



Pan American  
Health  
Organization



World Health  
Organization  
REGIONAL OFFICE FOR THE  
Americas

# Epidemiological Alert Increase in cases and deaths from chikungunya in the Region of the Americas

8 March 2023

In 2022, the Region of the Americas registered an increase in the number of cases and deaths from chikungunya above the numbers reported in previous years. Moreover, in the current season, an expansion of the disease occurrence has been observed beyond the historical areas of transmission reported since 2014.

This trend has continued during the first weeks of 2023, in which this increase in cases and deaths has become even more evident representing an unusual behavior. Given this situation, the Pan American Health Organization / World Health Organization (PAHO/WHO) reiterates that Member States intensify actions to prepare health care services, including the diagnosis and proper management of cases; and to strengthen prevention and vector control measures to reduce the impact of this and other arboviral diseases.

## Situation summary<sup>1</sup>

Between epidemiological week (EW) 1 and EW 52 of 2022, a total of 273,685 cases of chikungunya, including 87 deaths, were reported in 14 of the countries and territories of the Region of the Americas. This figure is higher than that observed in the same period of 2021 (137,025 cases, including 12 deaths). During the first eight epidemiological weeks of 2023, 115,539 cases and 33 deaths due to chikungunya were reported (**Figure 1 and 2**), with the highest incidence rates observed in Paraguay (1,128 cases per 100,000 population) and Brazil (14.2 cases per 100,000 population).

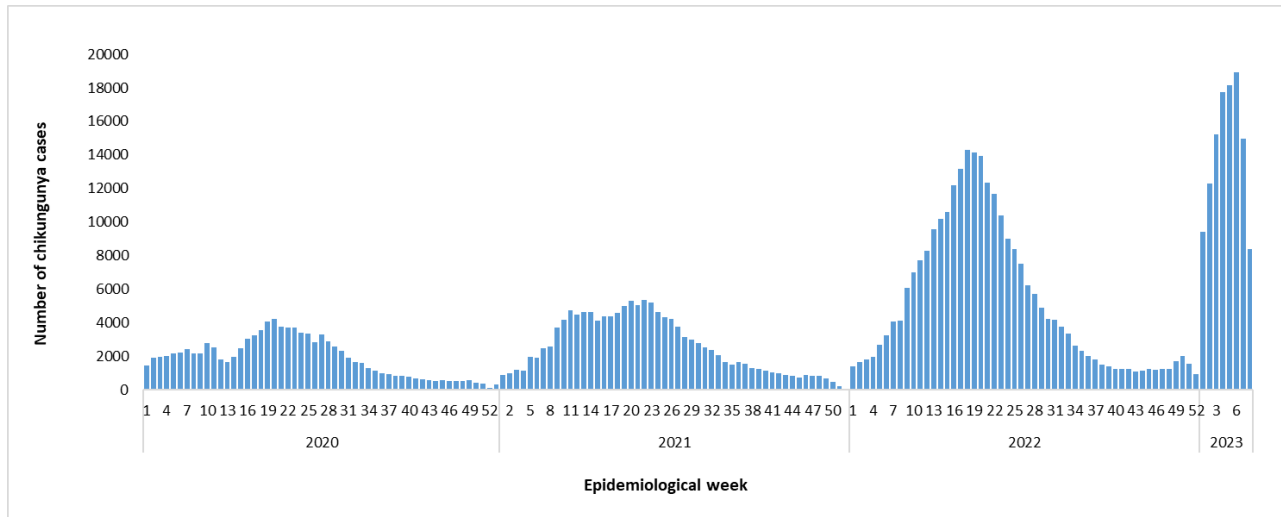
The increase in cases and deaths from chikungunya compared to the numbers reported in recent years are in addition to the simultaneous circulation of other arboviral diseases, such as dengue and Zika, impacting on the overload of care services. These three diseases are transmitted by the same vectors, *Aedes aegypti* (most prevalent) and *Aedes albopictus*, which are present in almost all countries and territories of the Region of the Americas.

It is very important for the entire southern hemisphere to be extremely vigilant and prepared to intensify prevention, control, and preparedness actions of health services in the face of any increase in cases of arboviruses in this first half of 2023 and especially chikungunya, given the accumulation of susceptible people since it has been eight years since the 2014 epidemic, the last major outbreak of chikungunya in the Americas.

<sup>1</sup> Data from the PAHO/WHO Health Information Platform for the Americas (PLISA per its acronym in Spanish), accessed 8 March 2023. Available from: <https://bit.ly/3F5JFEg>

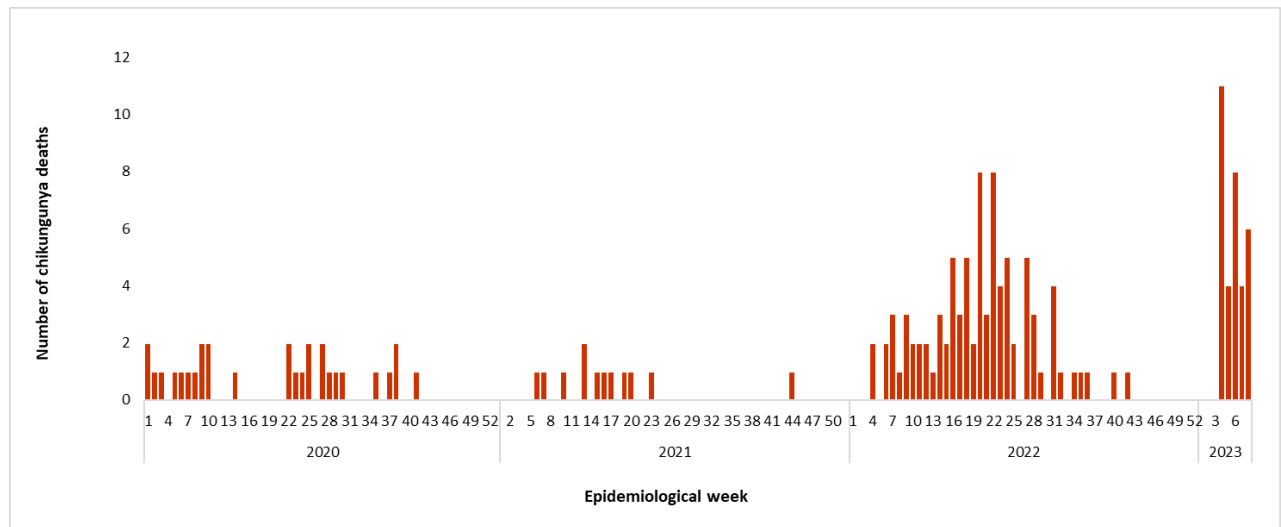
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**Figure 1.** Chikungunya cases by epidemiological week (EW) of report. Region of the Americas, 2020-2023 (until EW 8 of 2023).



**Source:** PAHO/WHO Health Information Platform for the Americas (PLISA per its acronym in Spanish) as provided by Ministries and Institutes of Health of the countries and territories of the Region of the Americas. Washington DC: PAHO. Accessed 8 March 2023. Available from: <https://bit.ly/3F5JFEg>

**Figure 2.** Chikungunya deaths by EW of report. Region of the Americas, 2020-2023 (until EW 8 of 2023).



**Sources:** PAHO/WHO Health Information Platform for the Americas (PLISA per its acronym in Spanish) as provided by Ministries and Institutes of Health of the countries and territories of the Region of the Americas. Washington DC: PAHO. Accessed 8 March 2023. Available from: <https://bit.ly/3F5JFEg>

Since 2020, the circulation of dengue and chikungunya viruses occurs simultaneously with the active transmission of the SARS-CoV-2 virus in endemic countries and territories in the Region of the Americas. Additionally, the identification of new variants of concern for SARS-CoV-2 and inadequate coverage of COVID-19 vaccines, in endemic areas of chikungunya and other arboviruses where public health and social measures to prevent COVID-19 have been relaxed,

pose a complex epidemiological situation, high demand on health services, as well as a constant challenge for health systems in all its components and levels, including vector prevention and control measures, diagnosis, epidemiological surveillance and management of these cases.

The epidemiological situation of chikungunya in selected countries of the Region of the Americas is presented below:

### **Argentina**

Chikungunya was first reported in Argentina in 2016. In 2023, between EW 1 and EW 9, a total of 230 cases were reported, of which 198 were laboratory confirmed, with no deaths. Of the total cases, 12 have no travel history and were reported in three locations of Buenos Aires Province, and one in the Federal Capital. Buenos Aires province did not register previous history of chikungunya virus circulation. Additionally, the travel history of 45 confirmed and probable cases is currently under investigation in Buenos Aires Province (23 cases), Buenos Aires City (10 cases), Cordoba (2 cases), Santa Fe (1 case), Chaco (2 cases), Corrientes (1 case), Formosa (2 cases) and Misiones (4 cases); in addition to 173 cases with travel history (classified as imported) which are also under investigation.

### **Plurinational State of Bolivia**

The first case of chikungunya in Bolivia was reported in 2015. Between EW 1 and 6 of 2023, 300 cases of chikungunya were reported, with no deaths, representing 8-fold increase in cases compared to the same period in 2022. Up to EW 6 of 2023, the national cumulative incidence rate is 2.5 cases per 100,000 population, representing a 681% relative increase compared to the same period in 2022 (0.32 cases per 100,000 population).

### **Brazil**

In 2023, between EW 1 and 9, a total of 35,566 probable and confirmed cases of chikungunya were reported in Brazil (incidence rate of 16.7 cases per 100,000 population), representing a 109.6% relative increase compared to the same period in 2022. One death was confirmed in Espírito Santo and 13 others are still under investigation. Out of the 27 Federal Units, 25 reported cases in 2023: Alagoas, Amazonas, Bahía, Ceará, Distrito Federal, Espírito Santo, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraíba, Paraná, Pernambuco, Piauí, Rio de Janeiro, Río Grande do Norte, Río Grande do Sul, Rondônia, Roraima, Santa Catarina, São Paulo, Sergipe, and Tocantins.

In the Southern region of the country, 224 cases were reported (incidence rate of 0.7 cases per 100,000 population), representing an increase of 180% compared to the same period in 2022 (80 cases). The increase trend has been observed since EW 4, with 10.5% of municipalities of Paraná, 4.7% of Santa Catarina, and 3.2% of Rio Grande do Sul reporting cases between EW 1 and 9 of 2023.

### **Paraguay**

The first autochthonous case of chikungunya in Paraguay was reported in 2015. In 2016, cases were reported mainly in the metropolitan area (Asunción and Central departments), and in 2018 were reported mainly in Amambay department. Since EW 40 of 2022 an increasing trend of cases has been observed over the historical threshold. Between EW 52 of 2022 and EW 8 of 2023, a total of 34,659 cases were classified as probable and confirmed, including 2,910

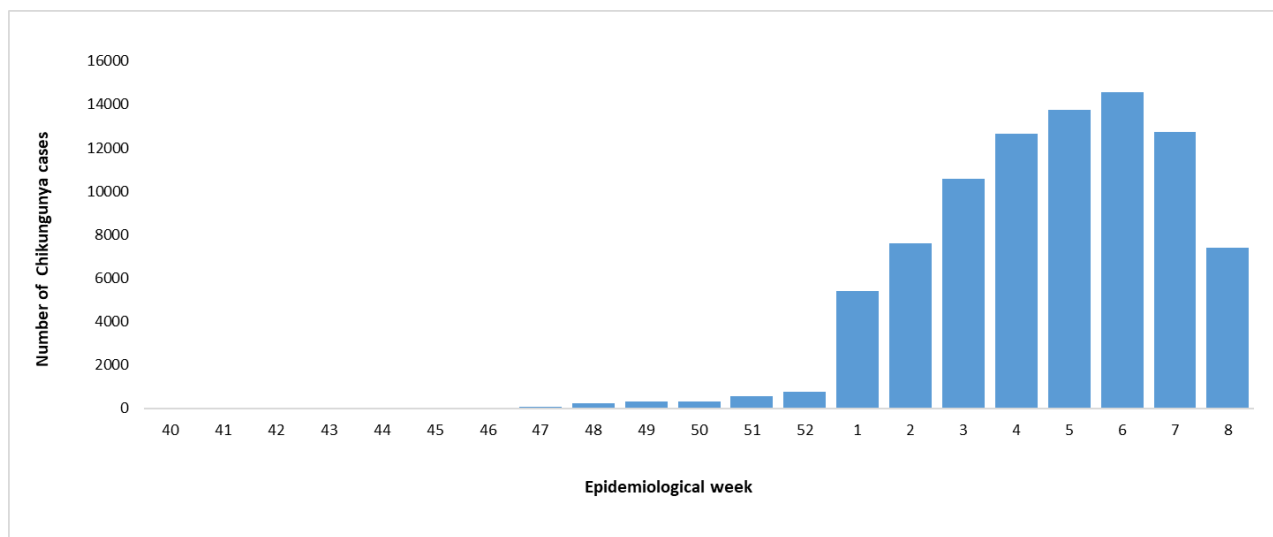
hospitalizations and 34 deaths. Of the total of cases reported during this period, 93% of cases (32,258/34,659) and 97% (33/34) of deaths were reported between EW 1 and 8 in 2023.

Confirmed and probable cases were reported in the 18 regions of the country. The highest number of cases was reported in two departments: Central (21,069 cases, including 23 deaths) and Asunción (8,754 cases, including 8 deaths), while the highest reporting rates were registered in the following departments: Central with 62%, Asunción with 22%, Paraguari with 3.5%, and Cordillera with 2.5%.

Unlike previous years, 132 cases were reported in newborns in this outbreak, including 4 deaths. One infant with age less than 31 days old was also reported among the deaths. Additionally, between EW 1 and 8 of 2023, 219 suspected cases of acute meningoencephalitis were reported, 87 attributed to chikungunya, of which 38 were neonates. No deaths were reported in the years prior to this outbreak.

During the first recorded outbreaks of chikungunya (2015-2016), the Asian genotype was detected. Currently, the East/Central/South African (ECSA) genotype is circulating, which was first identified in 2018 during an outbreak in Amambay department, and was again identified in samples from 2022 in the Metropolitan Area of Asunción.

**Figure 3.** Chikungunya cases by EW of report. Paraguay 2022-2023 (up to EW 8, 2023)



Source: National Programme on Vector Diseases - DIVET - DGVS. Ministry of Public Health of Paraguay

## Guidance for national authorities

Given the increase in the number of cases, hospitalizations and deaths from chikungunya, the Pan American Health Organization / World Health Organization (PAHO/WHO) urges Member States to continue strengthening surveillance, triage, diagnosis, and timely and appropriate treatment of cases of chikungunya and other arboviral diseases, and simultaneously, intensify vector prevention and control actions, as well as health care services preparedness to facilitate access for patients with these diseases.

PAHO/WHO reminds Member States that the same guidance published in the Epidemiological Update of 13 February 2023 on chikungunya increase in the Region of the Americas, available from: <https://bit.ly/3kWeW5l>, remain current.

The prevention and control measures of *Aedes* are shared below, as well as the personal prevention measures.

### Prevention and control measures of *Aedes*

PAHO/WHO urges Member States to make effective use of available resources to prevent and/or control vector infestation in affected areas and in health services. This will be achieved through the implementation of integrated vector control strategies in emergencies, which include the following processes:

- Selection of control methods based on the knowledge of the vector's biology, disease transmission and morbidity.
- Use of multiple interventions, often in combination and synergistically.
- Collaboration of the health sector with public and private sectors linked to environmental management whose work has impact on vector reduction.
- Integration of individuals, families and other key partners (education, finance, tourism, water and sanitation, and others) into prevention and control activities.
- Strengthening of the legal framework to allow an integrated and intersectoral approach.

Given the high infestation by *Aedes aegypti* and the presence of *Ae. albopictus* in the Region, it is recommended that prevention and control measures aim to reduce the density of the vector and have the acceptance and collaboration of the local population. The prevention and control measures to be implemented by national authorities should include the following:

- Strengthen environmental management actions, primarily the elimination of vector breeding sites in households and in common areas (parks, schools, cemeteries, etc.).
- Reorganize solid waste collection services to support breeding site elimination actions in areas of greatest transmission and, if necessary, plan intensive actions in specific areas where regular garbage collection has been interrupted.
- Apply measures for the control of breeding sites using physical, biological and/or chemical methods, while actively involving individuals, families and the community.
- Define the areas of high-risk transmission (risk stratification) and prioritize those of high concentration of people (schools, terminals, hospitals, health centers, etc.). In these facilities, the presence of the mosquito must be eliminated in a diameter of at least 400 meters. It is important to pay special attention to health units, and to assure that these are free of the presence of the vector and its breeding sites so that they do not become spreading sources of the virus.

- In areas where active transmission is detected, it is suggested to implement measures aimed to eliminate infected adult mosquitoes (primarily using insecticides) in order to stop and cut transmission. This action is of an exceptional nature and is only effective when it is conducted with well-trained personnel under internationally accepted technical guidelines; and when it is carried out simultaneously with the other proposed actions. The main action to interrupt intensive transmission is the elimination of infested adult mosquitoes (active transmission) through indoor spraying by using individual equipment added to the destruction and/or control of vector breeding sites within households.
- An effective modality of adult control that can be used, considering the available operational capacities, is indoor residual spraying, which should be applied selectively to the resting areas of *Aedes aegypti*, avoiding the contamination of storage containers of water used for drinking or cooking purposes. This intervention performed in treated areas is effective for a period of up to 4 months; and can be used in shelters, homes, health services, schools and others. For more information, consult the [Manual for Indoor Residual Spraying in Urban Areas for Aedes aegypti Control](#) and the document [Control of Aedes aegypti in the scenario of simultaneous transmission of COVID-19](#).
- Correctly choose the insecticide to be used (following PAHO/WHO recommendations), its formulation, and be aware about which mosquito populations are susceptible to the chosen insecticide.
- Guarantee the proper functioning of fumigation equipment and its maintenance, and ensure insecticide reserves.
- Intensify actions of supervision of the operators' field work (quality control), during the focal treatment and in the adulticide treatment (fumigation), ensuring compliance with personal protection measures.

### **Personal preventive measures**

Patients infected with dengue, chikungunya and Zika virus are the reservoir of infection for others at their households and in the community. It is necessary to communicate to the sick, their families and the affected community about the risk of transmission and ways to prevent contagion by decreasing the vector population and the contact between the vector and people.

To minimize vector-patient contact it is recommended:

- The patient should rest under mosquito nets, impregnated, or not, with insecticide.
- The patient, as well as other household members, must wear long sleeves (if there are sick people in the house) to cover the extremities.
- Repellents containing DEET, IR3535 or Icaridine can be applied to exposed skin or clothing, and must be used in strict accordance with the instructions on the product label.
- Use wire-mesh/mosquito nets on doors and windows.

## Sources of information

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