., 2024). The Head of City Health Office, requested screening for dengue fever and leptospirosis in five sub-districts, including Gayamsari, Pedurungan, North Semarang, Genuk, and West Semarang. [\[Full article\]](#)

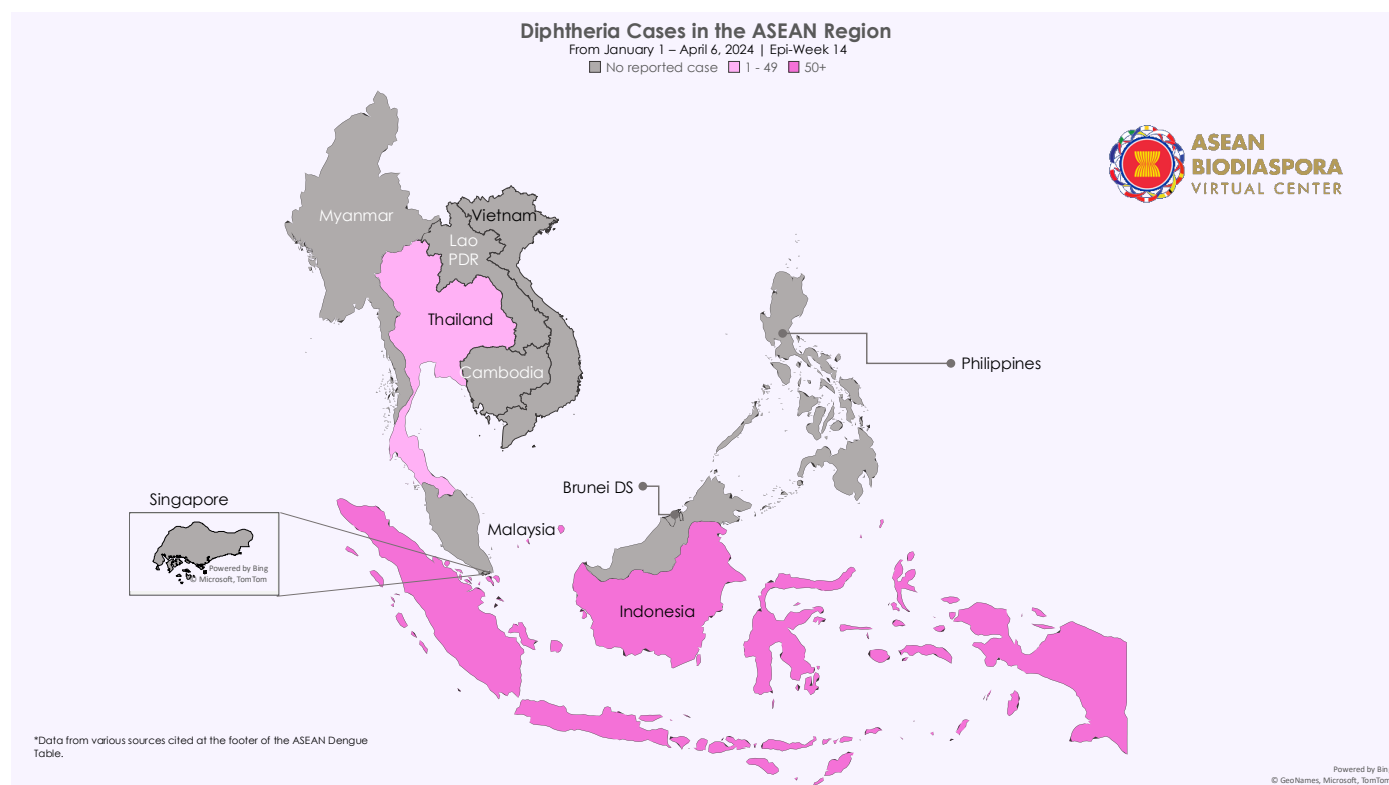
### Malaria

- **Indonesia:** The malaria outbreak on Simuk Island, South Nias, has increased cases to 103, with five deaths (Amisha, 2024). Rapid malaria tests were conducted on 118 residents, with 45 positive and 73 negative. Two residents suspected of malaria refused self-examinations and refused to be examined by Health Service Facilities. The five deaths were aged 4-16. No person infected with malaria has fully recovered, but some have improved and started carrying out activities. The increase in cases is due to delays in treatment due to local people still believing in shamans. The outbreak is a routine and common disease in South Nias. [\[Full article\]](#)

## VACCINE-PREVENTABLE DISEASES

### Diphtheria Cases in the ASEAN Region

From January 1 to April 6, 2024 (Epi-Week 14)



### Diphtheria cases in the ASEAN region

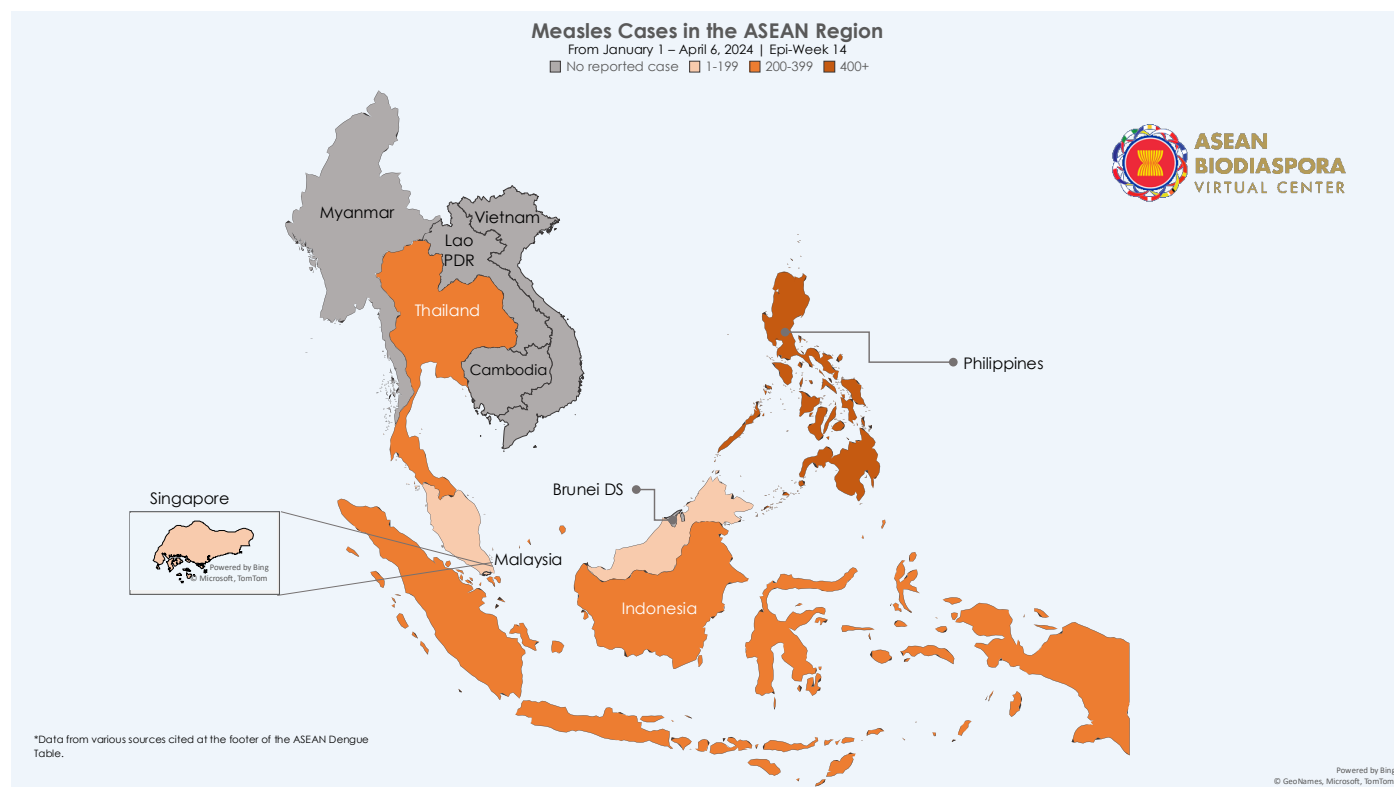
Country	Epi-Week Reported	Cumulative Diphtheria Cases	New Cases Since the Previous Report	Cumulative Deaths	CFR
Brunei Darussalam	-	-	-	-	-
Cambodia	-	-	-	-	-
Indonesia <sup>1</sup>	Week 12	168	0	7	4.17%
Lao PDR	-	-	-	-	-
Malaysia	-	-	-	-	-
Myanmar	-	-	-	-	-
Philippines <sup>2</sup>	-	-	-	-	-
Singapore <sup>3</sup>	Week 13	0	0	0	0.00%
Thailand <sup>4</sup>	Week 12	1	0	0	0.00%
Vietnam <sup>5</sup>	-	-	-	-	-
<b>Total</b>		<b>169</b>	<b>0</b>	<b>7</b>	<b>4.14%</b>

1. Ministry of Health, Republic of Indonesia.
2. Department of Health Website, accessed April 9, 2024 "Statistics" (<https://doh.gov.ph/statistics>)
3. Ministry of Health Singapore, accessed April 9, 2024 (<https://www.moh.gov.sg/resources-statistics/infectious-disease-statistics/2023/weekly-infectious-diseases-bulletin>)
4. Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health Thailand, accessed April 9, 2024 (<http://doe.moph.go.th/surdata/index.php>)
5. BlueDot Platform, accessed April 9, 2024 (<https://developer-portal.bluedot.global/>)

- The ASEAN region reported **NO** new diphtheria cases since the previous report. The region reported **169** total cases with **4.14%** CFR.

## Measles Cases in the ASEAN Region

From January 1 to April 6, 2024 (Epi-Week 14)



## Measles cases in the ASEAN region

Country	Epi-Week Reported	Cumulative Measles Cases	New Cases Since the Previous Report	Cumulative Deaths	CFR
Brunei Darussalam	-	-	-	-	-
Cambodia	-	-	-	-	-
Indonesia <sup>1</sup>	Week 12	377	0	0	0.00%
Lao PDR	-	-	-	-	-
Malaysia <sup>2</sup>	Week 11	34	0	0	0.00%
Myanmar	-	-	-	-	-
Philippines <sup>2</sup>	Week 12	600	0	3	0.50%
Singapore <sup>4</sup>	Week 13	2	1	0	0.00%
Thailand <sup>5</sup>	Week 12	418	76	0	0.00%
Vietnam <sup>2</sup>	Week 13	42	42	0	0.00%
<b>Total</b>		<b>1,473</b>	<b>77</b>	<b>3</b>	<b>0.22%</b>

1. Ministry of Health, Republic of Indonesia
2. Bluedot Platform, accessed April 9, 2024 (<https://developer-portal.bluedot.global/>)
3. Ministry of Health Singapore, accessed April 9, 2024, (<https://www.moh.gov.sg/resources-statistics/infectious-disease-statistics/2023/weekly-infectious-diseases-bulletin>)
4. Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health Thailand, accessed April 9, 2024 (<http://doe.moph.go.th/surdata/index.php>)

- The **ASEAN** region reported **77** new measles cases since the previous report. The region reported **1,473** total cases with **0.22%** CFR.

## Media Monitoring for Vaccine-Preventable Diseases

Epidemiological Week 14 | March 31 – April 6, 2024

### Global Situation for Vaccine-Preventable Diseases

#### Measles

- **Australia:** A 17-year-old male in metropolitan Adelaide has been exposed to measles, and is currently in a stable condition in the hospital (The National Tribune, 2024). SA Health advises those not fully immunized to be alert for symptoms and seek medical attention if ill. Those exposed during specific times should contact their GP for post-exposure treatment. [[Full article](#)]
- **Canada:** Durham Region Health Department confirmed a measles case that flew into Canada through Pearson Airport. The patient contracted the disease while traveling abroad (McConnell, L., 2024). The health department is investigating the patient's movement and potential exposure. The disease is highly contagious and poses risks to those unimmunized or with weakened immune systems. [[Full article](#)]
- **France:** The Regional Health Agency at Midi Libre confirmed 12 measles cases in Nîmes schools, with over ten confirmed cases among unvaccinated or incompletely vaccinated children under 2 years of age under investigation in the municipality and surrounding area since March 19, 2024 (Boudet, 2024). Parents of students in Nîmes schools were notified of the situation. [[Full article](#)]
- **Germany:** In the first few months of 2024, more people in Germany have been infected with the measles virus than in previous years (Deutscher Ärzteverlag, 2024). 109 laboratory-confirmed infections have been recorded in a database from the Robert Koch Institute (RKI). Since 2020, the number of registered measles cases in Germany has been significantly lower, largely due to measures taken worldwide after the corona pandemic. The Standing Vaccination Commission (STIKO) has called for more measles vaccinations and laboratory diagnostics to contain the spread and avoid serious cases. [[Full article](#)]
- **Netherlands** has seen a surge in measles infections, with over 50 cases reported in the country (Redactie, 2024). The Brabant-Zuidoost region is the hardest hit, with 43 cases. The last major epidemic occurred in 2013, with nearly 2,700 cases. Measles is highly contagious, with potential complications and higher risk for young children. [[Full article](#)]
- **New Zealand** has confirmed one case and identified a second probable case involving young children visiting family members in Auckland, Waikato, and Tauranga between March 23 and 26 (RNZ News, 2024). The children are related and caught the highly contagious disease locally. About 20-30 people may have been affected so far. The authorities encourage people to be aware of their immune status and have their children vaccinated. Symptoms of measles can start a week to 18 days after exposure, including fever, cough, runny nose, and sore eyes. [[Full article](#)]
- **Russia:** Since 2024, 61 measles cases have been confirmed in the Saratov region, with 36 in children (SaratovNews, 2024). The cases were found in Saratov, Pugachevsky, Engelssky, Ekaterinovskiy, Balakovsky, Krasnokutsky, Sovetsky, and Novouzensky districts. [[Full article](#)]
- The **United States (US):** A 47-year-old resident in San Diego County has confirmed the second measles case this year, following a February 2024 case in an unvaccinated infant (Saunders, 2024). The adult is hospitalized and may have exposed others at several locations in Encinitas and Carlsbad. County Epidemiology and Immunization Services are working with Scripps Encinitas Hospital and Scripps Coastal Medical Center. [[Full article](#)]



The Cook County Department of Public Health has confirmed the first suburban Cook County measles case this year, involving a resident who was exposed during a shelter for new arrivals in Chicago (Riverside, 2024). The department is working to identify and notify those exposed, and is encouraging residents to stay updated with recommended vaccinations. [\[Full article\]](#)

- The **United Kingdom (UK)**: Measles outbreaks pose a global health risk, including in the UK (Hackett, 2024). The UK Health Security Agency (UKHSA) reported 868 laboratory-confirmed cases in England as of March 28, 2024, with 182 newly confirmed cases in the past four weeks. The West Midlands has the highest number of cases (34%), followed by London (33%). The UKHSA emphasizes the importance of MMR vaccination, as it can spread rapidly in communities with low vaccination rates. The U.S. CDC recommends all travelers be fully vaccinated against measles when traveling to any international destination. [\[Full article\]](#)

## Pertussis

- The **United States (US)**: A case of Whooping Cough, or pertussis, has been confirmed in a theater group at a High School in Fargo, North Dakota (Leier, J., 2024). The symptoms are coughing fits, prolonged coughing, and vomiting, and is preventable with vaccines. [\[Full article\]](#)

## Regional Situation for Vaccine-Preventable Diseases

### Pertussis

- **Philippines**: Pertussis deaths in the Philippines have risen to 49, mainly children, with 862 cases recorded as of March 23 (BusinessWorld (2024)). The rise is like Europe's 553 cases in January 2024. Most affected individuals were under five years old, with two-thirds unvaccinated or unaware of their vaccination history. [\[Full article\]](#)
- **Vietnam**: The Hanoi Center for Disease Control (CDC) reported 32 cases of whooping cough in 16 districts and towns in the first three months of the year, compared to the same period last year (VNExpress, 2024). The number of pertussis cases continues to appear sporadically, mainly in young children who are not yet of vaccination age or have not been fully vaccinated. Unvaccinated or not fully vaccinated nearly 72% of the cases are children under 3 months old. The Center for Tropical Diseases, National Children's Hospital, has received over 40 patients with the disease since the beginning of the year. Director of the Center for Tropical Diseases, said that normally children before vaccination age often have immunity to prevent whooping cough from their mothers. [\[Full article\]](#)





## Media Monitoring for Other Diseases

*Epidemiological Week 14 | March 31 – April 6, 2024*

### **Regional Situation for Other Diseases**

#### **Hand Foot and Mouth Disease**

- **Vietnam:** In Hanoi, hand, foot, and mouth disease cases have increased by 60-70 cases per week in the last two weeks, with three outbreaks in three preschools (Hanoimoi, 2024). In the first three months of 2024, the city recorded 300 cases, an increase of 75 compared to 2023. The country's Ministry of Health reported 6.7 thousand cases in the first quarter of 2024, more than twice the same period in 2023. [\[Full article\]](#)



## Annex 1. Infectious Diseases in the ASEAN Region – Summary Table

Epidemiological Week 14 | From January 1 to April 6, 2024

Infectious Diseases	COVID-19			Mpox			Rabies			Dengue		
	Cum. Cases	Cum. Deaths	CFR	Cum. Cases	Cum. Deaths	CFR	Cum. Cases	Cum. Deaths	CFR	Cum. Cases	Cum. Deaths	CFR
Brunei Darussalam	82,279	77	0.10%	-	-	-	Rabies-free Country			-	-	-
Cambodia	664	0	0%	13	0	0%	-	-	-	4,113	13	0.32%
Indonesia	117,518	1,451	1.26%	85	0	0%	20	20	100%	27,417	250	0.91%
Lao PDR	1,381	87	6.55%	1	0	0%	-	-	-	1,499	0	0%
Malaysia	259,006	491	0.20%	9	0	0%	3	3	100%	44,144	31	0.06%
Myanmar	8,298	5	0.06%	-	-	-	-	-	-	-	-	-
Philippines	141,371	1,467	1.04%	5	0	0%	89	89	100%	21,069	67	0.32%
Singapore	819,481	313	0.04%	39	0	0%	Rabies-free Country			5,166	0	0%
Thailand	50,369	912	1.98%	731	1	0.14%	0	0	0%	23,441	22	0.09%
Vietnam	101,828	20	0.02%	155	7	4.52%	27	27	100%	12,937	0	0.00%
<b>ASEAN Region</b>	<b>1,582,195</b>	<b>4,823</b>	<b>0.31%</b>	<b>1,036</b>	<b>8</b>	<b>0.77%</b>	<b>139</b>	<b>139</b>	<b>100%</b>	<b>139,786</b>	<b>383</b>	<b>0.28%</b>

Infectious Diseases	Malaria			Measles			Diphtheria		
	Cum. Cases	Cum. Deaths	CFR	Cum. Cases	Cum. Deaths	CFR	Cum. Cases	Cum. Deaths	CFR
Brunei Darussalam	-	-	-	-	-	-	-	-	-
Cambodia	-	-	-	-	-	-	-	-	-
Indonesia	754	7	0.93%	377	55	0%	168	7	4.17%
Lao PDR	-	-	-	-	-	-	-	-	-
Malaysia	2	0	0%	34	0	0%	-	-	-
Myanmar	-	-	-	-	-	-	-	-	-
Philippines	2	0	0%	600	3	0.50%	-	-	-
Singapore	5	0	0%	2	0	0%	0	0	0%
Thailand	530	0	0%	418	0	0%	1	0	0%
Vietnam	1	0	0%	42	0	-	-	-	-
<b>ASEAN Region</b>	<b>1,294</b>	<b>7</b>	<b>0.54%</b>	<b>1,473</b>	<b>3</b>	<b>0.22%</b>	<b>169</b>	<b>7</b>	<b>4.14%</b>

## References

- Amisha, D. (2024) Wabah malaria di Nias Selatan Bertambah: 103 Terjangkit, 5 meninggal, detiksumut. Available at: <https://www.detik.com/sumut/berita/d-7270771/wabah-malaria-di-nias-selatan-bertambah-103-terjangkit-5-meninggal> (Accessed: 01 April 2024).
- Bernama (2024) Penang Records 1,592 dengue cases, two deaths, thesun.my. Available at: [https://thesun.my/local\\_news/penang-records-1592-dengue-cases-two-deaths-1A12300679](https://thesun.my/local_news/penang-records-1592-dengue-cases-two-deaths-1A12300679) (Accessed: 05 April 2024).
- Bernama (2024) Indonesia sees surge in dengue cases in first quarter of 2024, Free Malaysia Today. Available at: <https://www.freemalaysiatoday.com/category/world/2024/04/01/indonesia-sees-surge-in-dengue-cases-in-q1/> (Accessed: 01 April 2024).
- Benadjaoud, Y. (2024) Mpox cases nearly double what they were at the same time last year, CDC says, ABC7 Chicago. Available at: <https://abc7chicago.com/mpox-cases-in-us-double-same-time-since-2023/14604290/> (Accessed: 03 April 2024).
- Black, A. (2024) Measles alert issued for Western Sydney, Bay Post-Moruya Examiner. Available at: <https://www.batemansbaypost.com.au/story/8574600/measles-alert-issued-for-western-sydney/?cs=9676> (Accessed: 01 April 2024).
- Boudet, A. (2024) L'ARS Occitanie alerte sur la recrudescence de Cas de rougeole dans le bassin de Nîmes, midilibre.fr. Available at: <https://www.midilibre.fr/2024/04/02/lars-occitanie-alerte-sur-la-recrudescence-de-cas-de-rougeole-dans-le-bassin-de-nimes-11864978.php> (Accessed: 03 April 2024).
- Bridge Staff (2024) Covid Tracker: Cases fall 18%, hospitalizations at lowest point since August, Bridge Michigan. Available at: <https://www.bridgemi.com/michigan-health-watch/covid-tracker-cases-fall-18-hospitalizations-lowest-point-august> (Accessed: 03 April 2024).
- BusinessWorld (2024) Philippine pertussis deaths rise to 49, mostly children, BusinessWorld Online. Available at: [https://www.bworldonline.com/the-nation/2024/04/03/585625/philippine-pertussis-deaths-rise-to-49-mostly-children/#google\\_vignette](https://www.bworldonline.com/the-nation/2024/04/03/585625/philippine-pertussis-deaths-rise-to-49-mostly-children/#google_vignette) (Accessed: 05 April 2024).
- Castor, R.Z. (2024) No outbreak in Iloilo, only 'isolated' cases, The Manila Times. Available at: <https://www.manilatimes.net/2024/03/31/regions/no-outbreak-in-iloilo-only-isolated-cases/1939194> (Accessed: 01 April 2024).
- Daily Bangladesh (2024) 18 covid-19 cases logged in 24Hrs, Daily Bangladesh. Available at: <https://www.daily-bangladesh.com/english/coronavirus/93446> (Accessed: 03 April 2024).
- Deutscher Ärzteverlag (2024) Number of measles cases nationwide above the level of previous years, Deutsches Ärzteblatt. Available at: <https://www.aerzteblatt.de/nachrichten/150423/Zahl-der-Masernfaelle-bundesweit-ueber-Niveau-der-Vorjahre> (Accessed: 05 April 2024).
- Duty Editor (2024) Doctors at the infectious diseases hospital encountered a case of tropical malaria, 'KAMAZ News'. Available at: [https://vestikamaza.ru/posts/vrachi\\_infekzionnoj\\_bolni\\_czy\\_stolkulis\\_so\\_sluchaem\\_tropi\\_cheskoj\\_malyarii/](https://vestikamaza.ru/posts/vrachi_infekzionnoj_bolni_czy_stolkulis_so_sluchaem_tropi_cheskoj_malyarii/) (Accessed: 05 April 2024).
- FranceTV (2024) Télématin Santé - leptospirose : De plus en plus de Cas à la Réunion !, Santé - Leptospirose : de plus en plus de cas à La Réunion ! - Extrait vidéo. Available at: <https://www.france.tv/france-2/telematin/5862084-sante-leptospirose-de-plus-en-plus-de-cas-a-la-reunion.html> (Accessed: 05 April 2024).
- Gomez, V.D. (2024) Digigit Anak Anjing Piraan, Seorang Perempuan di Kabupaten Sikka meninggal Dunia, Dicurigai Rabies: Laman 2 dari 4, SuaraSikka. Edited by Redaktur. Available at: <https://suarasikka.com/2024/03/30/digigit-anak-anjing-piraan-seorang-perempuan-di-kabupaten-sikka-meninggal-dunia-dicurigai-rabies/2/> (Accessed: 03 April 2024).
- Hackett, K.M. (2024) England's measles outbreak nears 10 Year peak, - Precision Vaccinations News. Available at: <https://www.precisionvaccinations.com/2024/04/01/englands-measles-outbreak-nears-10-year-peak> (Accessed: 03 April 2024).
- Haidi, F. (2024) Tahun ini 2 warga seruyan Meninggal Akibat Demam Berdarah, Beranda. Available at: <https://www.borneoneews.co.id/berita/335810-tahun-ini-2-warga-seruyan-meninggal-akibat-demam-berdarah> (Accessed: 05 April 2024).
- Hamaide, S. de L. (2024) Philippines reports H5N1 bird flu outbreak on Poultry Farm, Yahoo! News. Available at: <https://www.yahoo.com/news/philippines-reports-h5n1-bird-flu-172717396.html> (Accessed: 05 April 2024).
- Hanoimoi (2024) Hà Nội: Phát Hiện 3 ổ Dịch Tay Chân Miệng Tại Các Trường mầm non, https://baomoi.com. Available at: <https://baomoi.com/ha-noi-phat-hien-3-o-dich-tay-chan-mieng-tai-cac-truong-mam-non-c48743877.epi> (Accessed: 05 April 2024).
- Leier, J. (2024) Whooping cough confirmed at Fargo Davies High, KFGO. Available at: <https://kfgo.com/2024/04/03/whooping-cough-confirmed-at-fargo-davies/> (Accessed: 05 April 2024).
- Locus, S. and Ombay, G. (2024) Doh logs 84 rabies deaths so far in 2024, GMA News Online. Available at: <https://www.gmanetwork.com/news/topstories/nation/902443/doh-logs-84-rabies-deaths-so-far-in-2024/story/> (Accessed: 03 April 2024).
- McConnell, L. (2024) Confirmed measles case at Pearson Airport in Mississauga, Ontario: Whitby Durham Health Department, insauga. Available at: <https://www.insauga.com/confirmed-measles-case-at-pearson-airport-in-mississauga-ontario-whitby-durham-health-department/> (Accessed: 05 April 2024).
- Mirage News (2024) South Australia covid update as at 5 April 2024, Mirage News. Available at: <https://www.miragenews.com/south-australia-covid-update-as-at-5-april-2024-1209333/> (Accessed: 05 April 2024).
- Morozova, D. (2024) An outbreak of measles occurred in one of the districts of Tyumen, РИА URA.RU: Главные новости Урала, России и мира сегодня. Available at: <https://ura.news/news/1052749830> (Accessed: 01 April 2024).
- Nabilla, F.T. (2024) Baru 3 bulan, Kasus Dbd di Sragen Sudah Naik 2 Kali Lipat dari Tahun Lalu, Solopos.com. Available at: <https://soloraya.solopos.com/baru-3-bulan-kasus-dbd-di-sragen-sudah-naik-2-kali-lipat-dari-tahun-lalu-1894402> (Accessed: 01 April 2024).
- Newswire (2024) Warning! 14 orang meninggal dunia karena dbd di klaten, Harianjogja.com. Available at: <https://soloraya.harianjogja.com/read/2024/04/02/648/1170015/warning-14-orang-meninggal-dunia-karena-dbd-di-klaten> (Accessed: 03 April 2024).
- New Age (2024) 11 dengue patients hospitalised, New Age | The Most Popular Outspoken English Daily in Bangladesh. Available at: <https://www.newagebd.net/article/229183/11-dengue-patients-hospitalised> (Accessed: 01 April 2024).
- iO Foundation (2024) 1 abril 2024. Brote de dengue en Garissa County, Kenia, Fundación iO. Available at: <https://fundacionio.com/dengue-en-kenia/> (Accessed: 03 April 2024).
- Online Desk (2024) মােচ% ঙড়োত মত্,- ঙবিশ কেরানায় কম, বাংলাদেশ ৪তিন্দন. Available at: <https://www.bd-pratidin.com/health-tips/2024/04/02/981614> (Accessed: 03 April 2024).
- Pratidin, B. (2024) ২৪ ঘণ্টায় ডেঙ্গু আক্রান্ত হয় হাঙ্গপাতায় ভর্তি ১১, বাংলাদেশ প্রতদিন. Available at: <https://www.bd-pratidin.com/dengue-update/2024/04/04/982292> (Accessed: 05 April 2024).
- Qudstia, F.I. (2024) 10 orang di semarang terjangkit leptospirosis ringan, Berita Terkini Jawa Tengah dan DIY. Available at: <https://joglojateng.com/2024/04/02/10-orang-di-semarang-terjangkit-leptospirosis-ringan/> (Accessed: 03 April 2024).

- Rahim, N. (2024) Singapore sees 7 deaths due to dengue infection in 2024, already more than total fatalities in 2023, Yahoo! News. Available at: [https://sg.news.yahoo.com/singapore-sees-7-deaths-due-to-dengue-infection-in-2024-already-more-than-total-fatalities-in-2023-032853737.html?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LnNvbS8&guce\\_referrer\\_sig=AQAAADGFEWZfD4FEtjMe0lfz\\_zF95GzWX65iGqP1LupMXK8O2c\\_gxnCQi5f-3aCzIuC4VegSSEkh9nWgddvzKLpNv6BLNAf13ExiP8i6MryZ5JTgzMlw-ZtiyutdijQv0Filfb7Wqv6RMiPOATmod8G75h8NWmdjU1-tl1E5pywFOcF](https://sg.news.yahoo.com/singapore-sees-7-deaths-due-to-dengue-infection-in-2024-already-more-than-total-fatalities-in-2023-032853737.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LnNvbS8&guce_referrer_sig=AQAAADGFEWZfD4FEtjMe0lfz_zF95GzWX65iGqP1LupMXK8O2c_gxnCQi5f-3aCzIuC4VegSSEkh9nWgddvzKLpNv6BLNAf13ExiP8i6MryZ5JTgzMlw-ZtiyutdijQv0Filfb7Wqv6RMiPOATmod8G75h8NWmdjU1-tl1E5pywFOcF) (Accessed: 01 April 2024).
- Radio Jamaica News (2024) PAHO reports dengue surge in the Americas, Radio Jamaica News. Available at: <https://radiojamaicanewsonline.com/local/paho-reports-dengue-surge-in-the-americas> (Accessed: 01 April 2024).
- Redactie (2024) Vijf patiënten met Mazelen in Limburg: Aantal Gevallen Stijgt, De Limburger. Available at: [https://www.limburger.nl/cnt/dmf20240404\\_94072958](https://www.limburger.nl/cnt/dmf20240404_94072958) (Accessed: 05 April 2024).
- Riverside (2024) Cook County confirms first suburban measles case connected to recent cases in Chicago, Riverside, IL. Available at: <https://www.riverside.il.us/CivicAlerts.aspx?AID=3760> (Accessed: 03 April 2024).
- RNZ News (2024) Measles cases found among young children in Waikato, RNZ. Available at: <https://www.rnz.co.nz/news/national/513090/measles-cases-found-among-young-children-in-waikato> (Accessed: 01 April 2024).
- SA (2024) Covid-19: Bangladesh reports 20 more cases in 24hrs -, The Daily Observer. Available at: <https://www.observerbd.com/news.php?id=466756> (Accessed: 01 April 2024).
- Sagarino, M.R. (2024) Pertussis or whooping cough in Mandaue: 5 cases, 2 deaths, INQUIRER.net. Available at: <https://cebudailynews.inquirer.net/565701/pertussis-or-whooping-cough-in-mandaue-5-cases-2-deaths> (Accessed: 03 April 2024).
- Saunders, C.N. (2024) Second measles case of 2024 confirmed in County, San Diego County News Center. Available at: <https://www.countynewscenter.com/second-measles-case-of-2024-confirmed-in-county/> (Accessed: 01 April 2024).
- Samiti, R.S. (2024) 28 new cases of COVID-19 reported in one week, The Himalayan Times. Available at: <https://thehimalayantimes.com/nepal/28-new-cases-of-covid-19-reported-in-one-week> (Accessed: 03 April 2024).
- Sarao, Z. (2024) Doh Records 89 rabies cases in Q1 of 2024, INQUIRER.net. Available at: <https://newsinfo.inquirer.net/1926374/doh-records-89-rabies-cases-in-q1-of-2024> (Accessed: 05 April 2024).
- SaratovNews (2024) Since the beginning of the year, measles has been detected in 61 Saratov residents, BezFormata. Available at: <https://saratov.bezformata.com/listnews/nachala-goda-kor-viyavili/129914834/> (Accessed: 05 April 2024).
- Schnirring, L. (2024) Pennsylvania reports h1n2v flu case, CIDRAP. Available at: <https://www.cidrap.umn.edu/influenza-general/pennsylvania-reports-h1n2v-flu-case> (Accessed: 01 April 2024).
- Sofyandari, F.P. (2024) Ganasnya DBD, 350 orang meninggal Hingga Minggu Ke-12 Tahun Ini, Ganasnya DBD, 350 Orang Meninggal Hingga Minggu Ke-12 Tahun Ini - Jawa Pos. Available at: <https://www.jawapos.com/kesehatan/014508611/ganasnya-dbd-350-orang-meninggal-hingga-minggu-ke-12-tahun-ini> (Accessed: 03 April 2024).
- The Daily Observer (2024) 15 new covid cases reported in country -, The Daily Observer. Available at: <https://www.observerbd.com/news.php?id=467350> (Accessed: 05 April 2024).
- The Kathmandu Post (2024) Eleven people died of rabies at Teku Hospital in last eight months, The Kathmandu Post. Available at: <https://kathmandupost.com/health/2024/04/01/eleven-people-died-of-rabies-at-teku-hospital-in-last-eight-months> (Accessed: 01 April 2024).
- The Times of India (2024) 11 new covid cases in state after 2 months: Raipur News - Times of India, The Times of India. Available at: <https://timesofindia.indiatimes.com/city/raipur/11-new-covid-cases-in-state-after-2-months/articleshow/108926835.cms> (Accessed: 01 April 2024).
- The National Tribune (2024) Measles case in Adelaide, The National Tribune. Available at: <https://www.nationaltribune.com.au/measles-case-in-adelaide/> (Accessed: 05 April 2024).
- Urso, E. (2024) Positive for the dengue virus after a trip to Brazil: Woman hospitalized at S. Chiara in Trento, La voce del Trentino. Available at: <https://www.lavocedeltrentino.it/2024/04/04/positiva-al-virus-dengue-dopo-un-viaggio-in-brasil-donna-riconvertita-al-s-chiara-di-trento/> (Accessed: 05 April 2024).
- Vickers, C. (2024) Second bird flu case confirmed in human in US: What to know, The Hill. Available at: <https://thehill.com/policy/healthcare/4570623-second-bird-flu-case-human-us/> (Accessed: 03 April 2024).
- VNExpress (2024) Ho Gà Tấn công nhiều em BÉ HÀ NỘI, vnexpress.net. Available at: <https://vnexpress.net/ho-ga-tan-cong-nhieu-em-be-ha-noi-4730036.html> (Accessed: 05 April 2024).
- Washington, J. (2024) Ohio covid-19 cases fall for 7th Straight Week: Coronavirus update Thursday, April 4, 2024, cleveland. Available at: <https://www.cleveland.com/metro/2024/04/ohio-covid-19-cases-fall-for-7th-straight-week-coronavirus-update-thursday-april-4-2024.html> (Accessed: 05 April 2024).
- Xinhua (2024) Over 20,000 dengue cases recorded in Sri Lanka so far this year, Xinhua. Available at: <https://english.news.cn/20240404/52e8377384ec4ce8936dd29a73f1b650/c.html> (Accessed: 05 April 2024).
- Xinhua (2024) Dengue cases in Laos hit 1,837 in Q1, Xinhuanet. Available at: <https://english.news.cn/20240404/91f164a9281f4b458ef7bbcf5166f1a0/c.html> (Accessed: 05 April 2024).