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Developing Android, iOS Apps for Mobile-Enhanced Prevention Support (MEPS) for Men Who Have Sex with Men (MSM) and Transgender Women (TW) Leaving Jail in South Los Angeles in the USA

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Abstract

MSM and TW personnel, who underwent criminal justice involvement (CJI) in the USA, have a particularly high HIV burden. The post-incarceration period following community reentry is critical for addressing potential risks of HIV/STI acquisition and negative sequelae of substance use. To address this scenario, we designed a new intervention that includes a GPS based mobile app (called GeoPass), peer support and incentives for promoting the use of HIV prevention, substance use treatment, and related services.

Keywords:

Mobile Health, Biomedical Prevention Support, LGBTQ Persons.

Introduction

In the United States, there is disproportionate impact of HIV on MSM and TW especially those with criminal justice involvement (CJI) [1]. HIV prevalence estimates in jail populations are five times those of the general US population, and for MSM and TW populations the rates of incarceration are higher [2]. A major percentage of population in jail have substance use disorders (SUDs) [3,4,5]. The post community reentry period following incarceration is vital for addressing potential risks of acquiring HIV/STI and negative sequelae of substance use [6,7]. To address these issues this study was created as an intervention with a goal to reach a high-risk population with increased risk of HIV infection – MSM and TW who have been diagnosed with substance use disorders and are leaving (or have recently left) jail.

Methods

The method we followed was a two-arm, randomized, controlled trial where we enrolled 300 HIV-negative, MSM/TW between the age group of 18 through 44 who are with substance use disorders (SUDs) and who are still in jail or have recently been released from jail. We randomized and compared participants of MEPS intervention to those belonging to a control group receiving customized referrals and substance use-focused case management to the intervention group receiving customized referrals besides the App, incentives, and Peer Mentor (PM) support for six months.

Results

GeoPass Mobile App was designed from the scratch using Java for Android devices, using Swift for iOS devices and using ASP.NET for Mobile Web apps. Enrollment for participants began in November 2019, with study completion in 2023. Intervention participants received a new mobile app developed for this purpose, called GeoPass incorporating personalized participant goals with other features that facilitate and motivate accessing needed services including reminders, detailed information about service providers, automated positive feedback when services are utilized and goals attained and messages from the Peer Mentors (PMs). The app required participants to provide feedback involving close-ended responses to 4 short questions on services accessed in order to obtain the associated incentives, the incentives will be provided in the form of mobile gift. Smartphone based GPS Geolocation validated service utilization.

Discussion

The intervention will increase rates of service utilization and use of pre-exposure prophylaxis (PrEP) for HIV prevention over the standard-of-care case management (control group). The MEPS study will test the acceptability and feasibility of combining Mobile Applications with PM services to facilitate service utilization and participant-Peer communication.

Conclusions

MEPS will be able to assess patterns of uptake and utilization of pre-exposure prophylaxis (PrEP) in MSM and TW who are leaving jail, and will provide here-to-fore unavailable data on post-incarcerated persons' treatment regarding HIV, STI, substance abuse PrEP and patterns and experiences for service utilization, including data for geofencing for those in the intervention arm.

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