

# Emerging viral diseases causing serious issues in west Africa

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In a new study, researchers from the Colorado School of Public Health at the University of Colorado Anschutz Medical Campus call attention to the emergence of mosquito-borne viral outbreaks in West Africa, such as dengue (DENV), chikungunya (CHIKV) and Zika (ZIKV) viruses.

The findings are published in the current issue of *Acta Tropica*.

"Emerging viruses are at the forefront of everyone's attention due to the COVID-19 pandemic. It has underscored the importance of preparing for and preventing large viral outbreaks that can have massive public health and [economic consequences](#)," said lead researcher Andrea Buchwald, Ph.D., a postdoctoral fellow in the Colorado School of Public Health.

Buchwald adds, "We hope our research will prompt the development of early warning systems and adoption of control measures to prevent infectious outbreaks in West Africa. This will greatly impact the spread and severity of future outbreaks."

The researchers reviewed 50 years of literature on arboviruses in West Africa to evaluate evidence of DENV, ZIKV and CHIKV and the distribution of their Aedes mosquito vectors in the region. This research delivers updates to previous estimates made, providing a current, region-specific synthesis of this rapidly evolving public health challenge.

"Large arboviral outbreaks will occur around the world. It is merely a

question of where and when. Building awareness and surveillance capacity before the outbreaks occur can help detect outbreaks early and enable prompt and effective response to reduce [health impacts](#)," said Elizabeth Carlton, assistant professor of environmental and occupational health at the Colorado School of Public Health and co-author of the study.

The researchers found that there is strong evidence that transmission of arboviral diseases including CHIKV, ZIKV and DENV is occurring in urban areas of West Africa and that the nature of transmission is distinct from the rural transmission of yellow fever virus that has historically been present in the region. The findings also provide evidence that the epidemiology of arboviral disease in West Africa has shifted and [rapid urbanization](#) and climate change have the potential to increase the risk of outbreaks in the future.

Carlton adds, "Our study shows how urbanization and [climate change](#) can impact mosquito-borne virus transmission in West Africa. However, it also highlights the need for steps to be taken in the region to fill critical information gaps so that we can better define the spatial and temporal patterns of arboviral disease risk."

The researchers outline some steps that can be taken to reduce the risk of major outbreaks, such as building testing capacity, investing in surveillance and implementing mosquito control measures.

**More information:** Andrea G. Buchwald et al, Aedes-borne disease outbreaks in West Africa: A call for enhanced surveillance, *Acta Tropica* (2020). [DOI: 10.1016/j.actatropica.2020.105468](https://doi.org/10.1016/j.actatropica.2020.105468)

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