A Framework for Developing a Substance Use, Abuse, and Recovery Web-Based Application

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ABSTRACT

Many community programs are launched with all of the hope and promise of success. Such programs seem to have ample human and fiscal resources. Oftentimes, however, it is not until reporting is required or the community program is no longer scalable that organizers realize that methods of data collection, often paper or spreadsheet, are not sustainable. As part of a larger accountable care communities initiative, Jefferson County, Alabama, has launched a recovery resource center for substance users, abusers, those in recovery, and their families. We combined a design science approach with a community based participatory research approach resulting in a framework that guided the design, development, and evaluation of a prototype of a substance use, abuse, and recovery web-based application. Findings suggest that using this framework creates a sustained alignment between requirements and development at every phase and saves time in the overall development cycle.

KEYWORDS

Accountable care community, design science, community based participatory research, substance use disorder

EXTENDED ABSTRACT

According to the National Survey on Drug Use and Health (NSDUH), 19.7 million American adults battled a substance use disorder (SUD) in 2017. An estimated 20.7 million people needed treatment for a substance use disorder, whereas only 4 million (19%) received treatment. Drug abuse and addiction cost American society more than $740 billion annually in lost workplace productivity, healthcare expenses, and crime-related costs, while also causing life altering consequences to the victims, and victim family members, friends, employers, and the surrounding community (National Institute on Drug Abuse, 2017; Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics and Quality, 2013). Recognizing that SUD treatment is not a "one size fits all" approach, Jefferson County, Alabama has taken a multi-faceted approach to care delivery across the SUD continuum. Part of this approach involves creating an accountable care community in which a trusted central location is created in which clients are informed of and "triaged" to appropriate resources(Tipirneni, Vickery, & Ehlinger, 2015).

Community programs are often seen as failures because they lack the forethought to collect data in a manner that is extractable for reporting (Winterford, 2013). However, when communities implement community initiatives with a strong focus on a targeted population, the nuances of the community, and the ability to report outcomes the results can be promising (Gullo et al., 2017; Komro et al., 2001). Since the Recovery Resource Center (RRC) in Jefferson County, AL is the first of its kind in the state, there was great interest in engaging all stakeholders for a sustainable and scalable initiative. As such, we used best practices from Design Science and best practices from Community Based Participatory Research to develop a unified framework to guide the requirements, development, and evaluation of a new substance use, abuse, and recovery web-based application to facilitate data collection and reporting. This unified framework has resulted in accelerated development cycles, consistent community partner engagement, and fewer iterations. The end-users report "feeling as though we are part of the process rather than just getting a system forced on us."

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