962-92-824 Carlos Castillo-Chavez, Biometrics Department, Ithaca, NY 14853, and Abdul-Aziz Yakubu* (ayakubu@fac.howard.edu), Biometrics Department, Cornell University, 434 Warren Hall, Ithaca, NY 14850. Dispersal, Disease and Discrete-Time Models.

Discrete-time S-I-S epidemic models are capable of supporting multiple endemic equilibria coexisting with a locally asymptotically stable disease-free equilibrium. We illustrate the richness generated by such "simple" nonlinear systems in the study of two patch epidemic models with disease-enhanced or disease-suppressed dispersal. (Received September 27, 2000)