



# Epidemiological Alert

## Onset of increased seasonal circulation of influenza virus and other respiratory viruses, with concurrent circulation of dengue, in the southern hemisphere

8 May 2024

Considering the start of the season of increased circulation of influenza and other respiratory viruses in the southern hemisphere of the Americas, as well as the persistent circulation of dengue in several countries with the occurrence of severe cases requiring hospitalization, the Pan American Health Organization/World Health Organization (PAHO/WHO) recommends that Member States adopt the necessary measures to prepare health services to ensure proper clinical management, prevent complications, and avoid overcrowding of specialized care services.

### Background

In 2023, in the subregion of the Central American Isthmus and Mexico, countries such as Guatemala, Honduras, and Panama, during the last major circulation of dengue fever, reported an early onset with increased cases between epidemiological week (EW) 16 and EW 18 (1). In addition, the high occurrence of dengue cases has continued throughout the first weeks of 2024, coinciding with a high circulation of influenza and other respiratory viruses (Figure 1a – c) (2).

If a similar situation were to occur in the southern hemisphere of the Americas, the capacity of health care networks and services could be overloaded, making it difficult to respond adequately and indirectly affecting the quality of care for other demands on health services. The high number of dengue cases recorded in several countries in the Southern Hemisphere during the first half of 2024, along with the recent increase in cases of respiratory infections, may generate a complex scenario for health systems.

### Situation summary

#### Respiratory viruses

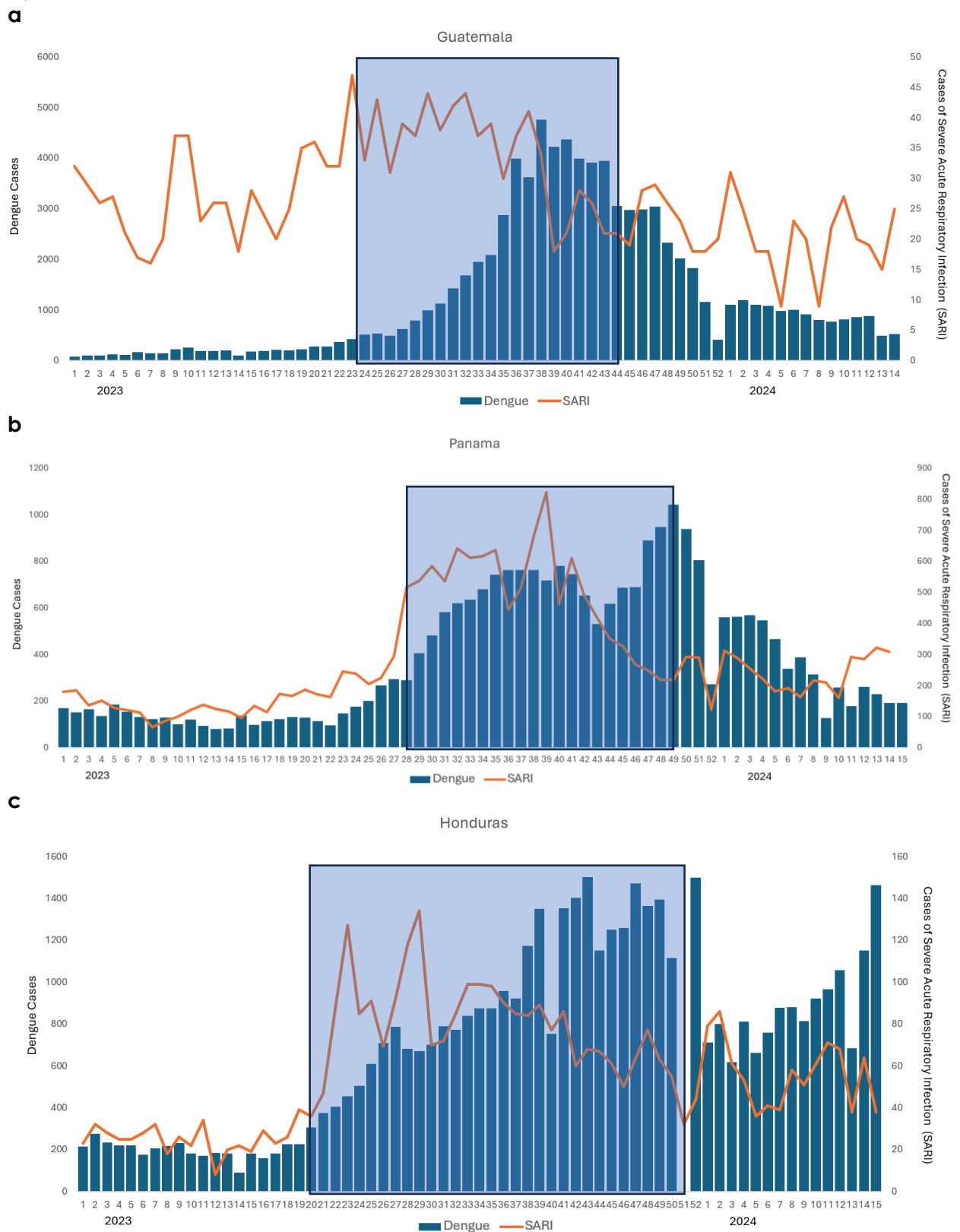
The following describes the current situation of influenza and other respiratory viruses in the two subregions in the southern hemisphere of the Americas, the Southern Cone<sup>1</sup> and Andean subregions.<sup>2</sup>

<sup>1</sup> Argentina, Brazil, Chile, Paraguay and Uruguay

<sup>2</sup> Bolivia (Plurinational State of), Colombia, Ecuador, Peru, and Venezuela (Bolivarian Republic of)

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**Figure 1a – c.** Dengue cases from universal surveillance and severe acute respiratory infection (SARI) cases from sentinel surveillance in Guatemala (1a), Panama (1b), and Honduras (1c), by EW of 2023 and 2024.



**Source:** Adapted from Pan American Health Organization. Information published in PLISA Health Information Platform for the Americas and data reported to PAHO/WHO FluID and FluNet platforms (1, 2).

In EW 16 of 2024 in the Southern Cone, the circulation of respiratory viruses varied in different countries, with an increase in influenza circulation since EW 11.

**Argentina** maintains relatively low levels of influenza-like illness (ILI) and severe acute respiratory infections (SARI) with a decrease in SARS-CoV-2 cases and influenza activity, represented by the percentage of positive samples over the total number of samples studied, around the epidemic threshold.

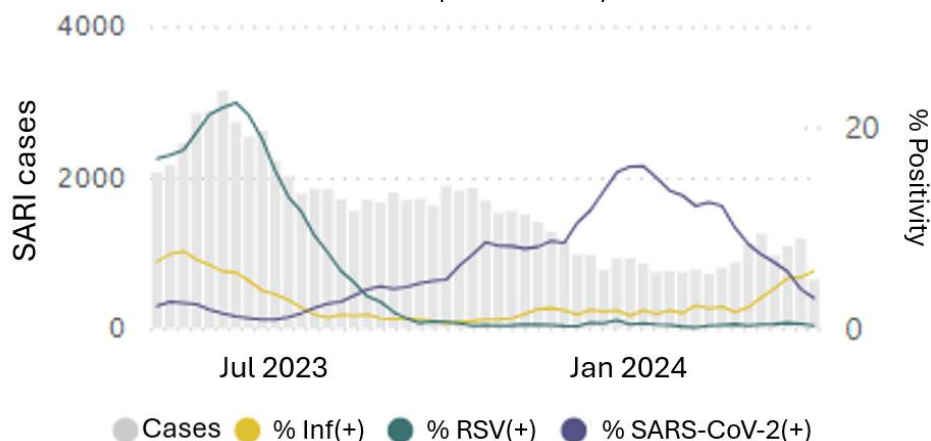
In **Brazil**, SARS-CoV-2 levels have decreased, however, an increase in influenza-positive SARI cases has been observed, reaching high levels of intensity.

In **Chile**, both ILI and SARI cases have risen sharply in the last four seasons, reaching epidemic and moderate levels of intensity respectively, with most of the positive cases attributable to influenza.

In **Paraguay**, SARI activity is around the epidemic threshold and influenza activity has slightly exceeded the epidemic threshold in EW 16 of 2024.

In **Uruguay**, SARI activity has fluctuated around the epidemic threshold, with most positive cases attributable to SARS-CoV-2, whose activity is at low and declining levels (**Figure 2**) (2).

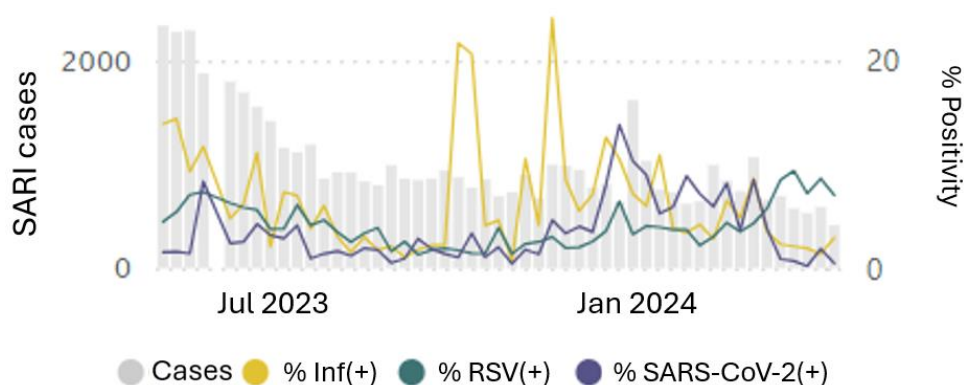
**Figure 2.** Distribution of SARI cases and percentage of SARI positivity by viral agent by EW - Subregion of the Southern Cone, 2023-2024 (as of EW 16).



**Source:** Pan American Health Organization / World Health Organization. Respiratory Virus Weekly Report, data as of 26 April 2024. Washington, D.C.: PAHO/WHO; 2024. [cited 3 May 2024] Available from: <https://www.paho.org/en/influenza-situation-report>

In the Andean subregion, ILI activity has remained stable at low levels during the last four seasons. SARI cases have remained stable at low levels; however, an increase in the proportion of cases positive for respiratory syncytial virus (RSV) has been observed in the subregion, especially in Ecuador and, to a lesser extent, in Colombia (**Figure 3**) (2).

**Figure 3.** Distribution of SARI cases and percentage of SARI positivity by viral agent by EW - Andean Subregion, 2023-2024 (as of EW 16).



**Source:** Pan American Health Organization / World Health Organization. Respiratory Virus Weekly Report, data through 26 April 2024. Washington, D.C.: PAHO/WHO; 2024. [cited 3 May 2024] Available from: <https://www.paho.org/en/influenza-situation-report>

## Dengue

Between EW 1 and EW 17 of 2024, the Region of the Americas recorded a significant increase in dengue cases compared to what was reported in previous years. Across the Region, 6,586,885 suspected cases of dengue have been reported, representing an increase of 260% compared to the same period in 2023 and 448% compared to the average of the last five years. Of the total number of reported cases, 6,217 cases of severe dengue were reported and required hospitalization, representing approximately 0.1% of the total number of reported cases (1). During the same period, 2,637 deaths due to dengue were reported, resulting in a case fatality rate of 0.04% (1).

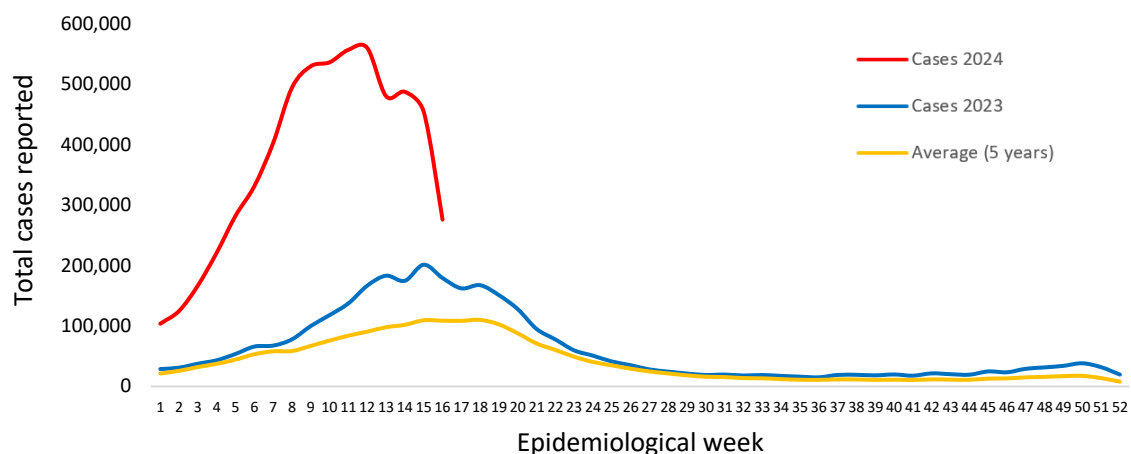
In the **Southern Cone** subregion, between EW 1 and EW 17 of 2024, 6,105,363 suspected cases of dengue were reported with 2,372 deaths. This subregion reported an increase of 333% as compared to the same period in 2023 (**Figure 4**) (1, 3). The countries in this subregion that reported the highest number of cases are listed below.

**Argentina** reported 315,942 cases between EW 1 and EW 15 of 2024, representing an increase of more than 600% compared to the same period in 2023. The cumulative incidence rate as of EW 15 is 693 cases per 100,000 population (1).

**Brazil** reported 5,542,348 cases between EW 1 and EW 17 of 2024, representing an increase of 371% compared to the same period in 2023. The cumulative incidence rate to EW 17 is 2,590 cases per 100,000 population (1).

**Paraguay** reported 246,509 cases between EW 1 and EW 16 of 2024, representing an increase of more than 1,800% compared to the same period in 2023. The cumulative incidence rate as of EW 16 is 3,263 cases per 100,000 population (1).

**Figure 4.** Dengue cases in 2023 – 2024 (as of EW 16) and last 5-year average, by EW, Southern Cone Subregion



**Source:** Adapted from Pan American Health Organization. Epidemiological situation of dengue in the Americas - Epidemiological week 13, 2024. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/documents/situation-report-no-15-dengue-epidemiological-situation-region-americas-epidemiological>

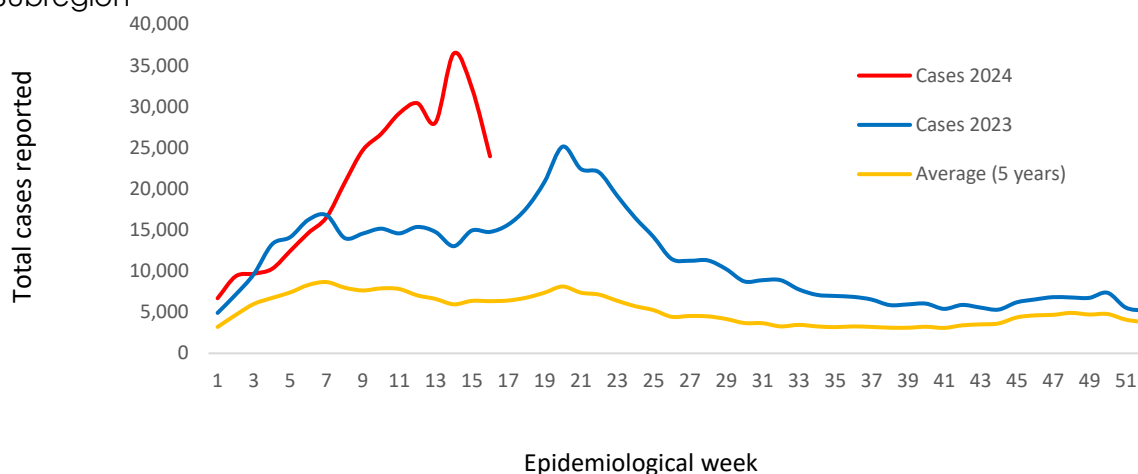
In the **Andean subregion**, between EW 1 and EW 17 of 2024, 334,555 suspected cases of dengue were reported with 215 deaths. The Andean subregion reported an increase of 42% compared to the same period in 2023 (**Figure 5**) (1, 3). The countries in this subregion that reported the highest number of cases are listed below.

**Colombia** reported 112,140 cases between EW 1 and EW 16 of 2024, representing an increase of 373% compared to the same period in 2023. The cumulative incidence rate as of EW 16 is 219 cases per 100,000 population (1).

**Ecuador** reported 23,234 cases between EW 1 and EW 16 of 2024, representing an increase of 371% compared to the same period in 2023. The cumulative incidence rate as of EW 16 is 130 cases per 100,000 population (1).

**Peru** reported 173,706 cases between EW 1 and EW 16 of 2024, representing an increase of 357% compared to the same period in 2023. The cumulative incidence rate as of EW 16 is 521 cases per 100,000 population (1).

**Figure 5.** Dengue cases in 2023 - 2024 (as of EW 16) and last 5-year average per EW, Andean Subregion



**Source:** Adapted from Pan American Health Organization. Epidemiological situation of dengue in the Americas - Epidemiological week 13, 2024. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/documents/situation-report-no-15-dengue-epidemiological-situation-region-americas-epidemiological>

## Guidance for national authorities

Given the occurrence of a high number of dengue cases and severe dengue in several countries in the southern hemisphere of the Americas, which coincides with the beginning of the season of increased circulation of respiratory viruses, the Pan American Health Organization / World Health Organization (PAHO / WHO) urges Member States to review and adapt their response plans, mainly in the component of organization of health services and patient management. PAHO/WHO recommends patient triage both for the timely detection of warning signs of dengue and to reduce the risk of respiratory virus infections acquired in health care facilities (4, 5).

Member States are urged to plan for the effective use of available resources, both personnel, equipment and supplies, to respond to a concurrent increase in respiratory illness and dengue. Early identification and appropriate management of dengue cases with warning signs will reduce the number of cases requiring hospitalization, alleviating the additional burden on more complex levels of care that will provide care for severe cases of respiratory virus infection (5).

Patients with dengue and associated chronic comorbidity require special attention, since dengue can decompensate the underlying disease, making the management and treatment of the case more complex. Pregnant women with dengue are at increased risk of developing severe dengue, which can lead to pregnancy complications. Recommendations for hospitalization criteria in patients with dengue can be found in the PAHO Guidelines for clinical diagnosis and treatment of dengue, chikungunya, and Zika (6, 7, 8). Similarly, patients at increased risk of severe influenza illness include those aged 65 years or older, younger than 5 years, pregnant women or those who had just given birth, obese, underlying chronic respiratory conditions, immunocompromised, etc. (9, 10, 11, 12). Hence, PAHO reiterates the need to guide health professionals on the appropriate management of this population group.

Guidance related to surveillance, clinical management of respiratory viruses, vaccination, risk communication, and nonpharmacological public health measures in the population is available on the PAHO/WHO Influenza, SARS-CoV-2, RSV, and other respiratory viruses web page (9) and in the Epidemiological Update on the Circulation of Respiratory Viruses in the Region of the Americas published on 8 January 2024 (11); while guidance on dengue related to surveillance, case management, laboratory confirmation, adequacy of health services, prevention and control measures, and communication and community participation is available in the Epidemiological Update on the Increase in Dengue Cases in the Region of the Americas published on 29 March 2024 (13).

## References

1. Pan American Health Organization / World Health Organization. PLISA Health Information Platform for the Americas, Dengue Indicators Portal. Washington, D.C.: PAHO/WHO; 2024 [cited 29 April 2024]. Available from: <https://www3.paho.org/data/index.php/en/dengue.html>
2. Pan American Health Organization / World Health Organization. Respiratory Virus Weekly Report, data through April 26, 2024. Washington, D.C.: PAHO/WHO; 2024. [cited 3 May 2024] Available from: <https://www.paho.org/en/influenza-situation-report>
3. Pan American Health Organization / World Health Organization. Epidemiological situation of dengue in the Americas - Epidemiological Week 15 of 2024. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/documents/situation-report-no-15-dengue-epidemiological-situation-region-americas-epidemiological>
4. World Health Organization. Guidelines for the clinical management of severe illness from influenza virus infections. Geneva, WHO; 2022. Available from: <https://iris.who.int/handle/10665/352453>
5. Pan American Health Organization / World Health Organization. Epidemiological update on dengue and other arboviruses, 10 June 2020. Washington, D.C.: PAHO/WHO; 2020. Available from: <https://www.paho.org/en/documents/epidemiological-update-dengue-and-other-arboviruses-10-june-2020>
6. Pan American Health Organization / World Health Organization. Guidelines for the clinical diagnosis and treatment of dengue, chikungunya, and Zika. Revised edition. Washington, D.C.: PAHO/WHO; 2022. Available from: <https://iris.paho.org/handle/10665.2/55867>
7. Sangkaew S, Ming D, Boonyasiri A, Honeyford K, Kalayanaroj S, Yacoub S, et al. Risk predictors of progression to severe disease during the febrile phase of dengue: a systematic review and meta-analysis. *Lancet Infect Dis*. 2021 Jul;21(7):1014-1026. Available from: <https://pubmed.ncbi.nlm.nih.gov/33640077/>
8. Chong V, Tan JZL, Arasoo VJT. Dengue in Pregnancy: A Southeast Asian Perspective. *Trop Med Infect Dis*. 2023 Jan 27;8(2):86. Available from: <https://pubmed.ncbi.nlm.nih.gov/36828502/>
9. Pan American Health Organization / World Health Organization. Influenza, SARS-CoV-2, RSV and other respiratory viruses. Washington, D.C.: PAHO/WHO; 2024. [cited 7 May 2024]. Available from: <https://www.paho.org/en/topics/influenza-sars-cov-2-rsv-and-other-respiratory-viruses>

10. Mark G Thompson, et al. Influenza Vaccine Effectiveness in Preventing Influenza-associated Hospitalizations During Pregnancy: A Multi-country Retrospective Test Negative Design Study, 2010-2016, *Clinical Infectious Diseases*, Volume 68, Issue 9, 1 May 2019, Pages 1444-1453. Available from: <https://academic.oup.com/cid/article/68/9/1444/5126390?login=false>
11. Pan American Health Organization / World Health Organization. Epidemiological Update: SARS-CoV-2 and other respiratory viruses in the Region of the Americas, 8 January 2024, Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/documents/epidemiological-update-sars-cov-2-and-other-respiratory-viruses-america-region-8-january>
12. Rasmussen SA, Jamieson DJ, Uyeki TM. Effects of influenza on pregnant women and infants. *Am J Obstet Gynecol*. 2012 Sep;207 (3 Suppl): S3-8. Available from: <https://pubmed.ncbi.nlm.nih.gov/22920056/>
13. Pan American Health Organization / World Health Organization. Epidemiological Update, Increase in Dengue Cases in the Region of the Americas, 29 March 2024. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/documents/epidemiological-update-increase-dengue-cases-region-america-29-march-2024>