Review of: "Health Outcome and Economic Growth: The Case of Malaria in Nigeria"

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Nigeria hosts a very large proportion of the world's malaria, and the topic of how this affects the economy is thus of considerable importance. There is considerable data available on the distribution of malaria in Nigeria from Demographic and Health Surveys; on the other hand, national-level information on health services is only of secondary relevance since it is only very indirectly related to the amount of malaria. It is also not obvious that econometric models that lack empirical support are relevant.

The well-known phenomenon of spurious correlation means that a causal relationship cannot validly be established by correlation between single time series. Moreover, the relationship between malaria and economic growth is particularly challenging to analyse because there are good reasons for expecting it to be bidirectional: malaria interferes with economic activity, so it is expected to reduce growth, and at the same time, malaria is a disease of poverty, so economic activity is expected to reduce the amount of malaria. The most widely quoted study, that of Gallup and Sachs (2001), is a comparison of countries which fails to address the bidirectionality; a more recent inter-country comparison (Sarma et al., 2019) provides formal causal inference using instrumental variables and much more convincing results.

An issue that inter-country comparisons cannot address is that malaria and economic activity are not in the same places. Malaria is predominantly a rural disease, whereas economic growth is usually predominantly urban. It might be possible to analyse this question for Nigeria at the state level, using malaria data from Demographic and Health Surveys, with LLIN ownership as an instrumental variable, assuming economic growth data to be available for individual states.

GALLUP, J. L. & SACHS, J. 2001. The economic burden of malaria.*Am J Trop Med Hyg,* 64**,** 85-96.

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