

## Surge in Dengue Cases in Rio Grande do Sul in 2024: Epidemiological Trends and Contributing Factors

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### INTRODUCTION & AIM

Dengue is a viral disease transmitted by *Aedes* mosquitoes, endemic in over 100 countries, including Brazil. It represents a significant public health challenge due to its high incidence and the simultaneous circulation of all four virus serotypes, creating a hyperendemic scenario. This situation complicates efforts for prevention and control, making it a persistent concern for healthcare systems. The state of Rio Grande do Sul has seen a notable rise in dengue cases in 2024, highlighting the need to understand its epidemiological trends, impact on healthcare infrastructure, and contributing factors.

### METHOD

Data were collected from the Department of Informatics of the Unified Health System (DATASUS) on dengue cases in Rio Grande do Sul from January 2021 to December 2024. The data were analyzed based on the following variables: epidemiological profile, hospitalization rates, and clinical outcomes.

### RESULTS & DISCUSSION

From 2021 to 2024, 329,185 dengue cases were reported in Rio Grande do Sul, with 212,321 (64%) occurring in 2024, peaking in April (84,513 cases). A 400% increase was observed in 2024 compared to 2023, 200% compared to 2022, and 1800% compared to 2020.

The epidemiological profile remained consistent, with 54% of cases in females and 60% in patients aged 20-49. Most patients were of White ethnicity (82%). Regarding outcomes, 73% did not require hospitalization, and 75% recovered, following trends from previous years.

### CONCLUSION

The significant rise in dengue cases in Rio Grande do Sul in 2024, particularly with a 400% increase compared to 2023, highlights the influence of favorable climate conditions, including increased rainfall and higher temperatures, which promote mosquito proliferation. Additionally, factors such as urban water accumulation and insufficient mosquito control measures contribute to the surge. Despite this, the epidemiological profile and clinical outcomes remained consistent, with most cases not requiring hospitalization and the majority of patients recovering.

