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Dear Dr. Meredith,

I wish to submit a short communication “Lassa fever cases suffer from severe under-reporting based on reported fatalities.” for consideration at International Health. This is my original work and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

Lassa fever is an endemic zoonotic viral haemorrhagic fever endemic to at least eight West African countries. The epidemiology of this disease is uncertain with case estimates ranging from 100-800,00 per year with significant variability in fatality around 15% among those infected that go on to develop symptoms. The burden of this disease is expected to increase over the coming decades due to factors including demographic changes, land-use change and climate change.

Unfortunately, much of the literature on Lassa fever does not consider the issues around under-reporting of clinical cases and use reported cases without considering that this suffers from several systematic biases. In this work I attempt to draw attention to this by estimating the number of expected cases over the last decade from seven of the expected endemic countries. I produce an estimate of the Case Fatality Rate from published sources and use this to calculate the number of expected cases and thus the under-reporting factor. This shows important variability across included countries and highlights the need to increase surveillance activities to understand the true burden of this disease.

I believe that this manuscript is within the scope for publication by International Health and will be of interest to your readership. Further, the synthesised dataset I have produced has been formatted and made available in a structure that will support re-use by other researchers to help answer a range of questions on the epidemiology of this disease across the region.

I have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,

David Simons