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The final size of an epidemic with two competing strains

The competition between two pathogen strains during the course of an epidemic represents a fundamental step in the early evolution of emerging diseases as well as the antigenic drift process. The outcome however, depends not only on the epidemic properties of the two strains but also on the timing and size of the introduction, characteristics that are poorly captured by deterministic mean-field epidemic models. I will present a framework that allows us to describe those aspects of the competition that can be determined from the mean-field models giving the range of possible outcomes that could be observed in an epidemic with two cross-reacting strains.