

Uncertainties and epidemics spread

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Epidemic is a complicated process which spreads onto a complex not fully known topology. It affects not only properties of the population itself but also the network on which it spreads. The effective control measure should stop the epidemic at the lowest possible costs, therefore the problem of disease eradication cannot be separated from the economic layer, which includes, among others, costs of treatment and contact tracking. The lack of knowledge about full epidemiological status of individuals, delay in detection and presence of long-range links are the most important factors determining the overall costs. We demonstrate that despite uncertainties it is still possible to design the most effective treatment strategy. Furthermore, we identify key elements responsible for epidemics severity.

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