

Complex relationships: modelling human interactions

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Abstract

When trying to understand how infectious diseases spread, the patterns of interaction between individuals in the population are of immediate concern. In many cases these interactions can be visualised as a network. It is often the case that there is insufficient data to describe the network completely, so models must be able to deal with partial information. Here, I describe one method of modelling epidemics on networks.

Even in cases where the network is specified precisely there are other difficulties: most interactions are more complicated than "on" or "off". I will discuss this problem in the case of monogamous partnerships within a network and will touch upon other considerations such as the strength and regularity of connections.