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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Key events and updates

Public Health Situation Analysis (PHSA) for the 2023 El Niño climate event

https://www.who.int/publications/m/item/public-health-situation-analysis--el-ni-o-(october-december-2023)

- WHO released the public health situation analysis (PHSA) for the 2023 El Niño climate event, covering the period from October to December 2023.
- The current El Niño event was first declared in June 2023. Since the first El Niño Public Health Situation Analysis published in July 2023, evolving climate forecasts have warranted an update to this document.
- In the past three months, several of the predicted weather-related health consequences associated with El Niño appears to be taking place. These have included a large dengue outbreak in Bangladesh, widespread flooding in northern India, and increases in wildfires and associated air pollution in Indonesia.

This document is organized around several main themes:
- a description of the El Niño climate pattern and the sub-regions and locations most likely to be affected;
- the anticipated health risks, their anticipated relative importance, and rationale for their inclusion;
- the anticipated influence of El Niño on key determinants of health;
- a discussion of the availability of health resources and services relevant to the response to health threats associated with El Niño, and potential threats to health infrastructure itself; and
- an overview of the humanitarian health response being undertaken to mitigate the aforementioned risks.

- In the coming months, the most severe health risks are likely to arise from malnutrition due to ongoing food insecurity, compounded by the effects of El Niño. Other very high risks include cholera and other waterborne diseases; heat stress and air pollution; malaria; and arboviral diseases such as dengue, Zika virus disease, and chikungunya.
- WHO acts as part of an UN-wide coordination and monitoring mechanism for El Niño, and supports countries through programmatic work to address key health threats, and via direct support to countries. WHO and partners already have emergency response plans in place in many crisis-affected countries projected to be most affected by El Niño, and are supporting local authorities to mitigate these effects.

South-East Asia
- The latest seasonal forecasts indicate a particularly high likelihood of below-normal rainfall in Indonesia, and Timor-Leste. Increased risk of transmission of dengue and other arboviruses (such as chikungunya and Zika) is expected, as dry conditions are likely to increase Aedes mosquito breeding sites through increased peri-domestic water storage, and higher temperatures reduce the viruses’ extrinsic latent period. There is a projected very high risk of dengue in Indonesia and Myanmar, and a high risk in Timor-Leste.
- El Niño is associated with warmer temperatures throughout the region, increasing the likelihood of heatwaves. People with chronic diseases that take daily medications have a greater risk of complications and death during a heatwave, as do older people and children.

South Asia
- From October to December, El Niño is usually associated with higher levels of rainfall in parts of Sri Lanka and the southern portion of India. Current forecasts do suggest higher rainfall is expected in southwestern areas during this period. Very high levels of rainfall have already been reported in northern India this summer, leading to widespread flooding in Himachal Pradesh and Uttarakhand; these may or may not be linked directly to the effects of El Niño.
- Flooding will lead to challenges to access to safe drinking water and will likely increase the impact of water-borne diseases such as cholera.
- Higher temperatures and increased creation of breeding sites for Aedes mosquitoes can contribute to the exacerbation of ongoing dengue and chikungunya outbreaks.

1 https://cdn.who.int/media/docs/default-source/2021-dha-docs/phsa-el-nino-2023_final_na.pdf?sfvrsn=5320f5cd_3&download=true
**Nipah Virus Disease in India**

A Disease Outbreak News (DON) article was published on 3 October 2023 and accessible at [https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON490](https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON490)

**Situation overview**

- Six laboratory-confirmed cases including two deaths due to Nipah virus infection were reported in Kozhikode district of Kerala State, between 12 and 15 September 2023.
- No new case has been reported since 15 September 2023.
- As of 5 October, all contacts\(^3\) have completed their 21 days of quarantine.

**Country response**

- The Department of Health and Family Welfare, State Government of Kerala, with support from the Ministry of Health and family Welfare, Government of India continue to monitor the situation.
- Enhanced surveillance including community-based surveillance is ongoing. From 5 October, the district control room will continue its operation for another 21 days.

**Additional resources on Nipah virus infection**

WHO Fact Sheet on Nipah virus infection [https://www.who.int/news-room/fact-sheets/detail/nipah-virus](https://www.who.int/news-room/fact-sheets/detail/nipah-virus)

WHO’s work on Nipah virus infection [https://www.who.int/health-topics/nipah-virus-infection#tab=tab_1](https://www.who.int/health-topics/nipah-virus-infection#tab=tab_1)

WHO Nipah Research and Development (R&D) Roadmap [https://www.who.int/publications/m/item/nipah-research-and-development-(r-d)-roadmap](https://www.who.int/publications/m/item/nipah-research-and-development-(r-d)-roadmap)

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\(^2\) [https://www.prd.kerala.gov.in/ml/node/232048](https://www.prd.kerala.gov.in/ml/node/232048)

\(^3\) [https://www.prd.kerala.gov.in/ml/node/234117](https://www.prd.kerala.gov.in/ml/node/234117)
COVID-19

Status as of 15 October 2023

- The WHO South-East Asia Region has recorded a cumulative total of 61,206,803 COVID-19 cases, including 806,796 deaths. In the WHO South-East Asia Region, from 8 to 15 October 2023, 461 new cases and six new deaths are reported, a decrease of 9.1% and 14.3%, respectively, as compared to the previous week.

- Between 8 to 15 October 2023, India (260 new cases, -10.3%), Thailand (124 new cases, -5.3%), Bangladesh (54 new cases, -1.8%), Myanmar (17 new cases, -37.0%) reported a decrease in the number of new cases while Sri Lanka (three new cases, +200.0%) reported increase in new cases compared to the previous week. Nepal has reported three new cases, which is the same number as the new cases reported in previous week. Bhutan has not reported any new case during the same period. Data were not available from Indonesia, Maldives and Timor-Leste for this period.

- Globally, 771,191,203 COVID-19 cases, including 6,961,014 deaths have been cumulatively reported, as of 12 October 2023. From 2 to 8 October 2023, 51,897 new cases and 151 new deaths were reported, a decrease of 44.7% and 61.8%, respectively, as compared to the previous week.

- Please refer to the WHO SEARO COVID-19 dashboard for further information of COVID-19 in WHO South-East Asia Region.

Table 1. COVID-19 cases, deaths, and the weekly change in countries in the WHO South-East Asia Region in the week from 8 to 15 October 2023

<table>
<thead>
<tr>
<th>Country</th>
<th>Cumulative cases</th>
<th>New cases (last 7 days)</th>
<th>% change in new cases</th>
<th>New cases per 1M pop</th>
<th>Cumulative deaths</th>
<th>New deaths (last 7 days)</th>
<th>% change in new deaths</th>
<th>New deaths per 1M pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>44,999,568</td>
<td>260</td>
<td>-10.3</td>
<td>0.2</td>
<td>532,037</td>
<td>3</td>
<td>50.0</td>
<td>0</td>
</tr>
<tr>
<td>Thailand</td>
<td>4,757,720</td>
<td>124</td>
<td>-5.3</td>
<td>1.6</td>
<td>34,482</td>
<td>3</td>
<td>-40.0</td>
<td>0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2,045,843</td>
<td>54</td>
<td>-1.8</td>
<td>0.3</td>
<td>29,477</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Myanmar</td>
<td>641,324</td>
<td>17</td>
<td>-37.0</td>
<td>0.3</td>
<td>19,494</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Nepal</td>
<td>1,003,447</td>
<td>3</td>
<td>0.0</td>
<td>0.1</td>
<td>12,031</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>672,593</td>
<td>3</td>
<td>200.0</td>
<td>0.1</td>
<td>16,682</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Bhutan</td>
<td>62,697</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>21</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6,813,429</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>161,918</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Maldives</td>
<td>186,694</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>316</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>23,460</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>138</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SEAR total</td>
<td>61,206,803</td>
<td>461</td>
<td>-9.1</td>
<td>NA</td>
<td>806,796</td>
<td>6</td>
<td>-14.3</td>
<td>NA</td>
</tr>
</tbody>
</table>

Percent change in the number of newly confirmed cases/deaths in past seven days, compared to previous week. NA = data not available.

DPR Korea has not reported confirmed COVID-19 cases. India data excludes 200 cases reconciled in Madhya Pradesh released on 5 October 2023 by MOHFW India.

Thailand data were for the period from 8 to 14 October 2023 in comparison to the preceding week.

Maldives data as of 5 August, Timor-Leste data as of 11 August and Indonesia data as of 13 September 2023

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4 Data as of 2.09pm CEST, 12 October 2023 link: [https://covid19.who.int/]
Figure 1. Weekly number of new COVID-19 cases reported during the previous eight weeks (21 August to 15 October 2023) in the WHO South-East Asia Region

*Week ending on 8 October also includes India 200 new cases reconciled for Madhya Pradesh released on 5 October 2023 by MOHFW India. Maldives and Timor-Leste data are not available. Indonesia data as of 13 September 2023.

Figure 2. Weekly number of SARS-CoV-2 positive samples and test positivity from integrated influenza-SARS-CoV-2 sentinel surveillance systems in the previous seven weeks (14 August to 2 October 2023) in selected counties* (as of 8 October 2023)

* Countries routinely conducting SARS-COV-2 testing of the samples collected through influenza sentinel surveillance sites (Bangladesh, Bhutan, Indonesia, Nepal and Timor-Leste).
Figure 3. Number of weekly new COVID-19 cases per 100 000 population in the previous eight weeks (21 August to 15 October 2023) in countries in the WHO South-East Asia Region *

* DPR Korea has reported no confirmed COVID-19 case. Indonesia data as of 13 September 2023. Week ending on 8 October also includes India 200 new cases reconciled for Madhya Pradesh released on 5 October 2023 by MOHFW India.
SARS-CoV-2 variants in the South-East Asia Region

- As of 14 October 2023, the sequence data submitted to GISAID in the last 60 days by date of collection are as follows (Figures 4a and 4b). Only a small number of sequences has been submitted from the Region and therefore the data should be interpreted with caution.
  - In India, XBB.2.3* continues to account for the highest percentage of sequences submitted (63.0%, n=68) followed by XBB.1.16* (29.6%, n=32). Five sequences of EG.5* (4.6%) were submitted.
  - In Thailand, XBB.1.16* continued to account for the majority of sequences submitted (36.1%, n=70), followed by XBB.2.3* (20.1%, n=39) and XBB.1.9.1* (11.9%, n=23). A total of 20 sequences of EG.5* (10.3%) were submitted.
  - Other countries have not submitted sequences recently to GISAID.
- For more information SARS-CoV-2 variants, please see the global epidemiological update and updated risk evaluation of EG.5.

Figure 4a. Number of Omicron sub-lineage sequences submitted to GISAID within the past 30 and 31-60 days as of 14 October 2023 by date of collection (countries with recent submissions)

*indicates the sub-lineage of each variant.

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

XBB* excludes XBB.1.16*, XBB.1.5*, XBB.1.9.1, XBB.1.9.2 and XBB.2.3*

EG.5* is a sub-lineage of XBB.1.9.2


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https://www.who.int/publications/m/item/covid-19-epidemiological-update---29-september-2023
https://www.who.int/docs/default-source/coronaviruse/eg5-risk-evaluation.pdf?sfvrsn=6e9690e0_6
**mpox**

Status as of 15 October 2023

- In the WHO South-East Asia Region, a total of 525 laboratory-confirmed mpox cases, including two deaths, have been verified since 14 July 2022 (Figure 5). This week, one new mpox case was reported from Indonesia. Table 2 summarizes the basic epidemiological profile of the reported mpox cases in the Region.

**Figure 5. Number of mpox cases reported in WHO South-East Asia Region by date of notification* (14 July 2022 – 15 October 2023)**

![Graph showing number of mpox cases by date of notification](image)

* Notification - The date on which the case is notified to the public health authority.

**Table 2. Profile of the 525 confirmed mpox cases reported in WHO South-East Asia Region since July 2022 (as of 15 October 2023)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>27</td>
<td>5.1%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2</td>
<td>0.4%</td>
</tr>
<tr>
<td>Nepal</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>4</td>
<td>0.8%</td>
</tr>
<tr>
<td>Thailand</td>
<td>491</td>
<td>93.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>525</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>29</td>
<td>5.5%</td>
</tr>
<tr>
<td>Male</td>
<td>495</td>
<td>94.3%</td>
</tr>
<tr>
<td>Transgender</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>525</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age group</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 18</td>
<td>2</td>
<td>0.4%</td>
</tr>
<tr>
<td>18-29</td>
<td>165</td>
<td>31.4%</td>
</tr>
<tr>
<td>30-39</td>
<td>229</td>
<td>43.6%</td>
</tr>
<tr>
<td>40-49</td>
<td>107</td>
<td>20.4%</td>
</tr>
<tr>
<td>50 and over</td>
<td>22</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>525</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual orientation</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual</td>
<td>48</td>
<td>9.1%</td>
</tr>
<tr>
<td>Men who have sex with men (MSM)</td>
<td>422</td>
<td>80.4%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>6</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0.6%</td>
</tr>
<tr>
<td>Unknown</td>
<td>46</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

For more information on the global situation of mpox outbreak, please visit the [global dashboard](#).
Dengue

**Bangladesh**

- A total of 239,614 dengue cases (defined as dengue NS1 or anti-dengue virus IgM positive) including 1,169 deaths have been cumulatively reported between 1 January and 15 October 2023 with a case fatality rate (CFR) of 0.49%.
- During September 2023, a total of 79,598 cases including 396 deaths have been reported. This is the highest number of monthly cases and deaths, compared with the available historical data from 2019 to 2023 (Figure 6).
- A total of 16,050 cases of dengue were reported in Bangladesh during week 41 (9 to 15 October 2023), a 7.1% decrease compared to the number of cases reported during week 40 (2 to 8 October 2023) (n=17,276). The number of new deaths increased by 3.8% (n=83 in week 41 compared to n=80 in week 40).

**Figure 6. Number of new cases of, and deaths from dengue by month in Bangladesh from January 2019 to 30 September 2023**


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8 [https://old.dghs.gov.bd/images/docs/vpr/20231001_dengue_all.pdf](https://old.dghs.gov.bd/images/docs/vpr/20231001_dengue_all.pdf)
9 [https://www.who.int/bangladesh/emergencies/dengue-update-2023](https://www.who.int/bangladesh/emergencies/dengue-update-2023)
**Maldives**

- Between January and September 2023, a total of 2,707 cases of dengue have been reported in Maldives compared to 1,548 cases reported during the same period in 2022, an increase of 75%.
- A total of 288 new cases of dengue were reported in September 2023, representing an 11.9% decrease compared to August 2023 (n=327) and a 10.8% increase compared to the number reported in September 2022 (n=260) (Figure 7).

![Number of new cases of dengue by month in Maldives from January 2022 to September 2023](https://health.gov.mv/en/publications?search=Monthly&category=&department=)


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Between 1 January and 13 October 2023, 39,360 cases of dengue including 20 confirmed deaths (CFR=0.05%) have been reported from 76 districts in Nepal.

The highest cumulative number of cases and case incidence have been reported from Sunsari district, Koshi province (16,096 cases (40.9% of the total), 1,811.1 cases per 100,000). The second highest number of cumulative cases and case incidence have been reported from Tanahun district, Gandaki province (5,050 cases (12.8% of the total), 1,472 cases per 100,000).

A total of 1,755 cases of dengue were reported in Nepal during week 40 (1 to 7 October 2023) via the Early Warning Reporting System (EWARS), an 8.4% increase compared to week 39 (24 to 30 September, n=1,619) (Figure 8).

Figure 8. Number of new cases of dengue by week reported by the Early Warning Reporting System (EWARS) in Nepal from January 2018 to 7 October 2023


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**Sri Lanka**

- As of 22 September, a total of 64,109 cases of dengue have been reported in Sri Lanka in 2023, 1.1 times higher than the 57,454 cases reported until the end of week 38 in 2022 (25 September).
- A total of 624 cases of dengue were reported in Sri Lanka in week 38 (16 to 22 September 2023), a 11.1% decrease compared to week 37 (9 September to 15 September, n=702) (Figure 9).

*Figure 9. Number of new cases of dengue by week in Sri Lanka from January 2018 to 22 September 2023 (week 36)*

Sources: Epidemiology Unit and National Dengue Control Unit, Ministry of Health.

As of 6 October, a total of 110 809 dengue cases (inclusive of dengue fever (76.2%, n=84 392), dengue haemorrhagic fever (23.0%, n=25 529) and dengue haemorrhagic fever shock syndrome (0.8%, n=898) and 107 dengue deaths (inclusive of dengue fever (11.2%, n=12), dengue haemorrhagic fever (23.4%, n=25) and dengue haemorrhagic fever shock syndrome (65.4%, n=70)) (CFR=0.1%) were reported in Thailand in 2023. Between 2018 and 2023, this is the second highest number of cumulative cases reported from January to September after 2019 (n=131 157).

In September, a total of 18 604 cases of dengue were reported, 2.5 times higher than the mean number of cases reported in September between 2018 and 2022 (n=7584)(Figure 10).

In September, 18 deaths due to dengue were reported, representing a 3.3 fold increase compared to the mean number of deaths reported in September between 2018 and 2022 (n=5.4) (Figure 10).

Of the 110 809 cases reported until 6 October in 2023, 50.8% (n=56 319) were male. Those aged five to 14 years comprised the higher percentage of cases (n=38 919, 35.1%) followed by those aged 15 to 24 years (n=25 094, 22.6%).

**Influenza**

**Situation of influenza in WHO South-East Asia Region**

Status as of 16 October 2023

- From the week starting on 26 June 2023, in the WHO South-East Asia Region, an increase in transmission of seasonal influenza has been observed. The percentage of specimens positive for influenza has ranged from 18.9% to 25.9% in the region, from week starting from 14 August to week starting on 2 October 2023. The most frequently circulating strains overall in the WHO SE Asia region were influenza A/H3, A/H1N1pdm09 and influenza B Victoria (Figure 1).

- The increases were primarily driven by Bangladesh and Thailand. However, in Bangladesh, from the week starting on 14 August to the week starting on 2 October 2023, the percentage of specimens positive for influenza decreased from 35% (n=148) to 8% (n=18) demonstrating a steady declining trend (Figure 12). The transmission in Bangladesh was primarily driven by influenza subtype B Victoria followed by influenza A/H3 and A/H1N1 pdm09 (Figure 12).

- In Thailand, the percentage of specimens positive for influenza increased from 29% (in the week starting on 14 August) to 33% (in the week starting on 2 October). The most frequently circulating strains was the subtype A/H1N1 pdm09 followed by A/H3 and a significant number of un-subtyped influenza B, while the proportion of A/H3 has increased in the recent weeks (Figure 13).

- From the week starting on 14 August to the week starting on 2 October 2023, the proportion of respiratory samples collected at influenza sentinel surveillance systems in these countries that tested positive for COVID-19 varied from 2.2% to 0.9% (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 11. Number of specimens positive for influenza by subtypes and the influenza test positivity in WHO South-East Asia Region (as of 8 October 2023)**
Figure 12. Number of specimens positive for influenza by subtypes and the influenza test positivity in Bangladesh 2023 (as of 8 October 2023)

Figure 13. Number of specimens positive for influenza by subtypes and the influenza test positivity in Thailand 2023 (as of 8 October 2023)
Global situation of influenza
Status as of 8 October 2023

- Globally, influenza detections remained low as per data reported until 8 October 2023 with activity in many countries in the southern hemisphere now decreasing after having peaked in previous weeks.
  - The global situation of low detection continued. The percentage of specimens positive for influenza slightly increased from 2.5% (n=3 615 /129 413) in the week 32 (the week starting on 7 August 2023) to 3.8% (n=335/63 863) in the week 40 (the week starting on 2 October 2023) (Figure 14).

- The WHO GISRS laboratories tested 89 019 specimens during the period from 2 to 8 October 2023 (Week 40). Total 3 335 specimens were positive for influenza viruses, of which 2 800 (83%) were typed as influenza A and 554 (17%) as influenza B.
  - Of the sub-typed influenza A viruses, 747 (27%) were influenza A/H1N1pdm09 and 1 256 (45%) were influenza A/H3N2. Of the type B viruses for which lineage was determined, 366 (66%) belonged to the B/Victoria lineage and 244 (44%) were unsub-typed.

Figure 14. Number of specimens positive for influenza by subtypes and the influenza test positivity globally (as of 8 October 2023)