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Throughout our daily lives, we establish connections with other individuals either by visiting a grocery store, attending a local social gathering, or meeting with family. We can view the interactions as a person's general social network. Certain events such as a large-scale natural disaster can disrupt these networks by either reducing the number of connections or making certain connections weaker. As observed in the recent global pandemic, the localities that enacted strong health measures with regard to minimizing social interactions helped reduce the propagation of the disease. In this talk, we will examine how changes in the network structure can impact the spread of an infectious disease. (Received September 15, 2020)