

# Disease-Induced Mortality in Density-Dependent Discrete-Time S-I-S Epidemic Models

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**ABSTRACT:** The dynamics of simple discrete-time epidemic models without disease induced mortality are typically characterized by global transcritical bifurcation. In this talk, we will show that in corresponding models with disease-induced mortality a tiny number of infectious individuals can drive an otherwise persistent population to extinction. Our model with disease induced mortality supports multiple attractors and exhibits sensitive dependence of the long-term dynamics on initial conditions.