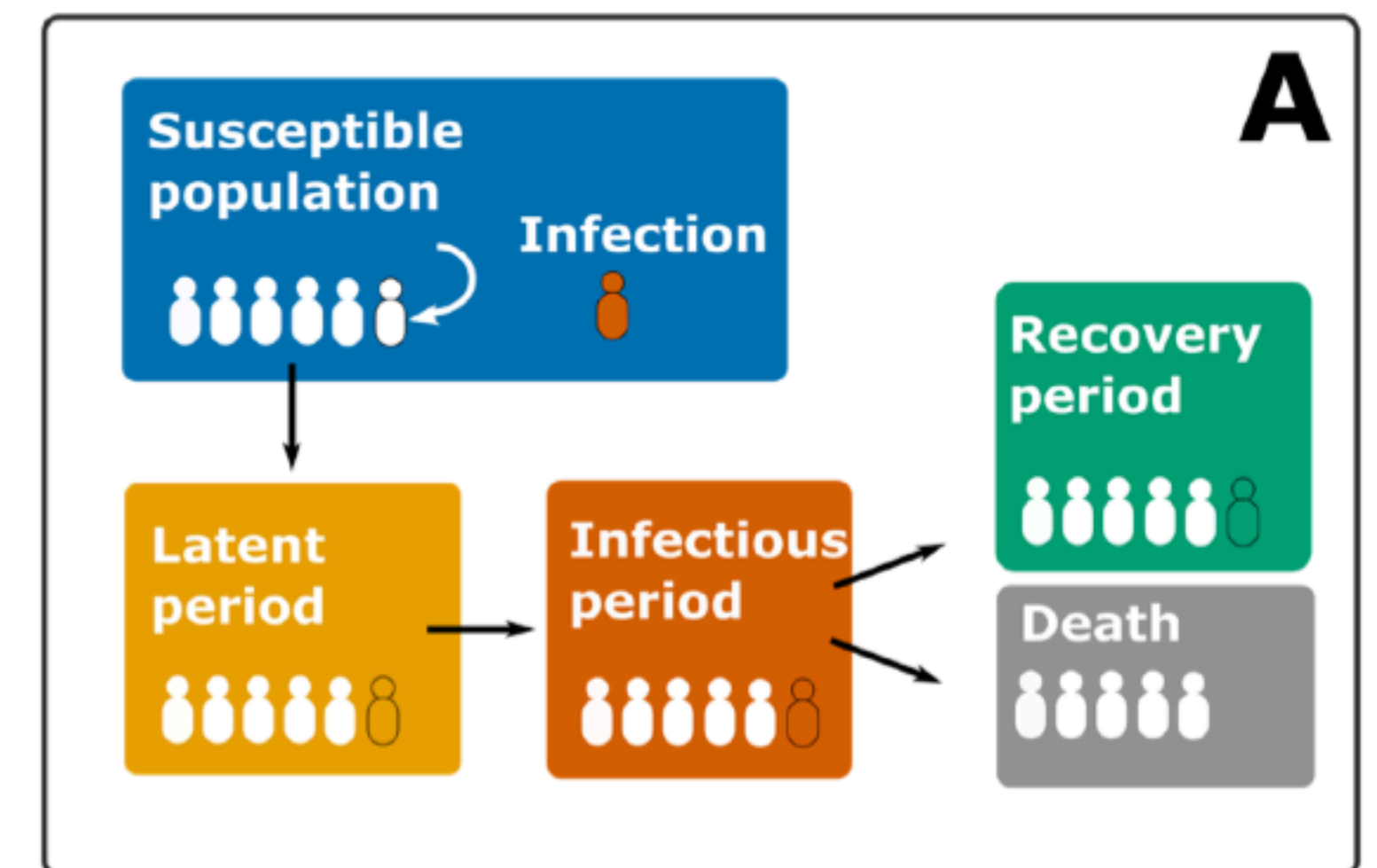# Case study
Ebola outbreak

- Population is assumed homogeneous and infinite

- Simulation begins with 1 infected

- Each infected individual is in one of the four possible states

  - latent

  - infectious

  - recovered

  - perished

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  - latent $\sim \Gamma(2,5)$

  - infectious $\sim \Gamma(1,5)$ [new infections with rate $R_0 f_G(s)$]

  - recovered $p = 0.3$, time$_\text{reco} \sim \Gamma(4,3)$

  - perished $p = 0.7$, time$_\text{die} \sim \Gamma(4/9,9)$