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 22 of 2024, the National Dengue Surveillance System reported a total of 5 927 cases with 22 deaths (Case Fatality Rate (CFR) 0.37%) since 1 January 2024 (Figure 1). This is almost double compared to the number reported in 2023 for the same period, with 3 463 cases and 5 deaths.

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**

In April 2024, 58 dengue cases and no deaths were reported in China. There has been a total of 165 dengue cases and no death in the country since the beginning of 2024 (Figure 2).

![Figure 2: Dengue cases reported monthly from 2015-2024 (as of April) in China](image)

*Source: National Disease Control and Prevention Administration, China*

**Lao People’s Democratic Republic**

In epidemiological week 22 of 2024 (27 May to 2 June 2024), 175 dengue cases and zero deaths were reported (Figure 3). The number of reported cases is higher than the numbers reported in epidemiological week 21 (159 cases with no deaths), and lower than those in week 22 of 2023 (589 cases with no deaths). The cumulative number of cases reported in 2024 (as of epidemiological week 22) is 3,259. This is a 4.9% increase compared to the 3,106 cases reported during the same period in 2023.

![Figure 3: Dengue cases reported weekly from 2018-2024 in Lao PDR](image)

*Source: National Centre for Laboratory and Epidemiology, Ministry of Health, Lao PDR*
Malaysia
During epidemiological week 21 of 2024 (2 to 8 June 2024), a decrease of 35 cases (1.4%) was reported with 2,426 cases as compared to 2,461 cases reported in the previous week (Figure 4). The cumulative number of dengue cases reported up to week 21 of 2024 is 62,107 cases, which is an increase of 34.3% compared to 46,257 cases for the same period in 2023. 46 dengue-related deaths were reported up to week 21 of 2024, compared to 31 deaths for the same period in 2023.

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

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)

(Note: there is a 3-4 week systematic delay in reporting and numbers should be interpreted with caution)
Singapore
In epidemiological week 22 (26 May to 1 June 2024), a total of 313 dengue cases were reported in Singapore. Cumulatively, a total of 8 033 cases (Figure 6) have been reported as of 1 June 2024. When compared to the same period in 2023 (3 431 cases), there has been a 134% increase in cases reported in 2024. Preliminary results of all positive dengue samples serotyped in May 2024 showed DEN-1, DEN-2, DEN-3, and DEN-4 at 6.0%, 44.7%, 35.0% and 14.3% respectively.

![Figure 6: Dengue cases reported weekly from 2019-2024 (as of 1 June 2024) in Singapore](source)

Viet Nam
As of 26 May 2024, there were 23 614 dengue cases including three deaths cumulatively reported in Viet Nam. Compared to the same period in 2023 (36 284 cases including 8 deaths), the number of cumulative cases decreased by 35%, and the number of deaths decreased by five cases. During week 23 (3 to 9 June 2024), a total of 1 272 cases and no deaths were reported nationwide. Of these cases, 964 (75.8%) were hospitalised. Compared to the previous week, the number of cases increased by 7.4% and the number of hospitalisations increased by 4.6% (Figure 7).

![Figure 7: Number of dengue hospital admissions and deaths by week in 2024 compared to 2023, as of week 23, 2024, Viet Nam](source)

Note: hospitalizations include inpatients and outpatients
The alert threshold is a 5-year mean plus 2 standard deviations.
Southern Hemisphere

Australia
In May 2024, a total of 273 dengue cases were reported in Australia. As of 31 May 2024, the cumulative number of dengue cases is 1,020, which is more than two times higher than the same period in 2023 (422 cases). (Figure 8).

Pacific Islands Countries
New Caledonia
There is no update for this reporting period. From 1 January to 29 February 2024, six confirmed dengue cases were reported in New Caledonia (Figure 9). This is higher compared to the same period in 2023, when a total of three dengue cases were reported. Of the six dengue cases in 2024, two were imported cases and two were probable cases. The serotypes of the cases were DENV-1 (3 cases), DENV-2 (1 case).

Figure 8: Laboratory-confirmed dengue cases reported monthly from 2016-2024 in Australia

Source: Department of Health, Australia
Note: Graph was updated as of 31 May 2024

Figure 9: Dengue cases reported by week from 2022 to 2024 in New Caledonia

Source: Network of sentinel physicians, New Caledonia
Pacific Island Countries and Areas (PICs) – Dengue-like illness (DLI) Surveillance

In epidemiological week 22 of 2024 (ending 2 June 2024), among the PICs with available surveillance data (18/21 PICs), an upward trend of DLI cases was reported in Fiji, Samoa and Tonga. The remaining PICs reported either no or low numbers of DLI cases or provided no updates (Figure 10).
Figure 1. 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 as of 2024

<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>
<tbody>
<tr>
<td></td>
<td>Clinically confirmed case</td>
<td>Laboratory confirmation required</td>
<td>Description</td>
<td></td>
</tr>
</tbody>
</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 or 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>Epidemiological Evidence</th>
<th>National Dengue Control Program (NDCP)</th>
<th>Data Collected</th>
<th>Laboratory Testing</th>
</tr>
</thead>
</table>
| Cambodia | Household epidemiological evidence:  
- Living in the same house as a locally-acquired case in a dengue-receptive area of Australia within a month of onset in the case and at least one case in the chain of epidemiologically linked cases is laboratory confirmed.  
National Dengue Control Program (NDCP) enhanced sentinel surveillance system  
Communicable Disease Control (CDC) syndromic surveillance system (CamEWARN).  
Health Management Information System (HMIS) collects data on confirmed cases and deaths.  
Data collected for Cambodia Laboratory Information System (CamLIS), comprised of 32 participating hospital laboratories where NS1 detection is conducted.  
Laboratory testing: Antibody HI>= 1/1280 or IgM/IgG positive by ELISA test in convalescence serum |
| China | Yes | National Dengue Control Program (NDCP) enhanced sentinel surveillance system  
Communicable Disease Control (CDC) syndromic surveillance system (CamEWARN).  
Health Management Information System (HMIS) collects data on confirmed cases and deaths.  
A clinically diagnosed case with any 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. |

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.
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.

| Lao People’s Democratic Republic | WHO dengue case classification (2009) † | No | 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. | 4 |
| Malaysia | WHO dengue case classification (2009) † | Yes | National Dengue Surveillance System, indicator-based surveillance system | All suspected cases are to be tested by the following laboratory tests: Rapid Combo Test (RCT) (NS1, IgM, IgG), Dengue Antigen and Serology tests by ELISA, Dengue Viral RNA Detection (Real time RT-PCR), Viral Isolation | 5 |
| Philippines | WHO dengue case classification (2009) † | Yes | Philippine Integrated Disease Surveillance and Response (PIDSIR), indicator-based surveillance system. Reporting delays of 2-3 weeks, making comparison of current weekly and cumulative figures with previous years difficult. Confirmed dengue is a suspect case with positive (+) viral culture isolation and/or PCR. NS1 (+), IgM is used to identify probable dengue. | 6, 7, 8 |
### References: