

Modeling the Opioid Epidemic: Medicated versus Non-medicated Treatment

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The opioid epidemic is prevalent in countless communities throughout the United States and has yet to be mitigated. Treatments for OUD (opioid use disorder) include Medically Assisted Treatment (MAT) and treatment without medication, with the former being judged as more effective in terms of lower relapse rates, death rates, and criminal activity (FDA 2023; SAMHSA 2023). In this talk, we discuss the use of an Ordinary Differential Equations (ODE) model to study the relationship between MAT and the severity of the opioid epidemic, aiming to assess its effectiveness relative to non-MAT in treating OUDs on a large scale. An endemic equilibrium is found for the basic model with further analysis to be done.