JCOIN
JUSTICE COMMUNITY OPIOID INNOVATION NETWORK

MAARC 2.0

MODELING CORE

The Methodology and Advanced Analytics Resource Center's (MAARC) Modeling Core applies simulation-based approaches to complement or extend clinical trial investigations by providing the ability to run synthetic analogues of clinical trials that would not be practical or ethical to conduct in the real world.

In Justice Community Overdose Innovation Network (JCOIN) Phase 1, we developed the Justice-Community Circulation Model (JCCM) agent-based modeling (ABM) framework, an in-silico trials framework for modeling substance use disorder (SUD) interventions in carceral and community settings. The JCCM incorporates data from multiple sources, including publicly available sociodemographic and administrative data, public health surveillance, and empirical observational and clinical studies to inform model inputs and calibration targets. We use large-scale model exploration capabilities on high-performance computing resources to calibrate the models and to run intervention optimization and counterfactual scenario analyses.

The JCCM ABM framework allows for running computational trials to assess the impact of combinations of interventions on multiple outcomes (e.g., mortality, cost, quality of life) on a broader scale and over a longer time horizon than would be possible in an individual clinical trial. The framework, which can be extended based on empirical effectiveness data from real-world trials, allows for the examination of whether and how institutional and/or contextual factors modify the impact of interventions to facilitate SUD treatment initiation and continuation under various assumptions across a range of institutional and community settings.

SUBMISSION OF TECHNICAL ASSISTANCE REQUESTS

Technical assistance requests for all types of questions regardless of the MAARC core should be submitted via the online form. You may also access the form by scanning the below QR code:

Please allow 3–5 business days for a MAARC team member to contact you. Requests submitted via email, including direct requests to other MAARC cores, may be lost or may result in longer processing times.

MAARC MODELING CORE CONTACTS

For general JCOIN MAARC questions, please contact maarc@uchicago.edu.

For modeling-specific questions, please contact:

- Modeling Core Co-Director Anna Hotton: ahotton@bsd.uchicago.edu
- Modeling Core Co-Director Jonathan Ozik: jozik@uchicago.edu