1092-92-141 **Glenn F. Webb\*** (`glenn.f.webb@vanderbilt.edu`), Department of Mathematics, Vanderbilt University, Nashville, TN 37240. *Mathematical Models of Antibiotic Resistant Epidemics in Hospitals.* Preliminary report.

The development of drug-resistant strains of bacteria is an increasing threat to society, especially in hospital settings. Many antibiotics that were formerly effective in combating bacterial infections are no longer effective due to the evolution of resistant strains. The objectives of this study are to develop both deterministic and probabilistic models for these epidemics and to compare the two approaches. The solutions of the models will be analyzed for qualitative behavior based on parametric input. The results will be interpreted for strategies that may mitigate the epidemics. (Received August 06, 2013)