Localized economic modeling to support implementation of the "Ending the HIV Epidemic in America" initiative

In 2016 our investigative team began a project aiming to identify optimal combination implementation strategies to reduce the public health burden of HIV/AIDS in six US cities (NIH-DA-041747). These six cities, all subsequently included in the EHE initiative, comprised 12 of 48 EHE-targeted counties and 24.1% of people living with HIV/AIDS in the nation. Considering the impact of 16 evidence-based interventions to Diagnose, Treat and Protect against HIV/AIDS, we found unique combination implementation strategies provided the greatest health benefits in each city; no two cities featured the same mix of interventions in their ‘optimal’ strategy. Moreover, we found the EHE goals were attainable in three of six cities. The biomedical interventions we considered would however have to be delivered at ideal levels of implementation, which would require additional efforts to reduce barriers in access to care and explicitly focus on reducing disparities in healthcare access among Black and Hispanic communities. We argue that promoting health equity is key to bridging this implementation gap and propose an approach to establish an equitable distribution of resources to maximize the impact of the EHE initiative.

Ending the HIV epidemic in Chicago: Evidence from high-fidelity local agent-based model

Agent-based models have enormous potential for modeling complex social phenomena. The ability to model complex individual-level social dynamics and project system-wide behaviors can help inform decision makers in their effort to curb a phenomenon like the spread of HIV. To produce actionable results, models need to accurately capture the dynamics and behaviors observed by decision makers. As such, models aimed at supporting decision making need to be tailored to the local context by incorporating behaviors based on local data. In this presentation we describe our model for HIV-spread in Chicago and highlight how we used Chicago-level data and input from local public health experts to inform this model. We will illustrate how our model can be used to perform predictive scenario analysis and discuss how these results can be used to inform decision makers as they plan their HIV care and prevention strategies to end the HIV epidemic.

The Implementation Research Logic Model: A Method for Planning, Executing, Reporting, and Synthesizing Implementation Projects

Abstract forthcoming.