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Effect of disease-induced mortality on structural network properties LAZAROS GALLOS, NINA FEFFERMAN, Department of Ecology, Rutgers University — We study epidemic processes on complex networks, where infected nodes are either removed permanently or they can potentially recover. The process influences the localization of the infection by creating buffered zones, which in turn isolate large parts of the network. We show that there is an interesting interplay between the percentage and location of the removed population with the network structural integrity, even before reaching the critical point of total network disruption. The model can be used to determine the impact of disease-induced mortality to extinction of organisms, where destruction of the social structure can lead to loss of the species ability to recover.

Lazaros Gallos
Rutgers University

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