




Recovery Journey of Diverse Populations Using Design Thinking Method: Recommendations for Practitioners and Policymakers


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Abstract

Through a state grant-funded multicultural needs assessment, researchers from a U.S. southeastern state university captured the voices of underserved populations related to their unmet needs and recovery journey from the non-medical use of opioids and other substances. Specific voices of African Americans, Latinx, mature adults, veterans, people who are homeless, college students, and individuals within the lesbian, gay, bisexual, trans, and queer (LGBTQ+) communities were captured utilizing design thinking protocol in focus groups. Participants recommended that providers be culturally responsive in disseminating information and providing affirming care. Moreover, participants felt that counselors and other professionals should be more empathetic and nonjudgmental and provide culturally relevant care that is responsive to the respondents' specific needs.

Keywords: unprescribed prescription and other substances use, recovery, diverse and underserved populations

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Introduction

The opioid and prescription drug overdose epidemic has garnered intense national attention for its destruction of human life, particularly among White middle-class people. However, much of the national discourse has paid scant attention to the effects of the epidemic on vulnerable and underserved communities, especially African Americans, Native Americans, Latinx, Asians, and other people of color. Consequently, using a systems perspective, this study focused on understanding the needs and recovery journey of the following populations in a southeastern metropolitan city: African Americans; Latinx; veterans; lesbian, gay, bisexual, trans, and queer persons (LGBTQ+); college students; mature adults (over 65 years) and people without housing.

“While much of the social and political attention surrounding the nationwide opioid epidemic has focused on the dramatic increase in overdose deaths among White, middle-class, suburban, and rural users, the impact of the epidemic in Black communities has largely been unrecognized” (James & Jordan, 2018, p. 1). Nationally, overdose deaths skyrocketed during the COVID-19 pandemic: in the 12 months ending April 2021, an estimated 100,306 overdose deaths were reported, representing an increase of 29% from the previous year (Centers for Disease Control, n.d.). Additionally, unprescribed uses of opioids, heroin, synthetic opioids, and Fentanyl cumulatively cost society, not only in terms of substance use disorder (SUD) treatment and health care costs, but also in terms of lost productivity. The Council of Economic Advisors Services (Neville & Foley, 2020) estimated that the 2015 financial burden was \$504 billion, or 2.8% of the gross domestic product. Since 2018, national and regional focus and funding have gone toward treatment and recovery; however, Caucasians are more likely than African Americans and other people of color to be the primary beneficiaries of Buprenorphine treatment modalities (Nguyen et al., 2022). Clearly, there are disparities in accessing different treatment options by members of diverse communities, which impacts the recovery journey.

Opioid and Prescription Drug Overdose Crisis

The opioid epidemic occurred in three distinct waves. The first, in the 1990s, was characterized by an increase in opioid prescribing. The second wave began in 2010, marked by the rapid increase in overdose deaths predominantly due to heroin. During the third wave, beginning in 2013, synthetic opioids—particularly illegally manufactured and distributed Fentanyl—became the driving force behind overdose deaths (Centers for Disease Control, n.d.).

From 2018 to 2020, overdose rates for all ethnic groups in the United States increased (Hedegaard et al., 2021). According to the Georgia State Department of Public Health, the total number of opioid overdose deaths in Georgia increased by 78% from 2010 to 2019 (Georgia Department of Public Health, 2020). Also in 2019, Caucasians were 2.4 times more likely than African Americans to experience opioid overdose deaths. While the opioid overdose death rate among Caucasians had a steady upward trend in the first two quarters of 2019 (Georgia Department of Public Health, 2020), opioid-involved overdose deaths among African Americans in the state increased by approximately 35%, from 129 deaths in 2018 to 174 deaths by the end of 2019 (Kaiser Family Foundation, 2022). Similarly, a national study by Larochelle et al. (2021) found a 40% increase in overdose deaths among non-Hispanic African Americans between 2018 and 2019. In 2020, the number of opioid-involved deaths among African Americans in Georgia rose to 277 (Kaiser Family Foundation, 2022).

The Substance Abuse and Mental Health Services Administration's (SAMHSA) 2019 National Survey data (2020a) estimated that 11.8 million persons aged 12 or older misused prescription pain relievers or used heroin in the past year. Consequently, it is incumbent on policymakers and practitioners alike to understand the recovery journey (from all types of unprescribed substance use), particularly for underserved and underrepresented populations.

Unfortunately, political discussions and media coverage related to substance overdose deaths have focused predominantly on the White middle class (James & Jordan, 2018). In Georgia, an understanding of the lived experiences and recovery journey of African Americans, Latinx, mature adults, college students, veterans, people without housing, and those from the LGBTQ+ community is limited. Their experiences have not informed the statewide multisector strategic plan for addressing opioids, prescription drugs, substance use, overdose, and related deaths. The primary purpose of this study was to examine the lived experiences of people from the different racial, ethnic, and underserved population groups named above as they relate to recovering from opioid, prescription drugs, and substance use disorder. The secondary purpose was to accumulate recovery journey experiences for dissemination to state-level strategic planning workgroups to help in designing inclusive strategies and policies that are responsive to diverse groups.

Examination of the Recovery Journey Through a Systems Perspective

The recovery journey of individuals experiencing substance use disorders is impacted by both the systems they live in and the systems they access for resources, treatment, and recovery. The Systems of Care (SOC) concept originated in the 1980s, with SAMHSA proposing SOC for children with mental health challenges. According to Stroul, SOC is a spectrum of effective, community-based services and supports for children and youth with or at risk for mental health or other challenges and their families, that is organized into a coordinated network, builds meaningful partnerships with families and youth, and addresses their cultural and linguistic needs to help them function better at home, in school, in the community, and throughout life (Stroul et al., 2010, p.1).

Though this concept was applied originally to young adults with mental health challenges, we used it for understanding the systems of care (both formal and informal) accessed and used by individuals from different backgrounds in their treatment and recovery journey. Cohesive systems of care adapt to complex and recurring problems based on the needs of the subsystems—in this case, the individuals seeking treatment and in recovery, as well as various providers, funders, and supporters or allies of people in recovery.

Systems have several components: inputs, throughput, output, feedback loops, subsystems, interdependence, and homeostasis. A systems approach explores how these components interact and impact each other, in addition to impacting the larger system (Slusser et al., 2019). Therefore, to understand a system, we need to examine and understand these components. Joseph et al.'s (2002) formative work conceptualizes a systems approach to include multidisciplinary groupings that interrelate to form a uniform goal. Interaction between parts creates new properties specific to the system that are not caused by any one part. By incorporating a systems approach, researchers were able to comprehensively capture and understand the multidimensional recovery journey of participants from diverse population segments.

Literature Review

Literature examining the needs and recovery journeys of individuals with opioid use disorder (OUD) and substance use disorder (SUD) among the African American, Latinx, mature adult, college student, LGBTQ+, veteran, and people without housing communities is sparse (Alegria et al., 2008). Some research speaks to the lower rates of treatment initiation by African Americans for SUD and OUD in relation to those of Caucasians, but the reasons for this are unclear (Acevedo et al., 2012). Tragically, policymakers and service providers

know little about the lived experiences and circumstances that influenced the consumption of unprescribed substances and medications by members of the mentioned groups, or about the challenges or experiences they face while seeking assistance, treatment, and resources, or during recovery. Bauer et al. (2005) note that individuals experiencing dual diagnosis (e.g., mental illness along with substance use disorders) and/or OUD face numerous barriers to accessing care and treatment, which is often not adequately researched or well understood.

Alarming, evidence suggests a mismatch between the availability of and knowledge about resources and information related to substance use treatment, prevention, and recovery services among community members. Due to this mismatch, nationally only one in ten individuals suffering from SUD receive treatment (SAMHSA, 2019). Furthermore, African Americans, and Latinx who access treatment and services are more likely to have unsuccessful initial treatment sessions, which often discourage them from accessing follow-up visits (Guerrero et al., 2013). Unless policymakers, funders, and providers thoroughly understand and strategically address these challenges, the success of efforts to address SUD and OUD, especially among underserved populations, may be limited. This section explores literature related to the experiences of specific underserved populations regarding SUD, including help-seeking behaviors, accessing services, and treatment completion. Thematically, participants from different cultural groups (e.g., African Americans, people without housing, veterans, college students, Latinx, and mature adults appear to have had negative experiences seeking information, treatment, or assistance after non-medical use of opioids and other substances.

Latinx Born in the United States

Alcohol and SUD are more prevalent in the U.S. Latino population than in immigrant Latinx. In addition, Latino men have a higher prevalence of substance use than women (Villalobos & Bridges, 2018). Mancini et al. (2015) found similarly that, after controlling for age, education, income, and gender, the lifetime prevalence of SUD was highest among U.S.-born Hispanics compared to similar immigrants. Factors such as childhood trauma, discrimination, bias, racism, and being born in America correlate with substance use in this population (Ai et al., 2016).

College Students

There are multiple reasons college students use substances (e.g., opioids, alcohol, and other substances) for non-medical purposes. According to Hubbard et al. (2018), college students face enormous stressors related to school responsibilities and substantial mental health challenges compared to the majority population. More importantly, researchers note a strong correlation between mental illness and SUD, especially misuse for non-medical reasons (Lo et al., 2013). Sadly, college students face an uphill battle in accessing and receiving the necessary services to support their academic and personal success (National Council on Disability, 2017). Furthermore, integrated health care is not a norm on college campuses.

People Without Housing

It is challenging to glean accurate data on the prevalence of non-medical substance use in this population, mainly because its members are difficult to access. However, some troubling trends warrant attention. For example, adults who are without housing have higher rates of SUD and are at increased risk for poorer health outcomes (Gambatese et al., 2013; SAMHSA, 2013). According to SAMHSA (n.d.), many people who are without housing started using alcohol and/or non-medicinal substances after losing their homes.

Individuals without housing have a higher mortality rate than those who are housed. Startling data from 2020 report that there were 580,466 people without housing in the United States; some were displaced families, but 70% of this population were individuals (National Alliance to End Homelessness, 2021). This problem disproportionately impacts marginalized groups. For example, higher unemployment rates, lower incomes,

less access to healthcare, and higher incarceration rates are just a few of the contributing factors placing the homeless population at risk (National Alliance to End Homelessness, 2021). Three factors are correlated with non-medical use of substances: childhood abuse, early exposure to drugs, and chronic pain (Flanagan & Briggs, 2016). Flanagan & Briggs (2016) recommend promoting positive change in this population's lived environment by incentivizing activities and behaviors such as abstinence from illegal substances or involvement in harm reduction activities.

Veterans

According to Wilkie (2018), veterans are twice as likely to succumb to an opioid overdose compared to civilians. Additionally, some have complained of having negative experiences with healthcare providers and rehabilitation centers. Moreover, some felt that their providers were insensitive and inadvertently retraumatized the patients. Accessing transportation to and from treatments was another significant barrier for this population, impacting their ability to complete treatment sessions (True et al., 2015). African American veterans with mental, physical, emotional, and other disabilities face challenges in accessing services. Social-economic status, stigma, and racism often prevent them from seeking the services they need. Instead, many try to deal with their mental health issues by developing dysfunctional coping mechanisms that sometimes lead to adverse outcomes (True et al., 2015).

African Americans

Systemic challenges such as economic barriers, discrimination, oppression, racism, safety, and access to affordable healthcare are formidable factors impacting African Americans' use of non-medical substances, particularly for males (National Alliance to End Homelessness, 2021). These factors also impact their overall mental and physical health. Seminal work by Williams and Jackson (2005) posits that policies and practices should focus on cultural humility in addressing these health disparities. Although some attention has been given to cultural humility as a lens to address these health disparities, these practices vary based on organizational commitment, leadership, and mission (Betancourt et al., 2005). Alarming new data reveal a 38% increase in opioid overdose deaths among African Americans in four states; these statistics are driven mainly by heroin, Fentanyl, and the COVID-19 pandemic (National Institute on Drug Abuse, 2021). Access to treatment and mistrust of medical providers are just some of the barriers to treatment and recovery for African Americans (Bauer et al., 2005).

People From the LGBTQ+ Community

People from the LGBTQ+ community are at increased risk for non-medical use of substances (National Council on Disability, 2017). Multiple factors impact their use of substances and access to treatment, especially among different ethnic groups in this population, mainly because they face discrimination and oppression at the intersections of race and homophobia (Li & Caltabiano, 2017). Unfortunately, such oppression often occurs in the Black heterosexual and White gay communities, making treatment access and completion difficult. Providing opportunities for this population to include their significant other or close friends in SUD treatment can help promote program completion rates and produce positive outcomes (Senreich, 2010). Additionally, having a "safe" recovery environment is essential for treatment completion and success for this population (Blume, 2016).

Mature Adults

Mature adults are vulnerable to SUD, especially with co-morbidities playing a significant role. For example, many also have high blood pressure, heart disease, liver disease, or neuropathies, resulting in falls (SAMHSA, 2020b). Moreover, isolation, loneliness, and post-surgery care with pain medication have exacerbated SUD within this population. Additionally, biases against this age group also contribute to SUD not being recognized

by healthcare providers and family members. Furthermore, the COVID-19 pandemic has interfered with accessing treatment programs and resources that this community depends on, making recovery even more elusive for this population (SAMHSA, 2020b).

In summary, the literature highlights the various challenges—structural and personal—experienced by diverse population segments in accessing care and treatment and in their recovery journeys. These barriers make these populations vulnerable to being underserved by the treatment and recovery systems of care.

Purpose of the Study and Research Questions

This study attempted to cover a wide range of underserved populations to give voice to their varied experiences while using unprescribed substances, as well as during their recovery journeys. Therefore, this research addressed two questions:

1. What are the lived experiences of African Americans, Latinx, mature adults, veterans, college students, individuals without housing, and members of the LGBTQ+ community related to using unprescribed substances and to recovering from unprescribed substance use disorder in Georgia?
2. What types of creative solutions would they like to help cocreate?

Methods

The Human-Centered Design Thinking (HCDT) perspective guided this research process. “A human-centered design will help [researchers] hear the needs of constituents in new ways, create innovative solutions to meet these needs, and devise solutions with financial sustainability in mind” (Ideo, n.d.). Several features of this perspective were beneficial for understanding the lived experiences of culturally diverse subpopulations. HCDT orientation is a judgment-free, iterative process for understanding a participant’s experience from their own perspective. This perspective and process delve deeply into understanding the lived experiences of the consumers/participants and set the stage for designing meaningful and innovative solutions for the participants (Liedtka et al., 2019). HCDT perspective also “brings together both creative and analytic modes of reasoning, accompanied by a process and set of tools and techniques” (Liedtka, 2015, p. 929). This perspective and toolkit help dismantle various forms of cognitive bias that researchers or decision-makers may bring to a project (Liedtka, 2015). Consequently, for understanding and addressing complex and dynamic social issues that are nonlinear and vary across contexts (Rittle, 1972)—such as the opioid overdose crisis—HCDT is a handy tool.

Participants

Within the HCDT framework, researchers employed a focus group method. The focus groups allowed the researchers to invite participants to share their experiences and understanding through a guided discussion with open-ended questions. Using purposive and cluster sampling techniques (Rubin & Babbie, 2016), researchers first identified organizations that served different population segments: Latinx, African Americans, veterans, mature adults, college students, persons without housing, and people from the LGBTQ+ community. An invitation letter, along with a recruitment flier indicating that participants had to be 18 years or older, a resident of the state, and included in one of the population segments mentioned, was sent to executive directors of five human service organizations (HSOs). Each of the researchers had prior relationships with most of the organizations identified. Participants from these organizations were invited to sign up for meeting the researchers on designated dates. Each participant was given a \$25.00 gift card, and snacks or meals were offered during the data collection process. Regrettably, members of the Latinx

populations were hesitant to meet as a group, owing to the political climate in the country during the data collection period. As a result, telephone interviews were conducted with six qualified participants.

Data Collection and Instrumentation

Zimmerman et al. (2007) explicate the rationale for using tools from within HCDT for collecting data, particularly for capturing the journey maps of individuals through focus groups. HCDT has five steps: empathy, problem definition, ideation, prototyping, and testing. The toolkit assists researchers with understanding the human condition through reflective practice, intellectual appreciation, and intentional choice. The researchers employed three of the five steps. During the focus group's empathy and problem definition steps, the researchers used consumer journey mapping and the "5 whys" techniques. Empathy helps build rapport with populations groups that may be sensitive to sharing details of their journey. During the ideation step, researchers used the "magic wand" process, which calls for participants to brainstorm all ideas and features they would like to see in an ideal solution.

The researchers conducted five focus groups with the subpopulations, except for Latinx, as noted above. They built rapport with the participants through self-disclosure about their own recovery journeys to create a "safe" space for sharing. An interview guide included nine open-ended questions that addressed the following: causes for using unprescribed opioids or other substances (including alcohol, cocaine, heroin, etc.); behavior changes that were noticed after substance use; what was done when behavior changes were noticed; where they sought treatment, help, or information; outcome or result for each place they sought information; what could have been better during their experience; currently available support or resources in the community; and ideas for innovative solutions, given a magic wand.

Participants signed the informed consent forms and were provided sticky notes and markers to respond to the nine open-ended questions. Rules for responding were: no judgment, writing in capital letters, no more than three–four words per response, and multiple responses per question. Respondents could write for about 10 minutes per question before moving to the next. After brainstorming responses to each question, participants posted their notes on large sheets on the wall. They reviewed all the responses posted by each participant and grouped similar responses, giving each grouping a category name based on the group's consensus. Providing a category name generated by the respondents ensured content validity.

The participants were then invited to draw a path, using different colored markers, between the various categories of causal factors that led to the participants' consumption of alcohol or other substances to cope with the situation. This process resulted in different paths and journey maps for different sample groups. Again, all except one subpopulation (Latinx) participated in this data collection process, because a sample from this subpopulation did not feel "safe" to meet the researchers face to face in a focus group format. Notwithstanding the difference in data collection, participants from the Latinx group were asked the same questions during the telephone interviews as other groups, except for the one related to categorizing similar responses.

Data Analysis

Three researchers and three graduate research assistants performed cross-focus group content and thematic analysis of category labels (Rubin & Babbie, 2016). They identified similar category labels across focus groups; even though the labels themselves may have been different, they had similar meanings and responses. Data collected from the Latinx population was not integrated into this analysis and is reported separately in the findings.

Results

Participants assisted with grouping and coding responses for each open-ended question, resulting in six categories. Specific thematic responses from each cultural group are described under these six categories, allowing the investigators to identify patterns within each group.

Causal Factors and Contributors to Substance Use

When asked what the causal or contributing factors were related to the inappropriate substance or opioid use, participants grouped the responses and provided a label for each grouping. Then they ranked the most potent causal factor grouping to the least potent. The “Emotional Pains” category of responses was cited as the most potent factor for utilizing non-medicinal substances among people from the LGBTQ+ community. This group specifically shared that they or someone they knew started using substances because of the “death of a loved one,” “being in an abusive relationship,” or due to life’s “traumatic events.” Exposure to these emotional pains led these participants to make excuses and seek different people, activities, and venues for coping. Trans persons identified “emotional” triggers as their primary causal factor for engaging in consuming unprescribed medicines and illicit substances. More specifically, their consumption journey began because of their feeling “down and out,” being fearful of being hurt/killed, and grief from losing someone. Subsequently, they felt “seclusion/vulnerability” when they went into isolation, started fearing being alone, needed company, and had an enhanced fear of being different.

Similar to the respondents from the LGBTQ+ community, college students also identified “emotional pain” as their primary cause for substance use. Of all the different participant groups, college students had the most responses under this category. Specifically, feelings of emptiness, using substances to numb their emotions, anger, feeling spiritually blocked from the power of God, and trying to escape from pain and emotions were the types of responses within the “emotional pain” category. Following emotional pain, these respondents started experiencing fear, lust, isolation, and a lack of connectedness, categorized as “spiritual detachment.”

Mature adults ranked “medical needs” and “stress” as two equally significant categories causing inappropriate or excessive use of opioids and other substances. The first category included recovery from painful surgery and having limited options to cope with pain. The second category included reasons such as “stress,” “peer pressure,” and the peers they associated with who encouraged and promoted the use of unprescribed medicines or substances. These two categories of causal factors resulted in additional stress, depression, issues at work, problems at home, loneliness, and additional medical complications.

African American respondents, veterans, and unhoused participants categorized their primary causal factor as poor “self-esteem/hatred” and shared that “low self-esteem” and “self-stigmatization” were other related causes. These factors led to participants having financial hardships, not working (due to drug testing), and experiencing a bad life. Though Latinx participants could not group their responses into categories, the two primary causal factors were parental use of substances (e.g., alcohol) and trauma.

Behavioral Changes After Substance Consumption

To understand the journey traveled by participants, or someone they knew who engaged in substance use, participants shared the behavior changes that occurred following the consumption of these substances. Participants from the LGBTQ+ community shared that the most frequent behavioral changes noted after consuming substances regularly were self-seclusion, lacking responsibility, attitude changes, difficulty with financial management, and adverse physical responses (e.g., erectile dysfunction for men). Mature adults grouped their responses into three categories, including “a sense of withdrawal,” “outcomes,” such as altered gait after alcohol consumption and leaving their family, and “escape,” such as falling asleep. They also indicated feeling either angry or not having much energy after substance use. Behavior changes noted by trans

persons were grouped into “a lack of energy,” “mood changes,” and “a sense of happiness” categories. College students’ behavior changes ranged from experiencing physical consequences, isolation, and loss of motivation to engaging in high-risk behavior (e.g., missing work) and manipulative behavior. Particularly African American, veterans and unhoused participants grouped the behavior changes into two categories: “lack of responsibility” and “desire to work.” Following substance misuse, they believed that they had no boundaries or limits, experienced an elevated sexual desire, engaged in violent situations, developed unhealthy eating habits, and felt guilt and shame, along with emotional instability. The Latinx sample described behavior changes in terms of “being irresponsible,” engaging in “violent behavior,” noticing “physical changes in hygiene,” and experiencing “high anxiety” following substance use.

Post Consumption Actions

Participants described the steps taken by them or someone they knew who experienced behavior changes following substance use. Participants from the LGBTQ+ community addressed “finances” by reducing the funds they spent procuring illicit substances, and others in this group discussed how they needed assistance in managing their finances. Others in this group indicated that they “sought some form of treatment,” or they “distanced themselves” from peers, and even moved to a different location. Some mature adults in the study stated that they were in denial and ignored or “withdrew” from peers and family, while others stated that they did “ask for some form of help,” or asked if “they could help” the person experiencing substance use challenges.

Some trans persons indicated that they either “felt let down” or that they “continued to use.” Others in this group became “self-aware” of their conditions and “reached out to talk” with someone about it. Still, others reported that they experienced “detachment and denial,” so they “did nothing,” “blamed others,” or just “quit worrying about it.”

College students chose to “seek out support” from institutions such as churches, emergency rooms (ERs), or school resources. Further, they either sought “peer support groups,” such as resources for African Americans, or disassociated themselves by ignoring, avoiding, or even stealing. Students who sought help also shared negative responses from loved ones. Some African American participants assumed a spiritual stance and “prayed.” Some chose to go to work, and others became financially broke. Some tried to engage in “self-reflection” and “tried to change,” or “questioned themselves,” while others “lashed out” at others. This subsample also described taking action to get the “right help,” while others went into isolation, moving away from their families, which sometimes culminated in criminal activities. The Latinx participants acted by “transitioning to shooting up heroin,” “not knowing how or where to get help,” engaging in “manipulative actions,” “getting [the] family involved,” “helping [the] family to cope,” and by participating in actions to help them “get balance.”

Accessing Treatment and Resources

Participants described how and where they accessed treatment and resources. Participants from the LGBTQ+ community identified various “online resources” while conducting a Google search for drug treatment centers or support groups. They also sought assistance through “community outreach,” which included local churches, addiction centers, Alcoholics Anonymous (AA), Narcotics Anonymous (NA), street services, and family. “Institutions” that provided services included nonprofits, hospitals, professionals, counseling centers, and prisons. Some mature adults had access to “rehab services,” such as treatment centers and residential facilities, along with AA/NA support, while others indicated that they “did not have any treatment available.” Still, another subgroup of mature adults was “not motivated to seek treatment or resources” and preferred to “get help when ready”; this subgroup was “not good with looking or never did,” or they “stayed at home.” Some trans persons shared that Point of Service (POS) community agencies assisted them, and others sought information through “online services;” still others received “forced confinement” services such as prisons,

drug rehab centers, or hospitals. College students “reached out to professionals” or gained spiritual support, while others “received assistance through correctional and medical institutions.” Students also accessed help through “personal relationships” with friends and family and “researched online services.” African American participants, veterans, and unhoused participants sought assistance from “family,” “hospitals,” “libraries,” and through “online resources.” They also reached out to “churches,” “received help through court systems,” and received assistance through other agencies that offered wrap-around services. Latinx participants struggled with the “lack of resources” due to language barriers, fear (e.g., immigration issues), appropriate documentation, and mental health status. Treatment and resources that they accessed included “family,” “12-step programs,” and services offered in “prison,” through “sponsors,” through “outpatient services,” and in “rehab.”

Necessary Improvements in Service and Resource Delivery

When invited to offer suggestions for improving the current service delivery system, participants from the LGBTQ+ community offered a comprehensive list that was grouped into these categories: “more harm reduction programs” and more “educated professionals,” “psychological support,” “integrated medicines,” and “financial support.” Mature adults suggested a need for “healthy communications,” “better therapists,” “experienced doctors,” “county health clinics,” and “better surveillance.” Trans persons recommended “housing support” for individuals who tested negative for HIV, “peer support,” “better assistance for individuals who are homeless,” and “better doctors.” Students sought “true anonymity,” “aftercare,” “no shaming,” “trauma resources,” “better insurance plans,” and “financial assistance.” African American participants and unhoused veterans suggested offering a “variety of different programs,” “better counseling,” “transportation,” and “longer treatment plans.” Latinx participants suggested “more peer support,” “education for kids in school,” counselors who were more “sympathetic,” “Hispanic 12-step programs,” to “assist with the stigma,” and to “stop treating individuals like criminals.” They also suggested “training,” “cultural competency,” and “gaining an understanding of their community.”

“Magic Wand” Solutions

Participants were asked, “If you had a magic wand that could create a new solution, what would it be?” Their responses are described herein. Participants from the LGBTQ+ community discussed different forms of “housing” options, “employment ideas,” and more functional alternative “recreational ideas,” as well as more medical research trials for their community. With a magic wand, mature adults would offer more “community support,” provide “government funding” for treatment, offer “comprehensive treatment,” “provide education” to mature adults and their families, and promote “abstinence” from using opioids and other substances in their population segment. Transgender persons would appreciate a context that “provide[s] safe and friendly environments,” “relaxation therapy,” “help for negative HIV trans persons,” and the “companionship” of more supportive and functional partners. Students would wave their magic wand to “satisfy their instincts and external influences” for sex, laughter, and food. They also wished to have “support animals,” to “learn a trade or skill,” and to “travel.” Students also hoped for more “consequences” or accountability from peer groups and emphasized spirituality titled “God.” African American participants wanted to create ways to “change their surroundings and to” have “alternative forms of pleasure and engagement,” “therapy,” and an enhanced understanding of “why they started in the first place.” Latinx participants recommended “inpatient or outpatient services without needing citizenship documentation,” “assistance dealing with trauma,” “transportation,” “childcare,” “more free services,” increased “awareness” about SUDs, and “peer specialists.”

In summary, the perspectives provided by six traditionally underserved populations, including mature adults, African Americans, Latinx, people from the LGBTQ+ community, veterans, and unhoused individuals, can guide the state’s strategic plan and guide policymakers and providers alike by enhancing primary, secondary, and tertiary prevention strategies. Participants were sensitive to the level of judgment they experienced while

accessing services, resources, or treatment. They discussed the importance of their counselors/therapists being more empathetic and offering culturally appropriate care that responds to their specific needs and situations. Spirituality was an essential component in the participants' recovery process. Participants identified barriers to accessing housing due to prior convictions, lack of employment, federal policies, and stigma associated with substance use. Participants would like physicians to make appropriate diagnoses and referrals for care/treatment. Information about prevention and interventions should be disseminated through culturally appropriate mediums.

Participants recommended strategies to reduce the stigma surrounding SUDs and OUDs. Peer support should be consistently available across all cultural groups. Treatment programs need to address poly-substance use and provide harm-reduction strategies (e.g., clean syringe exchange).

Discussion

Systems thinking guided the analysis and understanding of participants' recovery journey. For instance, the interconnectedness of subsystems and processes influenced substance use among several focus group members, including subsystems such as people, environments, circumstances, and policies (Kania, 2018). Inputs were in the form of causal factors contributing to participants beginning the substance use journey. Throughputs and outputs were evident in the participants' behavioral changes after consuming substances to cope with life's circumstances, their lived experiences when they sought care or treatment, and their recovery journey (Kania, 2018). Feedback loops were exemplified in the findings and recommendations from our participants. For example, trans participants provided valuable feedback when asked the magic wand question, "If you can be part of creating a solution or solutions that would work well for you, what would they look like?" Recommendations in response to this question included the provision of more affordable housing.

Emotional pain was the most common contributor (input) to the non-medical use of opioids, prescription drugs, and other substances by most participants. Pain manifested due to losing loved ones, feeling lonely or isolated, involvement in abusive relationships, exposure to traumatic events like parental abuse behaviors, and childhood abuse and neglect, which precipitated their consumption of illicit substances or unprescribed medications. The respondents grouped these triggers into three subsystems: places, people, and things. These came in the form of being in close physical proximity to substance access, being influenced by peer and familial pressure, and accessing prescriptions for pain relief. Li and Caltabiano (2017) also reported that mature adults used unprescribed drugs to cope with isolation and loneliness. Similarly, traumatic events were correlated to a lifetime of substance use among Latino men (Ai et al., 2016).

Respondents were cognizant of the changes in their behaviors after they started using substances—a throughput. They started taking more risks, withdrew from or were unable to participate in everyday activities (e.g., self-isolation and skipping out on work), experienced mood alterations, and were either in denial or unable to take responsibility for their actions. These behavior changes resulted in disparate emotional reactions among participants, such as feelings of denial, dissociation, anger, aggression, feeling let down, and self-reflection.

Another throughput was participant experiences related to seeking resources and treatment. The most common modalities were ERs, treatment facilities, online platforms (e.g., Google), support groups, crisis lines, faith-based organizations, and support systems like friends and family. Unfortunately, some groups (e.g., college students, African Americans, and people from the LGBTQ+ community) identified courts and jails as locations for seeking services and treatment. These findings were consistent with a study that showed that African American individuals were more likely to be referred to the criminal justice system to seek assistance (Delphin-Rittmon et al., 2012). Additionally, the challenges experienced by trans persons in terms of accessing services, treatment, housing, and employment opportunities due to their prior convictions have to

be addressed by policymakers, employers, and service providers alike. A study by Guerrero et al. (2013) posited that trans persons have a much lower SUD treatment completion rate because of some of the mentioned challenges. Bauer et al. (2005) also identified obstacles faced in accessing treatment and care, particularly by people with dual diagnoses.

The outputs and outcomes were different for the participants when they sought information, services, or treatment. Information and treatment were available and accessible for some, resulting in their stabilization and long-term recovery. For others, their experiences were negatively characterized by their inability to access services and information, medical insurance, and transportation; their lack of readiness for treatment; or negative encounters with facility staff and medical providers. Windsor and Murugan (2012) found that African American participants' access to recovery programs was dependent on the type of insurance they carried. Other barriers included, but were not limited to, program availability, transportation, and difficulties obtaining identification cards. These challenges are further compounded when populations experience the intersection of racism and homophobia (Li et al., 2017). This intersectionality gets compounded because OUDs and SUDs carry additional identities impacted by stigma, bias, and stereotypes (Jones & Branco, 2021).

Shah et al. (2016) found that local public health departments, especially those in the south, lacked appropriate responses when dealing with and supporting underserved populations. Participants shared recommendations for improving their experiences during the recovery journey. These included harm reduction approaches, counseling services, culturally responsive service provision, and employment as long-term support strategies. Specifically, harm reduction should be expanded to include increased access to naloxone and other harm-reduction tools. Harm reduction organizations incorporate a spectrum of strategies that meet people "where they are" on their terms and may serve as a pathway to additional prevention, treatment, and recovery services. Harm reduction works by addressing broader health and social issues through improved policies, programs, and practices (SAMHSA, 2022).

Participants also recommended that counseling and treatment services should promote aftercare plans and provide additional peer support opportunities and that medical providers and facility personnel should be trained to provide culturally appropriate referrals and diagnoses. Other suggestions included long-term support strategies that include financial support, particularly during their recovery journey.

Finally, participants were invited to "think outside the box" to recommend and envision innovative recovery structures and processes. Most participants identified the provision of meaningful employment opportunities with supportive and sustainable housing. They also needed assistance in bolstering their coping strategies for dealing with trauma. Participants shared an interest in utilizing spirituality for building resiliency and suggested the need for alternative forms of functional social engagement opportunities, particularly for vulnerable populations. Several participants often had easy access to illicit substances, enabling them to participate in dysfunctional engagement opportunities and coping strategies. Notwithstanding these barriers, some participants owned up to their lack of readiness for change, which impacted their recovery journey. According to Basharpour et al. (2020), readiness for change may be impacted by factors such as stress and educating the client on ways to cope with distress may increase their readiness for change. The findings suggest that education in distress tolerance skills may be essential for increasing readiness to change in substance users.

This study serves as a foundation for future, more in-depth research on each of the subpopulations. Design thinking protocol for collecting data gave the researchers a comprehensive understanding of the recovery journey and the nuances from the participants' perspectives. Additionally, by using the protocol, participants shared their vision for the types of systems and processes that could enrich and enhance their recovery journey.

These recommendations can guide the efforts of different stakeholders as they build or strengthen effective systems of care: caregivers, service providers, community members, community-based organizations, health care practitioners, state strategists, policymakers, and public health professionals. Windsor and Murugan (2012) noted the importance of including the community in designing such research projects. Unfortunately, fear and trepidation within the Latinx community significantly compromised their ability to engage in a group setting. Nevertheless, the barriers and recommendations they shared can guide various stakeholders' efforts. Even though the findings cannot be generalized, owing to the small sample size, they can most certainly guide future large-scale studies on each subpopulation.

Conclusion

To address the crisis in opioid, prescription drug, and unprescribed substance overdoses and deaths, particularly among vulnerable groups, factors such as emotional distress and triggers, ease of access, isolation, mental health concerns, stigma, and traumatic events should be carefully and systematically addressed by first responders, medical and therapeutic communities, and policymakers. Further, policies and practices must foster and support culturally appropriate and inclusive prevention, treatment, and recovery services. States can use impending opioid settlement funds toward understanding and designing culturally responsive prevention and intervention strategies for underserved populations. Moreover, vulnerable populations must have a seat at the states' strategic planning tables because their inclusion can reduce health disparities. In conclusion, this study has scratched the surface in terms of understanding and documenting the recovery journey of several subpopulation groups. Hopefully, future researchers can build on the thematic findings to conduct larger-scale studies.

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