**Update on the Dengue situation in the Western Pacific Region**

This report describes the epidemiology of dengue in the World Health Organization Western Pacific Region. Data are compiled from open sources (national indicator-based surveillance systems) with the exception of Cambodia, Lao People’s Democratic Republic, Viet Nam, and the Philippines, where data are provided by the WHO Country Offices. For the Pacific Island Countries, syndromic surveillance data are provided by the Division of Pacific Technical Support. Information is reported based on countries’ standard dengue case definitions, summary of these definitions and countries’ dengue surveillance systems - included as an annex to this report. Due to differences in surveillance methods and reporting practices, a comparison of trends between countries and areas is not possible, however, national trends can be observed over time.

**Northern Hemisphere**

**Cambodia**

As of epidemiological week 27 of 2024, the National Dengue Surveillance System reported a total of 7,058 cases with 24 deaths (Case Fatality Rate (CFR) 0.34%) since 1 January 2024 (Figure 1). This is lower compared to the number reported in 2023 for the same period, with 7,838 cases and 18 deaths.

![Weekly Dengue Case-Reported in Cambodia 2024](image)

**Figure 1: Dengue cases reported weekly in 2024 vs endemic and epidemic alert lines in Cambodia;**

*Source: National Dengue Surveillance System (NDCP/CNM/MOH)*
China
There is no update for this reporting period. There has been a total of 274 dengue cases and no death reported since the beginning of 2024 (Figure 2).

![Figure 2: Dengue cases reported monthly from 2015-2024 (as of May) in China](source: National Disease Control and Prevention Administration, China)

Lao People’s Democratic Republic
In epidemiological week 28 of 2024 (8 to 14 July 2024), 890 dengue cases and zero deaths were reported (Figure 3). The number of reported cases is higher than the numbers reported in epidemiological week 27 (818 cases with three deaths), and lower than those in week 28 of 2023 (2 037 cases with one death). The cumulative number of cases reported in 2024 (as of epidemiological week 26) is 6 653. This is a 34.9% decrease compared to the 10 212 cases reported during the same period in 2023.

![Figure 3: Dengue cases reported weekly from 2018-2024 in Lao PDR](source: National Centre for Laboratory and Epidemiology, Ministry of Health, Lao PDR)
Malaysia
During epidemiological week 28 of 2024 (7 to 13 July 2024), a decrease of 432 cases (14.4%) was reported with 2 373 cases as compared to 2 805 cases reported in the previous week (Figure 4). The cumulative number of dengue cases reported up to week 28 of 2024 is 80 441 cases, which is an increase of 25.8% compared to 63 966 cases for the same period in 2023. 65 dengue-related deaths were reported up to week 28 of 2024, compared to 45 deaths for the same period in 2023.

![Figure 4: Dengue cases reported weekly from 2023, 2024 and median 2019-2023 in Malaysia](Source: Department of Health, Malaysia)

Philippines
There is no update for this reporting period. During epidemiological Week 48 (26 November to 2 December 2023), there were 2 607 new dengue cases reported, a 41% decrease compared to the same period in 2022 (n=4 415 cases) (Figure 5). As of 2 December 2023, a total of 195 603 dengue cases have been reported. The number of cases is 23% lower compared to the same period in 2022 (n=252 700). From 1 January to 2 December 2023, there have been 657 deaths (CFR 0.34%) as compared to 894 deaths (CFR 0.35%);) reported in the same period in 2022.

![Figure 5: Dengue cases reported weekly from 2022 and 2023 in the Philippines](Source: Department of Health, the Philippines)

(Note: there is a 3-4 week systematic delay in reporting and numbers should be interpreted with caution)
Singapore
In epidemiological week 28 (7 to 13 July 2024), a total of 291 dengue cases were reported in Singapore. Cumulatively, a total of 9 874 cases (Figure 6) have been reported as of 13 July 2024. When compared to the same period in 2023 (4 792 cases), there has been a 106% increase in cases reported in 2024. Preliminary results of all positive dengue samples serotyped in June 2024 showed DEN-1, DEN-2, DEN-3 and DEN-4 at 8.5%, 52.2%, 33.2% and 6.1% respectively.

![Graph showing dengue cases in Singapore](image1)

**Figure 6:** Dengue cases reported weekly from 2019-2024 (as of 13 July 2024) in Singapore
*Source: Communicable Diseases Division, Ministry of Health, Singapore* (Note: Case numbers are derived from the MOH Singapore’s weekly-infectious-disease-bulletin-year-2024_upload as available from MOH | Weekly Infectious Diseases Bulletin)

Viet Nam
In epidemiological week 29 (15 to 21 July 2024), a total of 2 957 cases and no deaths were reported in Viet Nam, a decrease by 2.9% compared to 3 044 cases in the previous week. Cumulatively, 39 940 dengue cases including three deaths have been reported as of 21 July 2024. Compared to the same period in 2023, the number of cumulative cases decreased by 30.4%, and the number of deaths decreased by eight cases.

![Graph showing dengue cases in Viet Nam](image2)

**Figure 7:** Number of dengue hospital admissions and deaths by week in 2024 compared to 2023, as of week 29, 2024, Viet Nam
*Source: General Department of Preventive Medicine, Ministry of Health, Viet Nam*
Note hospitalizations include inpatients and outpatients
The alert threshold is a 5-year mean plus 2 standard deviations.
Southern Hemisphere

Australia
In June 2024, a total of 232 dengue cases were reported in Australia. As of 30 June 2024, the cumulative number of dengue cases is 1,336, which is more than 2.5 times higher than the same period in 2023 (496 cases). (Figure 7).

Pacific Islands Countries
New Caledonia
There is no update for this reporting period. From 1 January to 30 June 2024, eight confirmed dengue cases were reported in New Caledonia (Figure 8). This is higher compared to the same period in 2023, when a total of five dengue cases were reported. Of the eight dengue cases in 2024, two were locally acquired confirmed cases, and the serotypes of the cases were DENV-1 and DENV-2, respectively. There is no ongoing epidemic.
Pacific Island Countries and Areas (PICs) – Dengue-like illness (DLI) Surveillance
Among the PICs with available surveillance data (18/21 PICs), an upward trend of DLI cases was reported in French Polynesia in week 28 (ending 14 July), and a downward trend of DLI cases was reported in Fiji, Samoa and Vanuatu. The remaining PICs reported either no or low numbers of DLI cases or provided no updates (Figure 9).
Figure 9. Reported cases of dengue-like illness in Pacific Islands Countries and Areas

Source: WHO Division of Pacific Technical Support

Note: Caution should be taken in interpreting these data as there may be changes in the number of sentinel sites reporting to the Pacific Syndromic Surveillance System (PSSS). Furthermore, the syndromic case definition of DLI may capture cases with non-dengue acute febrile illnesses (AFI) with similar clinical manifestations to dengue. This includes AFI such as chikungunya, influenza, hantavirus, leptospirosis, malaria, measles, paratyphoid and typhoid fevers, scrub typhus, yellow fever, zika, other diseases. The PSSS may also capture dengue cases under ‘prolonged fever’ surveillance. Alert threshold for DLI is twice the average number of cases seen in the previous 3 weeks.
### Annex 1. Summary of dengue case definitions, laboratory sampling and testing methods used for surveillance in Member States

<table>
<thead>
<tr>
<th>Country</th>
<th>Case definition</th>
<th>Surveillance system</th>
<th>Laboratory sampling and testing method</th>
<th>Reference</th>
</tr>
</thead>
</table>
| Australia | Fever, headache, arthralgia, myalgia, rash, nausea and vomiting | Yes | Dengue is a nationally notifiable disease and cases are monitored through the National Notifiable Diseases Surveillance System (NNDSS) indicator-based surveillance system. | Both confirmed and probable cases are nationally notifiable. A confirmed case requires both laboratory definitive evidence and clinical evidence. A probable case requires either laboratory suggestive evidence and clinical evidence and epidemiological evidence, or clinical evidence and household epidemiological evidence. Laboratory definitive evidence:  
  - Isolation of dengue virus, or  
  - Detection of dengue virus by nucleic acid testing, or  
  - Detection of NS1 antigen in the blood by EIA, or  
  - IgG seroconversion or significant increase in antibody level fourfold or greater rise in titre to dengue virus (proof by neutralization or another specific test)  
  - Detection of dengue virus-specific IgM in cerebrospinal fluid, in the absence of IgM to Murray valley encephalitis, West Nile virus/Kunjin, or Japanese encephalitis viruses. Laboratory suggestive evidence:  
  - Detection of NS1 antigen in blood by rapid antigen test, or  
  - Detection of dengue virus-specific IgM in blood  
Epidemiological evidence:  
  - Exposure between 3 – 14 days prior to onset either in a country with known dengue activity or in a dengue-receptive area in Australia where a locally-acquired or imported case has been documented with onset within a month. | 1 |
<table>
<thead>
<tr>
<th>Country</th>
<th>Suspected dengue: very high fever at 39-40 degrees celcius for 2-7 days (usually 3-4 days), with 2 or more of the following signs: flushed face, headache, retro-orbital pain, myalgia/arthritis, cutaneous rash, haemorrhagic signs (petechiae, positive tourniquet test), and leucopenia. Probable dengue: signs of suspected dengue plus laboratory test results (see right column) or that the case occurred in an area where the dengue case has been confirmed.</th>
<th>National Dengue Control Program (NDCP) enhanced sentinel surveillance system</th>
<th>Data collected for Cambodia Laboratory Information System (CamLIS), comprised of 32 participating hospital laboratories where NS1 detection is conducted.</th>
<th>Laboratory testing: Antibody HI&gt;= 1/1280 or IgM/IgG positive by ELISA test in convalescence serum</th>
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<tbody>
<tr>
<td>Cambodia</td>
<td>Yes</td>
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</table>
| China | 1) Typical dengue fever can be diagnosed with any of the following conditions:  
- General clinical symptoms of dengue fever, with an epidemiological history (having been to an area where dengue fever is prevalent within 14 days before onset), or living or working in an area where dengue fever cases have occurred within the past month, and with reduced white blood cell count and platelet count (below 100x10^9/L)  
- No epidemiological history, but with a rash, bleeding tendency, and positive IgG or IgM antibodies in a single serum sample. | Reported to the Chinese Centre for Disease Control and Prevention (China CDC) through the Chinese National Notifiable Infectious Disease Reporting Information System (CNNDIS). | A clinically diagnosed case with any of the of the following laboratory findings:  
- Isolation of the dengue virus from the serum, cerebrospinal fluid, blood cells, or tissues of an acute-phase patient  
- Detection of dengue virus gene sequence by RT-PCR or real-time fluorescent quantitative PCR  
- Detection of dengue virus NS1 antigen in serum from an acute-phase patient  
- A fourfold or greater increase in specific antibody titer in the convalescent phase compared to the acute phase. | 3, WHO internal communication |
2) Dengue Hemorrhagic Fever can be diagnosed when accompanied by any of the following clinical symptoms:
- Bleeding tendency, significant bleeding manifestations (such as gastrointestinal bleeding or hemorrhage in the chest, abdomen, or cranium), hepatomegaly, and ascites; and
- Laboratory findings including thrombocytopenia (platelet count below 100x10^9/L), hemoconcentration (an increase in hematocrit of more than 20% above normal levels or a decrease of more than 20% after fluid resuscitation), and hypoalbuminemia.

3) Dengue Shock Syndrome: Patients with dengue hemorrhagic fever presenting with cold and clammy skin, restlessness, rapid and weak pulse, low blood pressure with a narrow pulse pressure (less than 20mmHg or 2.7kPa), and reduced urine output.

<table>
<thead>
<tr>
<th>Country</th>
<th>WHO dengue case classification (2009) †</th>
<th>National Surveillance System for Notifiable Selected Diseases, indicator-based surveillance system that consists of passive weekly reports of clinically suspected cases, on admission, from all health-care facilities across the country.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lao People's Democratic Republic</td>
<td>Who dengue case classification</td>
<td>No</td>
</tr>
<tr>
<td>Malaysia</td>
<td>WHO dengue case classification</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>WHO dengue case classification</td>
<td>Yes</td>
</tr>
<tr>
<td>Country (endemic)</td>
<td>Symptoms required for more severe forms are not listed.</td>
<td>Severe dengue</td>
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<tr>
<td>Singapore (endemic)</td>
<td>Fever, headache, backache, myalgia, rash, abdominal discomfort and thrombocytopenia and laboratory testing (see right column)</td>
<td>Yes</td>
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<tr>
<td>Viet Nam (endemic)</td>
<td>Acute onset of fever continuously lasting from 2-7 days AND at least 2 of the following: haemorrhagic manifestation /presentation; headache, loss of appetite, nausea, vomiting; rash; muscle pain, joint pain, orbital pain; lethargy; abdominal pain.</td>
<td>No</td>
</tr>
<tr>
<td>Pacific Island Countries</td>
<td>WHO dengue case classification (2009)†</td>
<td>No</td>
</tr>
</tbody>
</table>

Only the minimum criteria required for fulfilling a clinical dengue case definition are included here; additional signs and symptoms required for more severe forms are not listed.

† A probable dengue case is defined as any case living in or travel to dengue endemic area with fever and two or more of the following: nausea, vomiting, rash, aches and pains, positive tourniquet test, leucopenia and any warning sign. A case with warning signs is defined as a clinically diagnosed case with any of the following: abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleed, lethargy, restlessness, liver enlargement > 2 cm and increase in haematocrit concurrent with rapid decrease in platelet count. Severe dengue is defined as severe plasma leakage leading to any of the following: shock, fluid accumulation with respiratory distress OR severe bleeding as evaluated by clinician OR severe organ involvement of liver (aspartate amino transferase or alanine amino transferase ≥ 1000), central nervous system (impaired consciousness) or heart and other organs.10

References:

Dengue Situation Update 703 | 12