Review of: "Thermal Stress and Dengue Fever: Exploring the Correlation between Elevated Temperatures and Heat Waves in Disease Dynamics"

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Potential competing interests: No potential competing interests to declare.

Here are some comments to consider for improving the article:

Strengths:

1. **Relevance and Timeliness**: The article addresses an important public health issue, linking climate change and infectious diseases like Dengue. The emphasis on heatwaves and elevated temperatures is relevant, given the increasing global concern over climate change.
2. **Comprehensive Approach**: The article provides a multi-faceted discussion, including vector biology, epidemiology, human behavior, and recent advancements in modeling, vector control, and vaccine development. This breadth of content enriches the discussion.
3. **Call for Collaborative Action**: Highlighting the need for collaborative efforts among researchers, policymakers, and the global community effectively conveys the urgency of addressing climate-induced health risks.

Suggestions for Improvement:

1. **Clarification of Mechanisms**: The article could benefit from a more detailed explanation of how elevated temperatures directly affect the biology of Aedes mosquitoes (e.g., breeding patterns, lifespan, and biting behavior) and the replication rate of the Dengue virus within the vectors.
2. **Regional Focus**: While the article mentions the expanding regions affected by Dengue, adding specific examples or case studies from different regions (e.g., Southeast Asia, Latin America, or Africa) would provide a more concrete illustration of the impact of heatwaves on Dengue transmission.
3. **Integration of Predictive Modeling**: Although predictive modeling is mentioned, the article could expand on its practical applications in forecasting outbreaks and guiding public health responses. Providing examples of successful predictive models used in other infectious disease contexts could strengthen this section.
4. **Discussion on Human Behavior**: The article references human behavior as a factor in transmission, but more details on how heatwaves alter human activity (e.g., increased time spent outdoors, changes in water storage practices) could enhance understanding.
5. **Policy Recommendations**: The call for collaborative action could be complemented by more concrete policy suggestions. What specific actions can policymakers take to integrate climate change considerations into Dengue

prevention strategies?

6. **Conclusion Enhancement**: The conclusion could reiterate key findings to reinforce the link between heatwaves, mosquito dynamics, and Dengue risk. Adding a forward-looking perspective on future research priorities or emerging interventions could strengthen the closing remarks.

Technical and Editorial Comments:

1. **Use of References**: Make sure to cite recent studies supporting the discussed advancements in predictive modeling, vector control, and vaccine development to strengthen the scientific foundation.
2. **Consistency in Terminology**: Ensure consistent terminology throughout, such as "high temperatures" and "elevated temperatures," to avoid potential confusion.
3. **Grammar and Flow**: Some sentences could be refined for clarity and readability. For instance, the sentence on the "wide-reaching consequences on public health and society" could be more specific about these consequences (e.g., economic burden, strain on healthcare systems).

Overall, this article addresses a critical intersection between climate change and vector-borne diseases and would benefit from more detailed analysis, specific examples, and actionable recommendations.