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Decision making and dynamics changes during Influenza epidemic under Media effects

Media plays a vital role in controlling the decision making of the population in an epidemic. Influenza, a disease that affects every age group and causes mortality in many cases, is always a concern for public health, and a vast number of mathematical models have been used to study it. The role of mass-media reports on Influenza is reviewed in "The effects of media reports on disease spread and essential public health measurements." by Jane H. et.al. In the mentioned paper, the authors employed a stochastic agent-based model to provide a quantification of mass media reports on the variability in crucial public health measurements. We adapted the model presented by Jane H. et al. and added sub-compartments to susceptible and vaccinated populations. The purpose of the research is to study the movement of the population in the sub-compartments during an epidemic. Also, we want to explore the role of mass media, and how decisions of the population change under the influence of media. Furthermore, how the media's role contributes to the control or spread of the influenza epidemic. For this purpose, we use an evolutionary game theory approach to quantify the decision making of the population under the effect of disease and mass media reports.