Lassa fever incidence in humans and rodents: unified modelling framework of two populations

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Lassa fever (LF) is an acute haemorrhagic viral infection with clear zoonotic origin. The disease is widespread in many countries of Western Africa with reported cases about a thousand per year, including few hundred of deaths. This ranks LF as of a serious public health concern that necessitates further investigation of its epidemiology. In our talk, we will present the analysis of surveillance data on LF incidence in one of the most affected countries, Nigeria, for period 2012-2018. We will explicitly specify main causative factors on seasonality of LF epidemics, such as seasonal migration of rodents linked to rainfall pattern, and low awareness on LF pathogenicity among local residents. Using mathematical modelling, we will quantify their relative effects on transmission dynamics and assess the overall risk of contacting a virus along the year.

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