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CHIP Title: GAIN Project (**GA**mified **IN**centives-Based Treatment): Digital Rewards-Based Treatment for Justice-involved Dually Diagnosed Clients

Project Description:

In 2020, there were 700 overdose deaths in San Francisco, which was more than double the number of COVID deaths. Though the proximal cause of death is Fentanyl, 60% of those who died were using methamphetamines, which means that many of those deaths may have been prevented by targeting stimulant use. UCSF Citywide serves nearly 2000 people annually with serious mental illness (SMI), homelessness, and institutionalization (long-term locked psychiatric hospitalization and incarceration). Over the last ten years, we have noted a steady rise in methamphetamine use and associated adverse outcomes in our client population, including worsened psychotic symptoms, increased likelihood of arrests or recidivism, increased social challenges (such as houselessness), and increased use of acute psychiatric services. Unlike many substance-use disorders, methamphetamine-use disorder (MUD) lacks an effective medication-based intervention. The only treatment with a clear evidence base is contingency management (CM). However, this treatment has not been widely used because of two challenges, (1) it has only been used experimentally because it financially rewards clients for reducing substance use, which brings up concerns about cost, sustainability, and diversion of funds, and (2) it is administratively complex to implement. The first challenge has been answered. The fact that California will launch a state-wide CM pilot through CalAIM and there is interest at the federal level to make CM reimbursable through public insurance indicates that CM will become a mainstream treatment. A digital solution can answer the second challenge by using an app that would make CM more scalable by reducing the heavy administrative burden. We have obtained \$1M philanthropic funding to develop an app to provide contingency management to our justice-involved clients who struggle with mental health challenges and substance use disorder. This project aims to (1) provide CM to reduce stimulant use, (2) increase digital literacy and access to aim for “digital belonging” for those at the margins of society, (3) support overall recovery goals through gamification and rewards, and (4) clarify implementation steps necessary to provide CM to this highly marginalized population successfully.

Key Findings:

After pitching ten different projects to a funder in Feb 2021, I obtained funding for this project in late summer 2021 and started to build my team in November 2021. Here are the benchmarks met so far:

1. Assembled Multidisciplinary Team comprised of project manager, evaluation faculty, contingency management expert, administrative assistant, digital peer navigator, clinical supervisor, and liaison.
2. Assessed organization readiness, developed all protocols and training materials, and obtained all supplies, including client debit cards, smartphones with a data plan, Urine Toxicology Screen (UTS).
3. Developed a 6-month program with three parts: (1) digital engagement, (2) contingency management with rewards escalation to reduce substance use via UTS, and (3) wellness tasks assignment that connect to recovery goals.
4. Developed a minimally viable product (MVP) smartphone app through cycles of design and iterative testing with a vendor, SPROKIT, which employs formerly incarcerated individuals.
5. Created digital literacy assessment tool, tool matching dimensions, and curriculum to be used by digital peer navigator.
6. Cleared all regulatory steps, including IT Security Risk Assessment, Business Impact Analysis, Data Transfer Agreement, IRB, and Appendix DS of Business Associate Agreement.
7. We Have started to enroll clients in August 2022.

Lessons Learned:

1. Vet your vendor: The vendor approached us years ago because, just like our organization, they were working in the criminal justice area (they are founded by and employ formerly incarcerated individuals). The funding opportunity came up suddenly, which meant we had little time to vet the vendor when we pitched the project. The funder also wanted a rapid demonstration project, leading to an intensive timeline, leaving little time for due diligence. Since starting app development in earnest, we have realized that the vendor's project development capability is limited.
2. App development is an adventure with an uncertain timeline: This was my first foray into the technology-based project, and thus have learned that the timeline is always longer than expected.
3. Know the regulatory hurdles: Digital treatments were not around when HIPAA was written. With the explosion in this field and the demonstrated vulnerability of digital systems, the institutional regulatory process appeared to be rapidly evolving and fragmented while challenged by COVID restrictions and general systems gridlocks, leading to significant delays.
4. People are essential: The project was designed to work with a highly marginalized population, who are traumatized from relentless setbacks, and, thus, find it hard to engage in treatment and are not typically considered for digital-based treatment. For the project to be successful, we needed it to work within the client-clinician case manager dyad. We also needed a digital peer navigator who could enhance digital engagement.

Next Steps:

- Metrics (produced from Oct 2022 through Apr 2023):
 - App engagement through the regularity of login
 - Abstinence from drugs based on Urine Toxicology Screens
 - Rate of appointments kept
 - Increased medication adherence
 - Increased social stability based on reduced re-arrest and increased housing stability
- Next Milestones:
 - Start enrollment, collect data, analyze, write up implementation manual, and raise funds to continue and scale to all UCSF Citywide clients and SFDPH BHS clients.