Dr. Shelby Wilson, The Johns Hopkins University Applied Physics Laboratory. https://shelby-wilson.com/

Title: Social Organization and its Effects on Disease Spread

Abstract: Individuals living in social groups are susceptible to disease spread through their social networks. The network's structure, including group stability, clustering, and an individual's behavior and affiliation choice all have some impact on the effect of disease spread. Moreover, under certain scenarios, a social group may change its own structure to suppress the transmission of infectious disease. Evidence that social organization may protect populations from pathogens in certain circumstances prompts the question as to how social organization affects pathogenic spread on dynamic networks. We will introduce discrete-time dynamic social network model and discuss the effects of both pathogenic and parasitic epidemics. In each case, we highlight the bi-directional influence between social structure and infection dynamics.