1142-92-12 **Md Mondal Hasan Zahid*** (mdmondal.zahid@mavs.uta.edu) and **Christopher M Kribs** (kribs@mathed.uta.edu). *Ebola: Impact of hospital's admission policy in an overwhelmed scenario.*

Infectious disease outbreaks sometimes overwhelm healthcare facilities with patients. A recent case occurred in West Africa in 2014 when an outbreak of Ebola virus overwhelmed healthcare facilities. In this type of scenario, how many patients can hospitals admit to minimize the burden of the epidemic? Here, we considered what type of admission policy by a hospital during a hypothetical Ebola outbreak can better serve the community. Our result shows that which policy minimizes loss to the community depends on the initial estimation of the basic reproduction number,R_0. When the outbreak grows extremely fast ($R_0 \gg 1$) it is better(in terms of total disease burden) to stop admitting patients after reaching the carrying capacity because overcrowding in the hospital makes the hospital setting ineffective at containing infection, but when the outbreak grows only a little faster than the system's ability to contain it ($R_0 \gtrsim 1$), it is better to continue admitting patients beyond the carrying capacity because limited overcrowding still reduces infection more in the community. However, when R_0 is no more than a little greater than 1(for our parameter values, 1.012), both policies result the same because the number of patients will never go beyond the maximum capacity. (Received July 19, 2018)