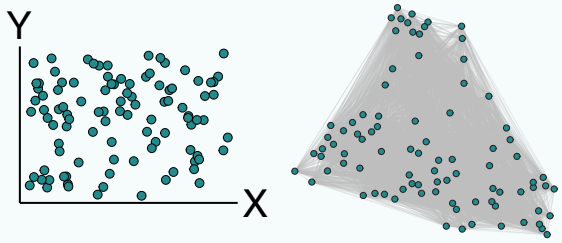
A. Spatial network

1. Simulate spatial coordinates and calculate pairwise distance



2. Prune the lowest-weight edges until connectance is 10%.

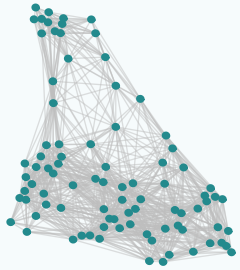
$$C = 0.10 = \frac{\#\ of\ edges}{(\#\ of\ nodes)^2}$$

$$0.10\ (\#\ of\ nodes)^2 = \#\ of\ edges$$

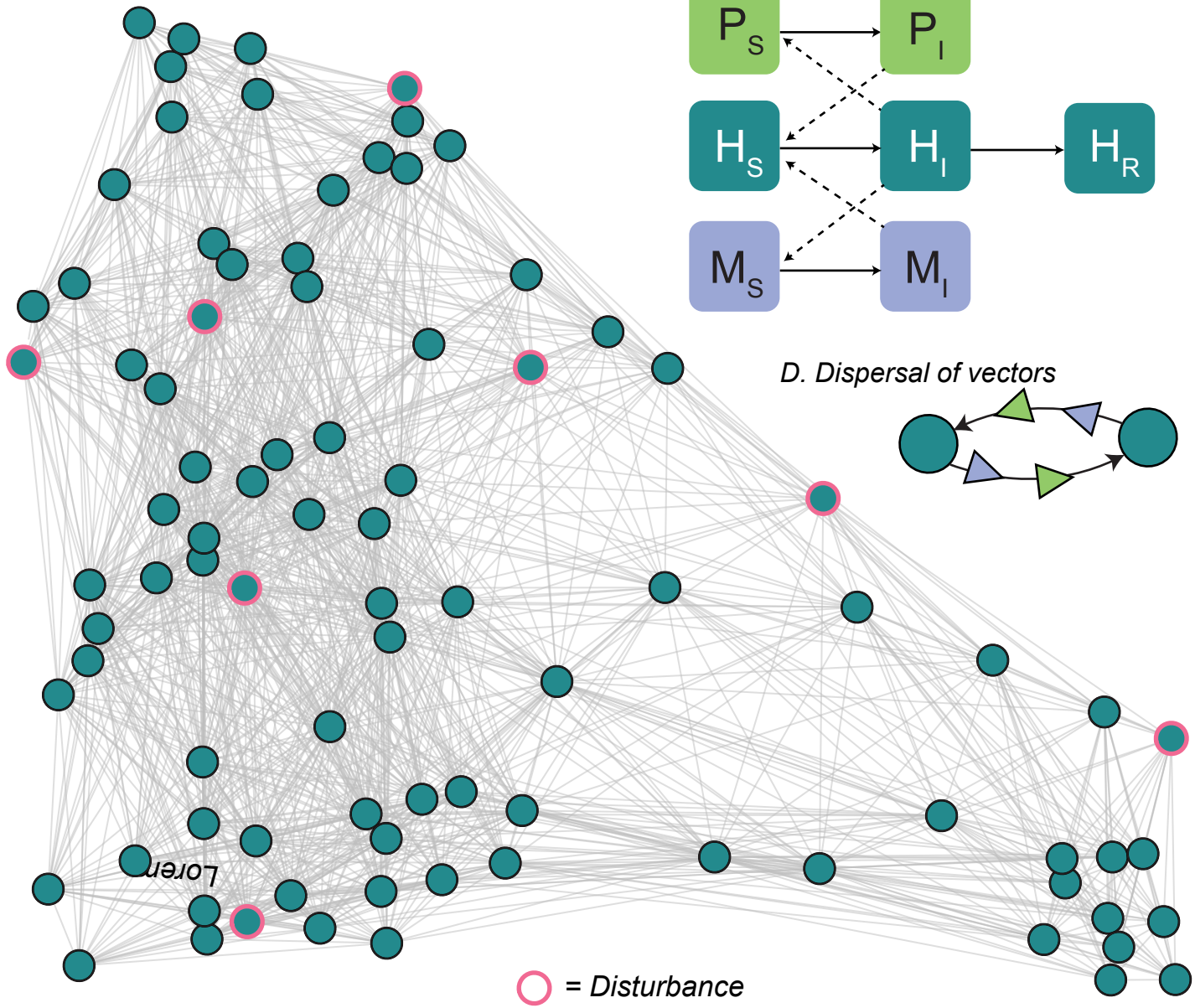
3. Recalculate pairwise distance; sequentailly add edges until desired connectance is met.

C = 10%

C = 15%



B. Processes on the network



C. Disease dynamics

D. Dispersal of vectors