This epidemiological bulletin aims to provide the situation of key infectious diseases in the WHO South-East Asia region to inform risk assessments and responses. The bulletin uses information from publicly available sources and will be published every two weeks. For feedback or suggestions, please write to seoutbreak@who.int.

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Kyasanur Forest Disease: India

Situation as of 18 February 2024

- Kyasanur Forest Disease (KFD) is a zoonotic disease which was first reported in India in 1957. It is caused by a flavivirus, transmitted to humans (who are the incidental host) by ticks, with birds and mammals forming part of the sylvatic lifecycle.¹
- In humans, symptoms including fever and headache, and can cause hemorrhagic manifestations in some cases. The case fatality rate (CFR) is estimated to be between 3 and 5%.²
- In India, the disease is endemic in Shimoga and its neighboring districts in Karnataka state; however, between 2012 and 2014, outbreaks were reported in Chamarajanagar district, Karnataka and the neighboring Malappuram and Wayanad districts of Kerala state and in 2015 and 2016, outbreaks were reported in the state of Goa.¹
- Outbreaks are seasonal, occurring from December to May, corresponding with the maximum density of the nymphal stages of the ticks.² Between 2011 and 2019, approximately 400 to 500 cases are reported yearly.
- As of 11 February 2024 since the beginning of the year, a total of 85 cases of Kyasanur Forest Disease have been reported in the state of Karnataka, India. This compares with 19 cases reported in the entirety of 2023.³
- During epidemiological week 6 (5 to 11 February 2024), a total of 17 cases were reported, a 63.8% decrease compared to week 5 (29 January to 4 February 2024).³

Figure 1. Number of new weekly cases of Kyasanur Forest Disease, Karnataka state, India from 30 October 2023 to 11 February 2024

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¹ Keshavamurthy, R., Charles, L.E. Predicting Kyasanur forest disease in resource-limited settings using event-based surveillance and transfer learning. *Sci Rep* **13**, 11067 (2023). [https://doi.org/10.1038/s41598-023-38074-0](https://doi.org/10.1038/s41598-023-38074-0)
² Signs and Symptoms | Kyasanur Forest Disease (KFD) | CDC
³ Weekly Infectious Disease Report - COMMISSIONERATE OF HEALTH & FAMILY WELFARE SERVICES (karnataka.gov.in)
Measles: Sri Lanka

Situation as of 21 February 2024

- An increasing number of laboratory-confirmed measles cases have been reported in Sri Lanka since May 2023. The first case was reported on 23 May 2023.4
- During 2023, a total of 863 cases of measles were reported compared to 39 cases in 2022.5
- In response, the Ministry of Health launched the Supplementary Immunization Activity (SIA) with MMR vaccine on 6 January 2024, across all immunization clinic centers in nine selected high-risk health districts, i.e. Colombo (including CMC area), Gampaha, Kalutara, Galle, Matara, Kandy, Jaffna, Kurunegala, and Kalmunai. The focus of the SIA was on infants aged 6-9 months.6
- Supplementary doses were also provided on the following Saturdays (13, 20 and 27 January and 3 February) at central clinics within their respective Medical Officer of Health areas, for eligible children who missed the additional MMR dose during the initial campaign.6
- As of 2 February 2024, a total of 210 cases of measles have been reported in the country since the beginning of 2024. During week 5 (27 January to 2 February 2024), 48 cases were reported, with the highest numbers reported in the Western province (n=16) and the Southern province (n=14)7 (Figure 2).

Figure 2. Number of weekly cases of measles in Sri Lanka during 2023 and 2024 (as of 2 February 2024)8

Source: Data published by Sri Lanka Ministry of Health and visualized by SEARO WHO

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COVID-19

Status as of 18 February 2024

- In the WHO South-East Asia Region, from 5 to 18 February 2024, 4 592 new COVID-19 cases and 43 deaths have been reported, a 30.2% and 40.3% decrease compared to the previous 14 days, respectively.
  - From 5 to 18 February 2024, only Bangladesh (590 new cases, +9.5%) reported increase in the number of new cases while India (1 914 new cases, -19.8%), Indonesia (1 006 new cases, -54.2%), Thailand (1 033 new cases, -22.7%), Myanmar (45 new cases, -61.2%) and Sri Lanka (four new cases, -33.3%) reported decrease in the number of new cases compared to previous 14 days.
  - Data were not available from Bhutan, Maldives, Nepal and Timor-Leste for this period.
- The Region has recorded a cumulative total of 61 261 841 COVID-19 cases, including 808 469 deaths.
- Please refer to the WHO SEARO COVID-19 dashboard for further information of COVID-19 in WHO South-East Asia Region.
- Globally, 774 593 066 COVID-19 cases, including 7 028 881 deaths have been cumulatively reported, as of 4 February 2024. Please visit WHO COVID-19 dashboard for global situation of COVID-19.

Table 1. COVID-19 cases, deaths, and the weekly change in countries in the WHO South-East Asia Region in the week from 5 to 18 February 2024

<table>
<thead>
<tr>
<th>Country</th>
<th>Cumulative cases</th>
<th>New cases (last 14 days)</th>
<th>% change in new cases</th>
<th>New cases per 1M pop</th>
<th>Cumulative deaths</th>
<th>New deaths (last 14 days)</th>
<th>% change in new deaths</th>
<th>New deaths per 1M pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>45,028,053</td>
<td>1,914</td>
<td>-39.8</td>
<td>1.4</td>
<td>538,472</td>
<td>18</td>
<td>-10.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6,828,326</td>
<td>1,006</td>
<td>-56.2</td>
<td>5.7</td>
<td>162,050</td>
<td>11</td>
<td>-64.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Thailand</td>
<td>4,768,751</td>
<td>1,033</td>
<td>-22.7</td>
<td>1.4</td>
<td>54,564</td>
<td>9</td>
<td>-43.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2,047,887</td>
<td>500</td>
<td>5.5</td>
<td>3.5</td>
<td>25,466</td>
<td>4</td>
<td>100.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Myanmar</td>
<td>641,775</td>
<td>45</td>
<td>-61.2</td>
<td>0.8</td>
<td>19,494</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>672,748</td>
<td>4</td>
<td>-53.3</td>
<td>0.2</td>
<td>18,897</td>
<td>1</td>
<td>-66.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Bhutan</td>
<td>62,697</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>21</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Maldives</td>
<td>186,564</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>515</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nepal</td>
<td>1,008,450</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>12,031</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>79,460</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>158</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SEAR Total</td>
<td>61,261,861</td>
<td>4,592</td>
<td>-30.2</td>
<td>NA</td>
<td>808,469</td>
<td>43</td>
<td>-40.3</td>
<td>NA</td>
</tr>
</tbody>
</table>

Percent change in the number of newly confirmed cases/deaths in past 14 days, compared to the previous 14 days.
NA = data not available.
DPR Korea has not reported confirmed COVID-19 cases.
Thailand data were for the period from 4 to 17 February 2024 in comparison to the preceding 14 days.
As for cumulative numbers, Maldives data are as of 5 August 2023, Timor-Leste data as of 11 August 2023, Bhutan data as of 8 October 2023, Nepal data as of 20 October 2023 and Indonesia data as of 10 February 2024.

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9 Data as 4 February 2024 link: [https://data.who.int/dashboards/covid19/cases](https://data.who.int/dashboards/covid19/cases)
Figure 3. Weekly number of new COVID-19 cases reported during the previous ten weeks (11 December 2023 to 18 February 2024) in the WHO South-East Asia Region *

Week Start Date

* Data of Maldives, Bhutan, Nepal and Timor-Leste are not available. Indonesia data as of 10 February 2024.

Figure 4. Weekly number of SARS-CoV-2 positive samples and test positivity from integrated influenza-SARS-CoV-2 sentinel surveillance systems in the previous eight weeks (11 December 2023 to 4 February 2024) in selected counties* (as of 18 February 2024)

Week Start Date

* Countries routinely conducting SARS-COV-2 testing of the samples collected through influenza sentinel surveillance sites (Bangladesh, Bhutan, Indonesia, Nepal and Timor-Leste).
Global circulation of SARS-CoV-2 variants

- WHO is currently tracking several SARS-CoV-2 variants and their sub-lineages including:
  - Five variants of interest (VOIs): XBB.1.5; XBB.1.16; EG.5; BA.2.86 and JN.1
  - Three variants under monitoring (VUMs): XBB; XBB.2.3; XBB.1.9.1 (XBB.1.9.2 and DV.7 have been removed as VUMs).
- Globally, JN.1 is the most reported VOI (now reported by 99 countries), accounting for 88.2% of sequences in week 5 of 2024 (29 January to 4 February) compared to 77.1% in week 2 of 2024 (8 to 14 January).
- The parental lineage of JN.1, BA.2.86 is declining and accounted for 3.7% of sequences in week 5 compared to 5.4% in week 2.
- The other VOIs, XBB.1.5, XBB.1.16 and EG.5 have decreased in global prevalence during the same period.
- All VUMs have shown a decreasing trend over the reporting period.

Box 1. Updated Risk Evaluation of JN.1 (9 January 2024)

- JN.1 is a descendent lineage of BAN.2.86, with the earliest sample collected on 25 August 2023.
- It is the most prevalent SARS-CoV-2 variant globally.
- The additional public health risk posed by JN.1 is still evaluated as low at the global level.
- Current population immunity as well as immunity generated by the XBB.1.5 booster vaccination is expected to remain cross-reactive to JN.1, against symptomatic and severe disease.
- The continued spread of JN.1 alone will unlikely increase the burden on national public health systems compared to other Omicron sub-lineages.

SARS-CoV-2 variants in the South-East Asia Region

- As of 19 February 2024, the sequence data submitted to GISAID\(^\text{11}\) by countries in the South-East Asia region in the last 60 days by date of collection are shown in Figures 5a and 5b. Only a small number of sequences has been submitted from countries and therefore the data should be interpreted with caution; however, JN.1* is now dominating in most countries in the Region. In the last 60 days:
  - In Bangladesh, 32 sequences were submitted, of which 96.9% (n=31) were JN.1*.
  - In India, 968 sequences were submitted, with JN.1* continuing to account for the large majority (94.6%, n=916).
  - In Indonesia, 355 sequences were submitted, with JN.1* also continuing to account for the large majority (88.5%, n=314).
  - In Myanmar, seven sequences were submitted of which the large majority were JN.1* (71.4%, n=5).
  - In Nepal, nine sequences were submitted of which 77.8% (n=7) were JN.1*.
  - Sri Lanka submitted two sequences which were unassigned.
  - In Thailand, 163 sequences were submitted with JN.1* accounting for 39.9% (n=65) followed by BA.2.86* (22.1%, n=36) and EG.5* (19.6%, n=32).
  - Other countries have not submitted sequences recently to GISAID.
- Of the 1334 JN.1* sequences submitted in the region in the last 60 days, the majority were JN.1 (n=612, 45.9%) and JN.1.1 (n=579, 43.4%).

\(^{10}\) https://www.who.int/publications/m/item/covid-19-epidemiological-update-16-february-2024
\(^{11}\) https://gisaid.org/
Figure 5a. Number of SARS-CoV-2 variants of interest and variants under monitoring sequences submitted to GISAID within the past 30 and 31-60 days as of 19 February 2024 by date of collection (countries with recent submissions) ¹

Figure 5b. Proportion of SARS-CoV-2 variants of interest and variants under monitoring sequences submitted to GISAID within the past 30 and 31-60 days as of 19 February 2024 by date of collection (countries with recent submissions) ¹

*indicates the sub-lineage of each variant

¹The date next to the country name indicates the latest date of sample collection for sequence submission to GISAID.

XBB* excludes XBB.1.16*, XBB.1.5*, XBB.1.9.1*, and XBB.2.3*.

Source: GISAID (https://gisaid.org/), as of 12 February 2024.
**mpox**

Status as of 18 February 2024

- In epidemiological weeks six (5 to 11 February 2024) and seven (12 to 18 February 2024), three new mpox cases were reported from Indonesia and seven from Thailand.
- In the WHO South-East Asia Region, a total of 844 laboratory-confirmed mpox cases (including two deaths) have been reported since 14 July 2022 (Figure 4).
- Figure 5 shows the weekly number of cases reported in Indonesia and Thailand since 1 January 2023.
- Table 3 summarizes the basic epidemiological profile of the mpox cases in the Region.
- For more information on the global situation of mpox outbreak, please visit the [global dashboard](#).

Figure 6. Number of mpox cases reported in WHO South-East Asia Region by date of notification* (14 July 2022 – 18 February 2024)

*Cases are plotted as per the week of notification (based on the date on which the case was notified to the public health authority). Where the date of notification is missing for 82 cases in Indonesia, this was replaced with the date of diagnosis.
Figure 7. Weekly number of mpox cases reported in Indonesia (n=82) and Thailand (n=715) since 1 January 2023 by date of notification* (as of 18 February 2024)

* Cases are plotted as per the week of notification (based on the date on which the case is notified to the public health authority). Where the date of notification is missing for cases in Indonesia, this was replaced with the date of diagnosis.

Table 3. Profile of the 844 confirmed mpox cases reported in WHO South-East Asia Region for which case-based information is available since July 2022 and since July 2023 (as of 18 February 2024)*

<table>
<thead>
<tr>
<th>Country</th>
<th>Since July 2022 (n = 844)</th>
<th>Since July 2023 (n = 711)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>27 (3.2%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Indonesia</td>
<td>83 (9.8%)</td>
<td>82 (11.5%)</td>
</tr>
<tr>
<td>Nepal</td>
<td>1 (0.1%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>4 (0.5%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Thailand</td>
<td>729 (86.4%)</td>
<td>629 (88.5%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Since July 2022 (n = 844)</th>
<th>Since July 2023 (n = 711)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>34 (4.0%)</td>
<td>12 (1.7%)</td>
</tr>
<tr>
<td>Male</td>
<td>809 (95.9%)</td>
<td>699 (98.3%)</td>
</tr>
<tr>
<td>Transgender</td>
<td>1 (0.1%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Since July 2022 (n = 844)</th>
<th>Since July 2023 (n = 711)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 18</td>
<td>4 (0.5%)</td>
<td>3 (0.4%)</td>
</tr>
<tr>
<td>18-29</td>
<td>288 (34.1%)</td>
<td>249 (35.0%)</td>
</tr>
<tr>
<td>30-39</td>
<td>358 (42.4%)</td>
<td>301 (42.3%)</td>
</tr>
<tr>
<td>40-49</td>
<td>163 (19.3%)</td>
<td>137 (19.3%)</td>
</tr>
<tr>
<td>50 and over</td>
<td>31 (3.7%)</td>
<td>21 (3.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual orientation</th>
<th>Since July 2022 (n = 844)</th>
<th>Since July 2023 (n = 711)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual</td>
<td>60 (7.1%)</td>
<td>36 (5.1%)</td>
</tr>
<tr>
<td>Men who have sex</td>
<td>686 (81.3%)</td>
<td>600 (84.4%)</td>
</tr>
<tr>
<td>with men (MSM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>14 (1.7%)</td>
<td>13 (1.8%)</td>
</tr>
<tr>
<td>Other</td>
<td>26 (3.1%)</td>
<td>24 (3.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>58 (6.9%)</td>
<td>38 (5.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recent travel</th>
<th>Since July 2022 (n = 844)</th>
<th>Since July 2023 (n = 711)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45 (5.3%)</td>
<td>14 (2.0%)</td>
</tr>
<tr>
<td>No</td>
<td>791 (93.7%)</td>
<td>695 (97.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>8 (0.9%)</td>
<td>2 (0.3%)</td>
</tr>
</tbody>
</table>
Dengue

**Bangladesh**

- During week seven (12 to 18 February 2024), a total of 54 new dengue cases were reported in Bangladesh, a 47.6% decrease compared to 103 cases reported during week six (5 to 11 February 2024).
- During week seven, no new dengue deaths were reported in Bangladesh. One new case was reported during week six.
- As of 18 February 2024, a total of 223 dengue cases including two dengue-related deaths were reported during the month of February.
- During 2024 (as of 18 February), a total of 1278 dengue cases including 16 dengue-related deaths have been reported. This is twice the number of cases reported during the same period in 2023 (n=654).
- In the year 2023, a total of 321,179 dengue cases and 1705 dengue-related deaths were reported with a case fatality rate of 0.53%. This represents a 5.1 and 6.1 times increase in cases and deaths, respectively compared to those reported in 2022 (n=62382 and n=281, respectively (CFR=0.45%)).

Figure 8. Number of new cases of, and deaths from dengue by month in Bangladesh from January 2019 to 18 February 2024


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13 [https://old.dghs.gov.bd/images/docs/vpr/20240121_dengue_all.pdf](https://old.dghs.gov.bd/images/docs/vpr/20240121_dengue_all.pdf)
Maldives

- No new data are available. Please refer to previous versions of the South-East Asia Epidemiological Bulletin for prior epidemiological information.

Nepal

- During week six (5 to 11 February 2024), a total of 47 new dengue cases were reported via sentinel surveillance through the Early Warning and Reporting System (EWARS) in Nepal, a 14.6% increase compared to 41 cases reported during week five (29 January to 4 February 2024).
- In 2023, a total of 21,954 dengue cases were reported via EWARS compared to 22,865 cases in 2022.

Figure 9. Number of new cases of dengue by week reported by the Early Warning and Reporting System (EWARS) in Nepal from January 2018 to 11 February 2024


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Sri Lanka

- During week six (5 to 11 February 2024), a total of 1787 new dengue cases were reported in Sri Lanka, a 10.3% decrease compared to 1993 cases reported during week five (29 January to 4 February 2024).
- During 2024, as of 18 February, 14,646 cases have been reported.

Figure 10. Number of new suspected cases of dengue by week in Sri Lanka from January 2017 to 11 February 2024

Sources: Epidemiology Unit and National Dengue Control Unit, Ministry of Health. 
https://lookerstudio.google.com/reporting/95b978f1-5c1a-44fb-a436-e19819e939c0/page/XRtTB (2021 to 2024)
During February 2024, a total of 2450 dengue cases (inclusive of dengue (n=1790, 73.1%), dengue hemorrhagic fever (DHF) (n=644, 26.3%) and dengue shock syndrome (DSS) (n=16, 0.7%)) and one dengue death due to DHF were reported in Thailand.

During 2024, a total of 13,347 cases including 11 deaths (CFR=0.08%) have been reported.

In 2023 a total of 159,219 cases and 179 deaths (CFR=0.11%) were reported, the highest since 2018, surpassing the numbers seen in 2019 when 131,157 cases and 142 deaths were reported.

Figure 11. Number of new dengue cases and deaths by month in Thailand from January 2018 to January 2024
Influenza
Status as of 18 February 2024

- According to the data submitted to the FluMart of the Global Influenza Surveillance and Response system (GISRS), in the WHO South-East Asia Region, an increase in transmission of seasonal influenza was observed from late June 2023 (with a weekly test positivity of 7%) until the epidemiological week 37 in 2023 (11 to 17 September) (with a weekly test positivity of 33%). Since then, it has been in a steady decline.

- In epidemiological week 6 in 2024 (5 to 11 February), the weekly test positivity was at 7.4% and the most frequently reported strains were influenza B (Victoria lineage), influenza A/H3 and A/H1N1pdm09 (Figure 1).

- During week 4 in 2024, the proportion of respiratory samples collected at influenza sentinel surveillance sites in the selected countries that tested positive for COVID-19 ranged from 4.2% (Bangladesh) to 31.8% (Indonesia) (Figure 2).

- Data sources and information on influenza, including updates of integrated surveillance of SARS-CoV-2 using influenza sentinel surveillance systems, are available at WHO SEARO Influenza dashboard.

Figure 12. Number of specimens positive for influenza by subtypes and the influenza test positivity in WHO South-East Asia Region during 2023 and 2024 (as of week beginning 5 February 2024) 17

17 Data exclude that of Timor Leste.