

SIS discrete model of illness transmission in a homogeneous population

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We propose a discrete model of illness spread in a homogeneous population. The model is explicit Euler discretized version of SIS continuous model with constant inflow into population and a function based on the mass-action law. We present basic properties of the model and we find conditions giving the existence and local stability of stationary states. The conditions for flip bifurcation at the endemic stationary state will be presented. Our work is based on our article *Simple discrete SIS criss-cross model of tuberculosis in heterogeneous population of homeless and non-homeless people*.

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