

# A Structural Intervention to Improve Substance Abuse Diagnosis and Treatment Practices in HIV Clinic Settings: Integrated Care (iCare) at Mount Sinai

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## Background

Substance use is highly prevalent among people living with HIV and significantly exacerbates morbidity and mortality and accelerates HIV disease progression. Antiretroviral therapy (ART) has been the single most important treatment for slowing disease progression. ART adherence and HIV primary care are affected by a complex array of factors in the context of lives impacted by socioeconomic, psychological, and health challenges. Drugs and alcohol play a major role in non-adherence, engagement in care, and poor health outcomes among HIV-positive persons. While evidence is unequivocal that substance use treatment improves health outcomes, systems of care for the detection and treatment of substance abuse and dependence remain fragmented. Integrated approaches are key to the delivery of optimal care. In a collaboration between the Institute for Advanced Medicine (IAM) at Mount Sinai Health System and the Center for HIV Educational Studies and Training (CHEST) at Hunter College, CUNY, we will address implementation challenges at the frontline of service provision to pave the way for a comprehensive, integrated program (Integrated Care at Mount Sinai; iCare) to detect and reduce substance abuse and in turn, to improve ART adherence and HIV-related health outcomes among HIV-positive individuals.

## Specific Aims

The goal of this study is to develop an organizational-level intervention to enhance the adoption of screening for and treatment of substance use disorders among patients receiving care at the Institute for Advanced Medicine HIV primary care clinics. The primary research question is: What is the impact of a brief substance abuse screener and treatment referral process in improving substance use and HIV-related health outcomes among HIV-positive patients attending HIV care clinics? We will achieve our goal through the following Specific Aims:

**Aim 1:** Develop an intervention to integrate substance abuse treatment with HIV care in a consortium of HIV clinics in New York City. We will conduct formative research and utilize our findings as well as capitalize on existing systems and approaches utilized by our partners at the Mount Sinai Health System to: 1) incorporate a brief screening tool to identify patients in need of further assessment or treatment for substance abuse; and 2) train patient health navigators (PHNs) in motivational interviewing (MI) to engage patients for substance abuse treatment.

**Aim 2:** Test the effectiveness of the intervention using a stepped wedge trial design to sequentially implement a screening tool and training of PHNs at six HIV clinics. Our primary goal is to test the effectiveness of intervention components versus treatment as usual in identifying HIV infected persons with a substance use disorder and in linking them to substance abuse treatment. Secondary goals include examining the intersection among problematic substance use, HIV medication adherence, and HIV-related and other comorbid conditions.

**Aim 3:** Develop optimized technologies within the electronic health record (EHR) system used at the HIV clinics and integrate these with existing substance-use treatment mobile applications to retain patients in recovery and relapse prevention. This will specifically entail use of a MyChart mobile patient portal in an Office of the National Coordinator for Health Information Technology (ONC) certified EHRs

(Epic, Epic Systems Corporation, Verona, WI). The Affordable Care Act (ACA) and the Health Information Technology for Economic and Clinical Health (HITECH) Act place strong emphasis on the widespread adoption and implementation of EHR systems.

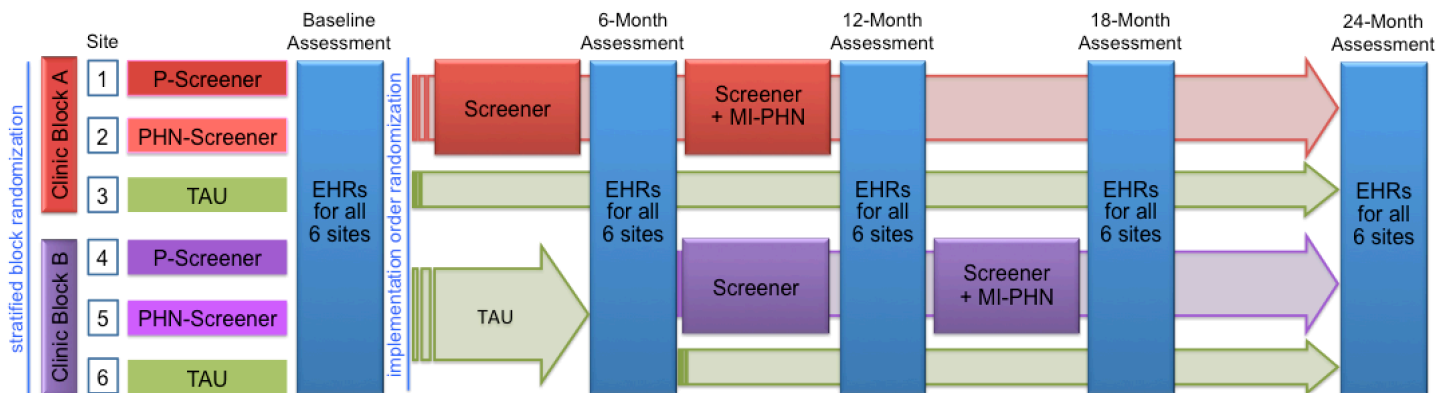
**Aim 4:** Assess the cost-effectiveness of implementing this organizational-level intervention. In order to enhance the likelihood of widespread implementation, we will conduct analyses to assess the cost-effectiveness of implementing the intervention components versus treatment as usual (TAU) alone.

### Overview of Study

iCare will be implemented in three phases. Phase 1 of the project is designed to:

1. conduct formative research to obtain implementation feedback from key experts and patients at Mount Sinai about the intervention components (screener and MI training for PHNs);
2. conduct cohort comparisons between HIV+ patients who have been engaged in substance abuse treatment and care, and patients who have not, to better understand the impact of problematic drug and alcohol use on disease progression over the lifespan and to identify factors that potentiate increased patient engagement in substance abuse treatment;
3. develop implementation protocols and intervention components to ensure culturally competent, feasible, and scalable implementation in clinical settings; and
4. work with IT and EPIC technicians at Mount Sinai to ensure that appropriate information about substance abuse and treatment, as well as HIV-related care, is shared with patients via the EPIC MyChart patient portal.

In Phase 2, we will utilize a stepped wedge trial design to sequentially implement the intervention components over 24 months at the Mount Sinai HIV primary care clinics (see Figure below). We will utilize stratified block randomization to randomly select clinics for each of the implementation steps. Outcomes will be assessed in 6-month intervals using data extraction from EHRs in EPIC to compare outcomes at the clinics receiving the intervention components to outcomes at the clinics implementing treatment as usual (TAU). The TAU sites serve as a natural history comparison group – patients who will have received TAU alone and not have been exposed to either the screener or PHNs who are trained in MI for substance abuse treatment.



**Note.** EHRs: electronic health records; P-Screener: patient self-administered screener; PHN-Screener: patient health navigator-administered screener; TAU: treatment as usual; MI-PHN: patient health navigator trained in motivational interviewing for substance abuse treatment

In Phase 3, we will test the feasibility of integrating a mobile support system for recovery and relapse prevention within EPIC’s MyChart mobile patient portal.