

Situation summary in the Americas

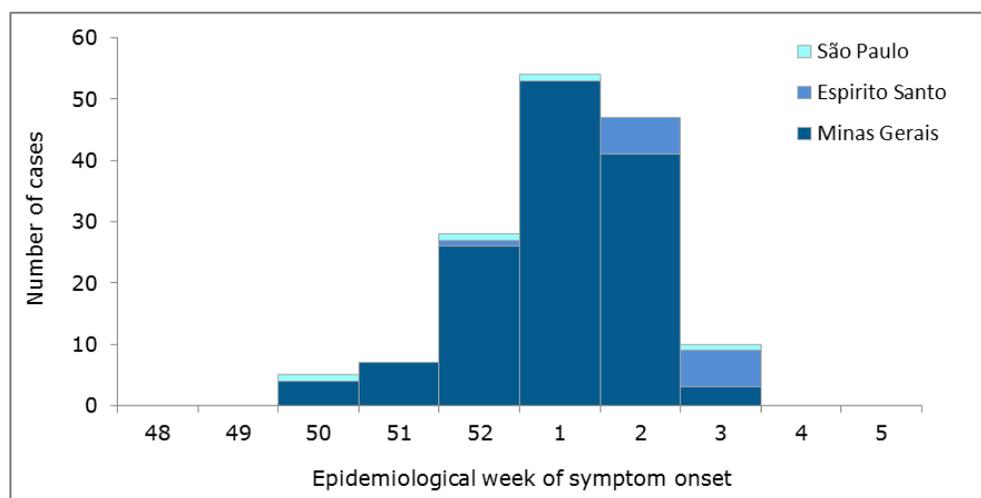
In 2017, as of 2 February yellow fever cases have been confirmed in Brazil, whereas **Colombia** and **Peru** have only reported probable cases.

In **Brazil**, between 1 December 2016 and 2 February 2017, 901 cases of yellow fever were reported (151 confirmed, 42 discarded, and 708 suspected cases remain under investigation), including 143 deaths (54 confirmed, 3 discarded, and 86 under investigation). The overall case-fatality rate (CFR) is 16%, with 36% CFR among confirmed cases and 12% CFR among suspected cases.

According to the probable site of infection, the suspected and confirmed cases are distributed in five states: Bahia (10), Espírito Santo (67), Minas Gerais (802), São Paulo (7), and Tocantins (4). The case fatality rate of suspected and confirmed cases in the state of Espírito Santo is 12%, in Minas Gerais is 16%, and in São Paulo is 43%.

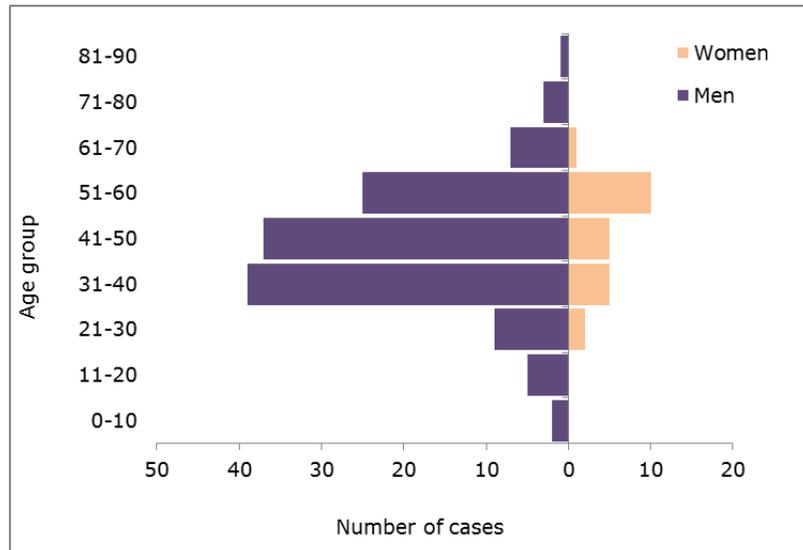
The confirmed cases are distributed in three states: Espírito Santo (13), Minas Gerais (134), and São Paulo (4) (**Figure 1**). Of the confirmed cases, 50% were men between 31 and 50 years of age (**Figure 2**). With regard to the confirmed deaths, 48 occurred in the state of Minas Gerais, three in the state of São Paulo and three in the state of Espírito Santo.

Figure 1. Distribution of confirmed cases of yellow fever by onset of symptoms date, Brazil, EW 48 of 2016 to EW 3 of 2017



Source: Brazil Ministry of Health

Figure 2. Distribution of confirmed cases of yellow fever by age and sex, Brazil, EW 48 of 2016 to EW 3 of 2017

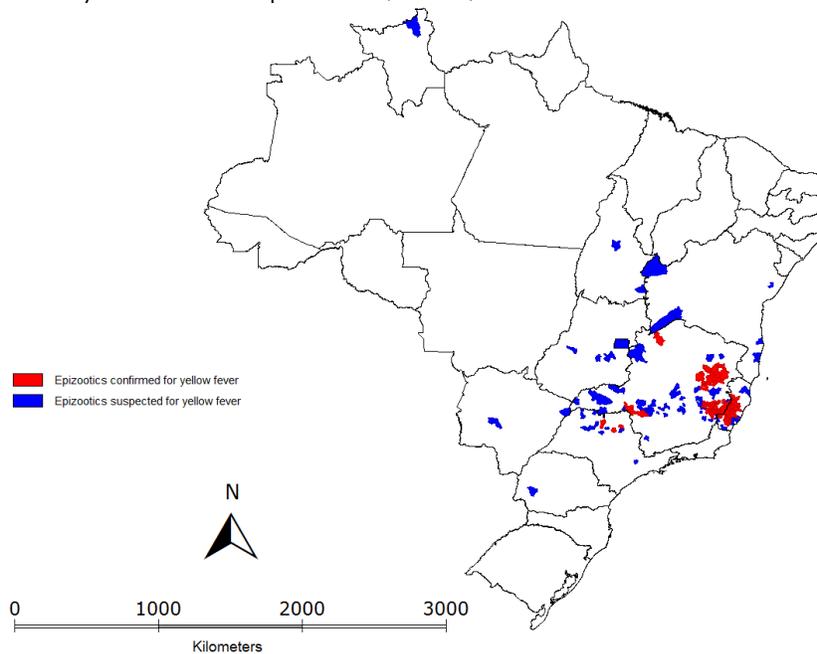


Source: Brazil Ministry of Health

In addition, 412 epizootics were reported in nonhuman primates (NHP), with a total of 1,202 deceased NHP. To date, 259 of them were yellow fever confirmed.

Epizootics in NHP were reported in the states of Roraima (bordering Venezuela), Tocantins, Goiás, Minas Gerais, Bahia, Espírito Santo, São Paulo, Mato Grosso do Sul (bordering Paraguay), Rio Grande do Norte, Paraná (bordering Argentina and Paraguay), and the Federal District (**Figure 3**). The occurrence of epizootics in Roraima (bordering Venezuela) as well as in Mato Grosso do Sul and Paraná (bordering Argentina and Paraguay) represent a risk of circulation of the virus to the bordering countries, especially in areas where they share the same ecosystem.

Figure 3. Distribution of yellow fever epizootics, Brazil, 1 December 2016 to 2 February of 2017



Source: Brazil Ministry of Health

In response to this situation, public health authorities at the federal, state and municipal levels are implementing various activities, including the distribution of 7.8 million vaccines to the states of Minas Gerais, Espírito Santo, São Paulo, Bahia, and Rio de Janeiro. At this moment, there is no evidence that *Aedes aegypti* is implicated in the transmission of ongoing outbreaks. However, the potential risk of re-urbanization cannot be ruled out.

Recommendations

The Pan American Health Organization, Regional Office of the World Health Organization (PAHO / WHO) recommends Member States continue efforts to detect, confirm, and appropriately treat cases of yellow fever in a timely manner and in a context of circulation of various arboviruses. Member States are encouraged to keep health care personnel up-to-date and trained to detect and treat cases especially in well-known areas of virus circulation.

The most important yellow fever prevention measure is vaccination. Preventive vaccination can be carried out through systematic immunization in childhood or through unique mass campaigns to increase vaccination coverage in risk areas and also through vaccination of those traveling to at-risk areas.

The yellow fever vaccine is safe and affordable and provides effective immunity against the disease in the range of 80 to 100% of those vaccinated after 10 days and 99% immunity after 30 days. **A single dose is sufficient to confer immunity and protection for life, without the need for booster doses.** Severe side effects are extremely rare.

Given the limitations on the availability of vaccines, it is recommended that national authorities conduct an assessment of vaccination coverage against yellow fever in risk areas in order to focus the distribution of vaccines. In addition, it is recommended to keep a stock of vaccines at a national level to respond to possible outbreaks.

PAHO/WHO does not recommend any restrictions on travel or trade to countries with ongoing outbreaks of yellow fever.

References

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