C.eCam: A Virtual Health Information One-Stop for Enhancing SUD Treatment Services for Consumers with Co-occurring Disabilities

Jared Embree, Josephine Wilson, & Jon-Michael Huber

Substance Abuse Resources & Disability Issues (SARDI) Program

1. Abstract

The eCAM program was designed to address the barriers to substance use disorder (SUD) treatment faced by consumers with co-occurring disabilities, by utilizing culturally appropriate cessation and recovery support services via e-therapy. The program implemented improvements for universal access to online materials (audio versions, screen reader compatibility, etc.) and development of personal web portals tailored to each consumer's individual needs. Emphasis was placed on making interactions and resources as accessible as possible, both culturally and technologically. In addition, open source solutions were used whenever possible to reduce cost and ease replication of the study. Because access to technology is as diverse as the types of accommodations required to facilitate recovery, every effort was made to minimize barriers across the program. This included enhancements from language choice, and the ability to tailor resources to match individual consumer's needs, to optimizing portals to work across major platforms, browsers, and mobile devices. CAM populations include Deaf/HH, making access to resources in American Sign Language a priority. Additionally, eCAM participants had an average reading level of 8th grade, with 39.08% scoring at that grade level or lower; necessitating materials in simple English and audio formats. Electronic reminders of upcoming appointments were sent by email and text in response to chronic absenteeism and high no-show rates among traditional SUD consumers, with limited success. By meeting consumers where they are and making materials accessible from the beginning, the eCAM program represents an economical open-source alternative to commercial applications that is both secure and accessible.

2. Introduction

The eCAM program (TCEF TR23833) enhances traditional SUD treatment for CAM consumers by utilizing patient communication portals with secure personal web pages (optimized for mobile devices) that provide access to communication with their counselors, recovery education materials, personal health information, and peer recovery. The target population consisted of consumers engaged in mental health or SUD treatment, and was funded by a three-year grant from the Substance Abuse and Mental Health Services Administration (SAMHSA). Participants were engaged in treatment, and connected with support programs via a telemedicine program. Data were collected as part of the intake process into the treatment program, and at a 6 month follow-up appointment. The eCAM program was conceived to address the multiple barriers to substance abuse treatment, including poor access to transportation, reduced literacy, socioeconomic barriers, and complicating medical issues in rural Champaign and Logan counties and urban Montgomery County (OH).

3. Population

The population consisted of consumers (n=125) from the Consumer Advocacy Model (CAM) in Dayton, Ohio, and included 66 men (53.7%) and 57 women (46.3%). The mean age was 41.1 years and ranged from 19 to 58 years of age at the time of intake. Fifty-three participants (41.1%) identified themselves as Caucasian, 44 participants (35.8%) as African American, and 14 participants (11.4%) as Native American. Seventy-seven participants (62.6%) reported a high school diploma or equivalent, and 16 participants (13.0%) were employed at least part time at the time of intake. Consumers had an average reading level of 8th grade (score = 8.89), with 30.9% (n=38) scoring at that grade level or lower. Of the consumers scoring at the 8th grade level or lower, 7 had SORT-R scores indicating reading levels at or below 4th grade. Seven consumers lacked sufficient reading skills to take the test.

4. One Stop Electronic Model (Portals)

After consumers log into a secure site, their personalized resources and communication options are available. Resources exist in a variety of formats and languages and are optimized to work across platforms on multiple operating systems, desktop and mobile devices, and all major browsers. The use of existing technology is emphasized to utilize resources already available to consumers. Some resources are available in text-based and non-text-based formats, based on the consumer’s preferences.

5. Accessible Resources

Consumers are able to access resources in a variety of languages and formats, including video, audio, and text. As CAM moves to an electronic health record (EHR) consumers will have increased direct access to their health information. The portals are designed to be flexible and adaptable to fit a variety of languages and consumer needs. As technology improves, a web based system allows eCAM to change and improve as technology improves.

CAM consumers who use American Sign Language (ASL) have access to specialized services in addition to the resources available in English. Increasingly, materials are available in ASL or with closed captioning for hard of hearing and late deafened consumers. Deaf consumers are also able to attend online 12-step meetings remotely in secure meeting rooms.

6. Accessible Communication

eCAM consumers have the ability to attend sessions with providers remotely, or in person. In addition, they can communicate by text message, email, and phone. Each consumer’s needs are different and through technology they have their choice of utilizing as many or as few of these modes of communication as they see fit. Electronic schedule reminders are also available via email and text for those individuals who choose to receive them.

7. Results

Consumers enrolled in eCAM were verbally given a series of tests to measure drug and alcohol usage. These surveys included the Alcohol Use Disorders Identification Test (AUDIT), Drug Abuse Screening Test (DAST), and the Addiction Severity Index (ASI). An initial assessment was given as a baseline and compared with a second assessment six months later. Although not significant, there was a trending decrease in average drug and alcohol usage among the consumers.

Alcohol Use Disorders Identification Test

Of the consumers who completed a follow-up interview (n = 66), there was a decrease in the number of consumers scoring 8 or above (Zone II-IV) at follow-up (34.9%, n = 23) compared with intake (37.9%, n = 25). Additionally, those consumers who scored high enough to warrant diagnostic evaluation and possible treatment for alcohol dependence (Zone IV) showed a decrease from intake (16.7%, n = 11) to follow-up (10.6%, n = 7). Although the difference was not significant (p = .139), the mean score decreased from 8.64 (Zone II) at intake to 7.47 (Zone I) at follow-up.

Drug Abuse Screening Test

Drug Abuse Screening Test (DAST) scores were compared between intake and follow-up for 66 consumers who returned for a follow-up appointment. Of the consumers who completed a follow-up interview (n = 66), there was a decrease in the number of consumers scoring more than 6 at follow-up (37.9%, n = 25) compared to intake (53%, n = 35). There was a significant decrease (p = .026) in DAST scores from intake to follow-up.

Addiction Severity Index

Average number of days used alcohol in past 30 days

Intake = 3.47 days (range, 0-25)
Follow-up = 3.14 days (range, 0-28)

Average number of days used alcohol to intoxication in past 30 days

Intake = 2.14 days (range, 0-25)
Follow-up = 1.80 days (range, 0-28)

Average number of days used drugs in past 30 days

Intake = 2.97 days (range, 0-28)
Follow-up = 1.96 days (range, 0-30)

Results related to change over time suggest that there were no significant differences in the ASI alcohol scores between baseline and follow-up. There were significant reductions (p = .006) in ASI drug scores from baseline to follow-up.

By providing opportunities for synchronous and asynchronous communication, the number of monthly contacts per consumer can increase without adversely increasing the workload for providers. This level of engagement is increasingly common in other areas as consumers continue to embrace technology in their lives. Communicating in these ways is not only convenient, but a reasonable accommodation for many. Tele-health provides a way for consumers with mobility or transportation issues to attend appointments they would otherwise miss. It also allows Deaf consumers a culturally and linguistically appropriate means of communicating with professionals in their own language and reduces the need for costly interpreting services ins some cases.