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Epidemiological Models with Prevalence Dependent Endogenous Self-Protection Measure

A simple mathematical model for human disease epidemics that takes the human learning behaviour and self-protective measures into account is proposed. We analyse the effect of endogenous self-protective measures with respect to the prevalence level of the disease and conversely. In the model it is assumed that people start reacting against contracting a disease with self protective measures whenever they are informed about the disease and when the burden of the disease is in a recognizable stage. We show how suppressing the prevalence of the disease is more sensitive to the average effectiveness of self-protective measures than increasing the proportion of individuals in a population into which awareness is created.

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