1096-60-2206 **Maytee Cruz-Aponte***, mcruzapo@asu.edu, Tempe, AZ. *Kolmogorov Equations Applied to a Metapopulation Epidemiological Model.* Preliminary report.

Mathematical modeling of infectious diseases can help public health officials to make decisions related to the mitigation of epidemic outbreaks. However, over or under estimations of the morbidity of any infectious disease can be problematic. Therefore, public health officials can always make use of better models to study the potential implication of their decisions and strategies prior to their implementation. The influence of different factors can change the course of an epidemic outbreak, by means of intervention or prevention. Considering the randomness of events can help study different factors that need to be taking into consideration for better policy making and interventions. By adding stochastic processes to meta-population models we can study this factors. In this work I present a continuous time stochastic modeling approach. We will consider the continuous-time Markov chain process using forward Kolmogorov equations. This stochastic modeling approach as well as the implemented simulations will be presented in a single city and two cities epidemic model using, as a base, our deterministic model constructed for the AH1N1 pandemic of 2009. (Received September 17, 2013)