

1106-VG-2854

Jacob F Norton* (jfnorton@ncsu.edu) and **Georgiy Bobashev**. *An Agent-based Model of Drug Switching Incorporating Ethnographic Data.*

Drug offenses are the single most common cause of arrest in the United States. Of the 12.2 million estimated arrests in 2012 in the US, 1.55 million were for drug abuse violations. Though many studies investigate risk factors, treatment outcomes, differences across gender and ethnicity, and individual user trajectories, most often, drug use dynamics of single drugs are explored without considering poly-drug use. However, there is mounting evidence that illicit drug markets adapt in ways that simple models do not predict. Missing is a description of a combination of individual choice and drug trajectories and illicit drug market adaptation without leadership. Agent-based modeling is a useful modeling framework when anticipating emergent behavior and faced with high complexity. Therefore, we developed an agent-based model to identify potential causal patterns and feedbacks that could predict drug use behavior quantitatively and qualitatively. Novelty, the agent-based model was populated using ethnographic data gathered from a drug-using population in Ohio. Finally, the agent-based model is used to assess the effect of idealized changes to the drug-using population. (Received September 16, 2014)