1073-91-183 **Frederick Chen*** (chenfh@wfu.edu). *Equilibrium, Efficiency, and Epidemics in a Game-Theoretic Model of Public Avoidance.* Preliminary report.

A mathematical model of infectious disease transmission in which people can engage in public avoidance behavior is considered. The tools of game theory are employed to analyze individuals' decisions regarding their level of public avoidance. It is shown that the number of Nash equilibria depends on properties of the contact function. When multiple Nash equilibria coexist, the severity of an epidemic and social welfare depend on which equilibrium is played. In general, the level of public avoidance in a Nash equilibrium differs from the socially optimal level. (Received August 01, 2011)