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A simulation model for African swine fever (ASF) in domestic pigs and evaluation of movement control strategies in Vietnam

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Outcomes
• The enforcement of movement restrictions is an effective control measure if implemented as soon as outbreaks are confirmed.
• To be effective, movement restrictions need to reach at least between 50% and 75% of the population, and they need to be applied in a timely manner.

Future steps
• The findings of this study provide the basis for a cost-benefit analysis of control strategies in Vietnam
• This simulation model can be applied to other regions or countries with modified parameters

Context
• In Vietnam, the first African swine fever (ASF) outbreak was in backyard pig farms reported in February 2019. Since then, the disease has spread countrywide and caused ongoing.
• The main reason for the rapid spread was low biosecurity at farm level and poor management.
• Simulation models are a useful tool for decision-makers to evaluate the impact of outbreaks as well as to identify and evaluate cost-effective control strategies.

Our innovative approach
• We modelled ASF transmission in domestic pigs in the Mekong Delta Region, Vietnam using different scenarios by adjusting model parameters.
• What-if scenarios estimated the impact of movement control strategy scenarios.

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Screenshot of simulation model