THE EFFECT OF PEER SUPPORT ON TREATMENT ENGAGEMENT IN CLIENTS WITH OPIOID USE DISORDER

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Michelle M. Zuccarini, MSN, RN, CRNP

Abstract

Opioid misuse has been a growing concern that has escalated to a public health emergency. Despite substance use programs that offer assistance in the treatment of opioid use disorder (OUD), keeping the client engaged in recovery treatment can be very challenging. Relapse prevention is a priority concern due to the higher risk of overdose following a period of sobriety. The use of Certified Peer Specialists to facilitate client engagement in treatment programs has proven to be beneficial and their role in helping individuals remain in recovery treatment is explored using the theoretical framework of Modeling and Role-modeling. The purpose of this research is to establish whether a peer support program provided by an outpatient facility was effective in achieving client engagement in recovery treatment. Data collected by the facility on client treatment encounters spanning six months was analyzed. Data sets related to individuals enrolled in a certified recovery services (CRS) program versus individuals engaged in treatment as usual were compared. Statistical analysis using the t test revealed greater engagement in recovery services among those enrolled in the CRS program. The findings support the benefit of a peer recovery service program as an option to encourage treatment engagement in clients with OUD. This research will be of value in the design and development of future program policy and treatment guidelines.

Keywords: peer support, recovery support, treatment engagement, opioid use disorder, addiction recovery, role modeling, addiction treatment

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Chapter 1

Introduction

The misuse of opioids has been a growing public health concern and the rapid acceleration of the opioid crisis has led to its designation as a national public health emergency in America (Dasgupta, et al., 2018). According to the Substance Abuse and Mental Health Services Administration (SAMHSA), an estimated 2.1 million people had an opioid use disorder in 2017 and it has been estimated that over 880,000 individuals aged 12 years or older used heroin during that year (SAMHSA, 2018).

Background

The crisis did not always exist, however. The use of opioids for pain management evolved since the 1980s and a decade later, a shift in practice and policy changed from cognitive behavior therapy and hypnosis to manage chronic pain, to the prescribing of medication to manage pain relief. The Institute of Medicine (IOM) (2011) attributed this shift in chronic pain management at that time to an increased aging population resulting in more musculoskeletal disorders, more complex surgeries and procedures, increased survival of conditions such as cancer and its treatment, obesity, and greater expectations from patients for pain relief. It was also identified that coverage policies by third-party payers often affected the care received because they tended to be more generous with procedure reimbursement than for nonprocedural care, such as psychosocial and rehabilitative care. This is felt to be primarily due to a lack of understanding of the importance of pain management, resulting in the overuse of some procedures and practices, such as medication prescribing, and the underuse of other evidence-based strategies to effectively manage pain (IOM, 2011). Around 2010, an increasing concern

about the correlation between opioid analgesics and heroin use resulted in re-examination by clinicians and policymakers of the safety of opioid analgesics.

This prompted efforts to make opioids less abuseable, such as undertaking measures in the reformulation of the highly abused analgesic OxyContin® to make it more difficult to crush, as well as the changes we now see in current prescribing practices and CDC guidelines. These include limiting the number of opioids prescribed to no more than a three-day supply for acute pain and assessing risk-factors for opioid-related harms in those requiring chronic pain management, along with three-month follow-up evaluations on the benefits and harms of continued opioid therapy. In some U.S. states, prescribing naloxone alongside opioids is required for those determined to be at high risk for misuse and overdose (Haegerich & Chou, 2016). As a result of less availability, those who were dependent and used prescribed opioids transitioned to cheaper and more potent alternatives, such as heroin and more recently synthetic opioids, such as fentanyl (Dasgupta et al., 2018) and their analogs. Fentanyl analogs or fentanyl-related substances are synthetic opioids that are similar in chemical structure to fentanyl but modified. These produce distinct substances and vary in their potency, which can be greater than, equal to, or less than fentanyl and are primarily distributed illicitly (O'Donnell, 2020).

As the demand for opioids increased, there was also an increase in global supply chains. For example, the global supply chain for illicitly manufactured fentanyl was and continues to be growing presence, with fentanyl and its analogs increasingly available in counterfeit pills, as well as present in heroin supplied to those who use the substance. This resulted in a sharp increase in death attributed to fentanyl analogs by 540% between 2013 and 2016 (Dasgupta et al., 2018). The number of overdose deaths involving illicitly manufactured fentanyl, and particularly its analog, carfentanil, often co-occurred with heroin and increased sharply in 10 states in 2016 –

2017. It was found that as many as 15 different fentanyl analogs were detected in some of those deaths from July 2016 to December 2018 (O'Donnell, 2020). In addition to opioid overdose deaths, consequences of blood-borne infections, increase in criminal activity, decrease in productivity, and increased utilization of health care and costs are associated with opioid use disorder (OUD) (Ronquest, et al., 2018).

Chapter 2

Literature Review

Medication Assisted Treatment

Opioid use treatment is effectively managed using strategies that primarily begin with detoxification and continues with ongoing transition to lower levels of care to prevent relapse. Detoxification is the medical management to prevent complications of substance withdrawal and serves as a beginning measure for substance abuse treatment, not as a standalone measure in the care of clients with addiction (Timko et al., 2016). Detoxification alone is not sufficient to achieve the goal of substance abstinence. Inpatient detoxification programs provide a short-term introduction to a period of long-term abstinence with a goal to connect clients to aftercare (Stein et al., 2017). The transition from detoxification to continued addiction treatment is known to produce outcomes such as decreased involvement in the criminal justice system, an increase in employment and stable housing, and reduced relapse and crisis-related health care utilization (Timko et al., 2016). Transitional treatment for the misuse of opioids is important because of the associated negative consequences mentioned above. However, it can be challenging because OUD is characterized by episodes of relapse and remission (Ronquest, et al., 2018). While treatment for OUD has increased, the relapse rates are high among those who seek care. Therefore, an early period of aftercare is essential for individuals who discontinue opioid use.

This is especially true for those whose substance use is associated with physical or psychiatric conditions that directly impact an individual's quality of life (Blevins, et al., 2018).

Medication assisted treatment (MAT) utilizes medications, such as methadone, buprenorphine and naltrexone, in conjunction with psychosocial and recovery support services (Foney & Mace, 2019), to treat individuals with OUD. This combination is highly effective at maintaining abstinence and preventing relapse. Relapse is especially concerning because of the high incidence of death from overdose during this time period. The incidence of death is thought to be higher after a period of abstinence, due to the loss of physiological drug tolerance (Nunes et al., 2019), making a previously tolerated dose potentially fatal (Chang et al., 2018). Opioid tolerance loss often occurs in settings that include hospitalization, medically supervised withdrawal settings and incarceration. Additionally, there is an increased overdose risk for those who are homeless. This is thought to be due to the need to quickly inject the drug if using in public spaces to avoid being observed. Substance use risk behaviors are also associated with individuals having co-occurring mental illness in which there are feelings of hopelessness, lack of social support and relationship issues (Chang et al., 2018).

Collateral Effects of Medication Assisted Treatment

Medication assisted treatment for OUD has not only decreased relapse-related deaths from overdose, but it has also been shown to have other benefits. Studies have found that MAT adherence in the year following residential, partial-hospitalization or intensive out-patient treatment had reduced utilization of health care services and decreased overall health care costs (Ronquest et al., 2018). Research by Chang et al. (2019) compared medication adherence in individuals with co-occurring chronic health conditions who were also engaged in MAT to individuals not receiving treatment. The authors found better treatment adherence in individuals

receiving MAT with positive correlations between those taking buprenorphine as part of OUD treatment and adherence to medications, such as antilipids, antiepileptics, antipsychotics, antidepressants, and antidiabetics used for common chronic diseases. The research implied several complementary considerations in this association. Increased self-efficacy due to improved ability to manage prescriptions and treatment appointments, less dysregulation, and future oriented goals, which are often lacking in addiction, encourages better adherence to treatment of co-occurring conditions. It was also posited that access to buprenorphine requires engagement with healthcare systems, which is likely to increase adherence to treatment plans for such co-occurring conditions. Additionally, it is believed that those initiated with buprenorphine experience circumstantial life changes, such as obtaining employment, gaining health insurance coverage and supportive interventions by family and/or friends (Chang et al., 2019).

While positive outcomes have been demonstrated in those who are engaged in MAT, there remain barriers to accessing and continuing care. In those who are referred for MAT, Ronquest et al. (2018) found that patients are challenged with limited and restricted access to providers who are waivered by the U.S. Drug Enforcement Administration to prescribe buprenorphine, including long wait times, distance, and transportation issues. Foney and Mace (2019) identified other factors that impact patient engagement in MAT to include social and individualized stigma, cultural barriers, inability to take time from work or secure adequate childcare, poor previous experiences with treatment plan or systems, treatment cost and patients' fears that treatment will not be effective. Ronquest et al. (2018) also found that individuals with co-occurring conditions, such as alcohol use disorder, schizophrenia, depressive and bipolar disorder, were more prevalent among patients who were not adherent to MAT. Therefore, the timely continuity of services as clients transition to lower levels of care is especially relevant.

Treatment Environments and Transition of Care

Medical detoxification programs are typically time-limited and designed to assist with management of physiological and psychological symptoms of substance withdrawal while providing a safe and supportive experience. The objective of the program is to motivate the individual to continue treatment after discharge. To facilitate this, the program should have adequate resources for referral to ongoing treatment and provider services (Commission for Accreditation of Rehabilitation Facilities International [CARF], 2020). The Commission on Accreditation of Rehabilitation Facilities International (CARF), (2020) describes various types of detoxification environments. Inpatient detoxification/withdrawal management programs are best for those needing 24-hour nursing coverage or have comorbidities that contribute to complications or risk factors during the withdrawal process. They also described detoxification in residential settings where there is 24-hour qualified personnel coverage for patients who have minimal or no risk factors for detoxification complications. CARF (2020) suggested that this environment may be best suited to individuals lacking motivation or who have difficulty maintaining sobriety due to living situations. Ambulatory detoxification services are provided in outpatient settings. These patients typically have good support systems, live in their own home or sober living environments, are better able to maintain provider appointments, and successfully manage prescription medications on their own (CARF, 2020).

The Commission on Accreditation of Rehabilitation Facilities International (2020) described residential treatment programs as those providing 24 hours of non-hospital based interdisciplinary services for patients, including those with co-occurring behavioral health conditions. During their time in these programs, patients receive services in a “safe, trauma-informed, recovery-focused milieu designed to integrate the person served back into the

community and living independently whenever possible." (p. 13-14) As a patient progresses through the residential program, transition of care to outpatient services is organized as part of the treatment plan. The care transition is developed specifically for the patient and involves individuals who will support the gains that the patient has made during the program to prevent the recurrence of symptoms or relapse. Transition services are crucial to support the patient's ongoing recovery upon discharge from the facility. The organization proactively attempts to link the patient with the receiving service provider(s) who will manage the patient's treatment after discharge and follows-up with the patient after the formal discharge to obtain information related to the success of the transition. This information is then reviewed to determine if additional services are needed for the patient (CARF, 2020).

Barriers and Facilitators to Continuity of Care

Continuity of treatment within one to two weeks following discharge from detoxification or residential treatment is associated with improved outcomes. However, research has found that this treatment is not even started by the majority of patients (Garnick et al., 2019) after discharge. The challenges to ensure that patients stay on track with their transition are many. Among the challenges previously mentioned, travel time to a MAT provider was also a significant factor in continuity of care. This is especially true in more rural and non-metropolitan geographic locations (Garnick, et al., 2019). In addition to provider location, other challenges included the competing responsibilities related to employment and family, unstable living situations, as well as program and system level barriers (Timko et al., 2019). The stigma associated with substance use as perceived by the patient is often a deterrent to seeking treatment due to fear of being judged negatively and/or labeled as an addict, and fear of repercussions that may influence child custody (Timko, et al., 2019) and employment. The financial burden of

ongoing care and involvement in the criminal justice system are also identified as barriers to treatment adherence. Program barriers such as wait times for appointments due to staffing shortages, heavy staff caseloads, record-keeping and administrative tasks and meeting eligibility criteria also contribute to the barriers in continuing treatment. Systemic barriers such as a lack of coordination, communication and collaboration across organizations are further hurdles that make transition to care difficult (Timko et al., 2019).

While barriers are plentiful, there are also facilitators that support transitional care and treatment engagement. To increase care continuity services after detoxification and residential programs, study findings by Garnick et al. (2019) suggested that if a client is placed on a waiting list for the next level of care, in other words, transitioning to a lower or higher intensity of care, keeping the patient engaged with the treatment system, even in limited services, is good practice. Coordination activities to maintain patient engagement include assigning staff to call patients who completed detoxification or residential programs with reminders about upcoming treatment appointments or to implement telephonic case monitoring. The authors also suggested that closer integration between specialty providers and primary care would promote better continuity of care, especially for clients in MAT programs. Options for care continuity also include technology, such as telehealth, as this extends the duration of treatment and suggest long-lasting benefits (Garnick et al., 2019). Timko et al. (2019) described patients as being more willing to continue treatment based upon the level of negative consequences they experience as a result of their substance use and when they experience pressure or support from others to transition to ongoing care. In addition to discharge planning and referrals, program level facilitators of care continuity include the provision of evidence-based practices from well-trained professional staff and patient-centered care, which includes options for patients in their care decisions. Care

coordination also included patient outreach and involves peer support of transitioning, with peers being both paid Peer Support Specialist employees and non-employee support group members involved with 12-step programs (Timko et al., 2019).

Relapse Prevention

Relapse prevention is the primary goal of any substance use treatment with five broad strategies employed to support this objective: therapy, medications, monitoring, emerging interventions, and peer support (Guenzel & McChargue (2019). Several forms of therapy have been widely used to support patients in their recovery efforts. These include motivational interviewing (MI), cognitive behavior therapy (CBT), acceptance and commitment therapy (ACT), and contingency management (Geunzel & McChargue, 2019). Motivational Interviewing (MI) is a technique used to motivate a person to change maladaptive behaviors. Cognitive behavior therapy involves cognitive reframing techniques for maladaptive thought patterns (Saddock et al., 2016). Acceptance and commitment therapy (ACT), is a mindfulness-based, values directed behavioral therapy (Harris, 2019), while contingency management is a behavior treatment that provides rewards as reinforcers for preferred behaviors (Oluwoye et al., 2019). Community Reinforcement Approach (CRA) is another modality that has been utilized for many years (Guenzel & McChargue, 2019) to help individuals improve social function, decrease substance use and improve quality of life. This focuses on reinforcing positive resources in a social context by building and strengthening positive relationships with family, friends, and significant others. By building positive social experiences, this approach intends to make a substance-free lifestyle more rewarding (Marino et al, 2019). Mindfulness-Based Relapse Prevention (MBRP) in outpatient settings for individuals recovering from OUD was found to be especially helpful in individuals with co-occurring mental health diagnoses to

manage symptoms (Zullig et al, 2017). This modality is grounded in mindful meditation approaches to identify and target primary risk-factors for relapse. The intention of MBRP is to provide individuals with non-judgmental and patient-centered support (Zemstani et al, 2016).

Patients who receive MAT can be monitored in a variety of ways, one is by drug screens. This is also a requirement to ensure there is no diversion of medications or other illicit substance use during treatment. Drug screens also deter substance use due to the individual knowing they may be subject to testing (Guenzel & McChargue, 2019).

Emerging interventions to assist with recovery include transcranial magnetic stimulation (TMS), and the use of hallucinogenic agents. In TMS, short impulses of magnetic energy are used to stimulate nerve cells in the brain. This is primarily indicated for the treatment of depression (Saddock et al. 2016). Hallucinogenic agents, particularly psilocybin, have shown promising effects, elevating cortisol levels and activating executive control networks, which subsequently increase control over emotional processes, relief of negative thinking and persistent negative emotions (de Veen et al., 2017). However, these have not been fully established as routine treatment modalities due to a lack of evidence-based protocols and open-label studies having small sample sizes. Most individuals combine two or more of these strategies in their efforts to achieve successful recovery (Guenzel & McChargue, 2019).

Peer support is another important strategy to assist an individual in substance use recovery. A variety of peer support programs are available to help individuals particularly in the early stages of recovery. The use of peer support groups such as Alcoholics Anonymous and Narcotics Anonymous are included as part of a peer support system, as well as peer-to-peer recovery support specialists.

Peer Support

Defining Peer Support

The implementation of peer support to help prevent relapse from substance use disorder has become increasingly central to recovery efforts. The Substance Abuse and Mental Health Services Administration (SMAHSA) (2015) identified four major dimensions that support recovery. These are: learning to manage symptoms and make healthy choices that support emotional and physical well-being; stable living conditions that are safe; a sense of purpose via self-directed daily activities that are meaningful, such as jobs, school, creative activities; social engagement, along with community and social networks, and relationships that offer friendship, support, love, and hope. Peer workers can help individuals in all these domains (SAMHSA, 2015). In his recovery management monograph series, which explores the various aspects of addiction recovery support services, White (2009) defined peer-based recovery support as "… the process of giving and receiving nonprofessional, non-clinical assistance to achieve long-term recovery from severe alcohol and/or other drug-related problems. This support is provided by people who are experientially credentialed to assist others in initiating recovery, maintaining recovery, and enhancing the quality of personal and family life in long-term recovery." (p.16) White (2009) described *peer-based* as supports that are drawn from the experience of the individuals who have achieved addiction recovery successfully and who may share commonalities. These life experiences cultivate a sense of identification from the person who is receiving the support, and encourages trust, confidence, and feelings of safety in their encounters.

In the context of substance use and psychiatric recovery, peer support has been shown to be a crucial component of many addiction treatment and recovery programs and includes the

community reinforcement approach that can be delivered in a variety of settings. These include in-person and internet self-help support groups, peer owned or managed services, peer partnerships, peer case managers, peer advocate, often seen in inpatient health care setting and peer specialists (Tracy & Wallace, 2016). There are various terminologies for and interpretations of peer-supported interventions to prevent relapse and promote recovery. These terms are often used interchangeably, depending on credentialing and how agencies implement their services.

Currently in the United States, credentialing of peer-support workers must be certified on a national level with training and credentialing requirements varying from state to state (Eddie et al., 2019). Despite requirements for training and certification, peer specialists provide non-professional services to support the recovery (White, 2009) of individuals with mental health conditions, substance use disorder or co-occurring conditions. SAMHSA (2015) defined the peer support worker or peer specialist as "…offering and receiving help, based on shared understanding, respect and mutual empowerment between people in similar situations." (p. 1). Chinman et al. (2018) described the peer support worker role as varied, providing specialist services such as promoting hope and empowerment, decreasing social isolation, and increasing an individual's participation in their own health management, as well as a liaison between individuals and other treatment providers. The Peer Support Specialist can also be described more concretely as a role model. This is achieved by sharing their successes in recovery, teaching coping and problem-solving strategies, promoting engagement and linking individuals with available community services, while establishing trust, promoting empathy and focusing on the recipient's strengths (Chinman, et al.2017). The peer specialist in their various functions complements the roles of therapists and counselors and others who provide professional

addiction services. It is the effect of peer support on patients' OUD treatment engagement in an outpatient setting that will be explored in the quality outcomes for this project.

Peer Support and Patient Engagement in Health Management

Evidence of the effect of Peer Support Specialists has been presented in numerous studies examining outcomes in the management of chronic conditions in various social settings. There are many cases of positive outcomes in which Peer Support Specialists help individuals with chronic conditions to stay engaged with treatment and promote self-care management. For example, peer support and education models have shown to have a better short-term effect on blood glucose and lipid levels in patients with Type 2 Diabetes (Zhaos et al., 2019). Also, a meta-analysis by Zhang et al. (2016) found that peer support interventions had a significantly positive influence on glycemic control in patients with Type 2 Diabetes and identified the importance of this type of support in facilitating better self-regulation. Likewise, a systematic review of 65 studies involving Peer Support Specialists (Fisher et al., 2017) examined the effect of peer support for complex sustained health behaviors in disease prevention and management, with an emphasis on individuals with diabetes. Their review found that in 54 of the 65 studies, peer support was an effective tool in encouraging and facilitating diabetes management, as well as other complex health conditions such as cardiovascular disease, HIV/AIDS, maternal and child health and mental health conditions. Thus, it would be reasonable to expect that findings by Chang et al. (2019), showing the correlation of peer-patient relationships and increased MAT engagement, support a collateral benefit of treatment engagement in individuals with chronic health conditions.

In people with a history of injecting drugs and OUD, chronic hepatitis C virus (HCV) is quite common. These individuals are often marginalized and have limited access to health care,

despite the increased morbidity and mortality associated with advanced liver disease in this population (Roncero et al. (2019). Supported by a systematic review of evidence by Roncero et al. (2019), improved engagement with medical care, and the relationship between peer support and lived experience, can address the potential mistrust and avoid stigma. Roncero et al. found that peer-led models combined with multidisciplinary collaborative care leads to various improvements: knowledge by the individual about their condition, treatment initiation and engagement, and provision of services. The positive influence of peer support was also supported in research by Falade-Nwulia et al. (2019), which examined barriers and facilitators to care for individuals with OUD and co-occurring HCV. Barriers to care included a lack of referral to a provider who treats HCV, conflicting priorities related to addiction and other health conditions, and a lack of knowledge about HCV and how it is treated. The authors also found that persons who inject drugs (PWID) were less likely to seek treatment if they had used any illicit drugs in the prior 6 months. This also reinforces the benefit of Peer Support Specialists and their role in MAT engagement (Chang et al., 2019) and subsequently HCV treatment adherence. The research by Falade-Nwulia et al. (2019) also demonstrated statistically significant evidence that peer support facilitated HCV care engagement and improved health outcomes for PWID by educating, providing resources, and encouraging self-management of care. Likewise, in a randomized controlled trial, Stagg et al (2019) compared peer support intervention to standard of care. Primary outcomes were measured by successful engagement with clinical hepatitis services. The authors concluded that in the individuals surveyed, peer support improved the engagement of patients with HCV in healthcare services. m

Peer Support and Hard to Reach Populations

Individuals with HCV and other marginalized populations, which include the homeless and ex-prisoners, have been identified as underserved or vulnerable populations. Sometimes referred to as "hard to reach" (Stagg et al. 2019 p.1) or "hardly reached" (Sokol & Fisher, 2016, p. e1), vulnerable populations can be defined by factors that challenge access and engagement with typical health care services. These populations are typically susceptible to a range of infectious diseases, alcoholism and illicit substance use, as well as poor physical and mental health (Stagg et al., 2019). A systematic review of 47 studies by Sokol and Fisher (2016) assessed the contact and effectiveness of peer support among hardly reached individuals with maternal and child health concerns, diabetes and other chronic conditions. Forty-four of the studies reviewed demonstrated favorable results among those engaged in peer support. The strategies that were identified for engaging and retaining these individuals in care were higher among those who mentioned trust and respect in the peer relationship. The authors concluded that peer support is a significant strategy for reaching those who often fail to engage in healthcare services.

Peer-to-Peer Relationship Dynamics

Studies in the context of mental health recovery have shown that critical aspects of peer support include shared experience, establishing trust, instilling hope, role-modeling and social support. As mentioned above, peer support has also been found to be successful in individuals with other co-occurring health conditions. An example of this is a qualitative study by Bochiccio et al. (2019), which examined the effect of Peer Support Specialists' contributions to a healthy lifestyle intervention in patients with co-occurring severe mental illness and obesity. It was found that, while the peer relationships emulated certain aspects of a therapeutic alliance,

attributes such as role-modeling and shared lived experiences were unique to this engagement, thus helping to establish positive relationships. This also highlighted connectedness, through the development of interpersonal relationships and a perceived "goodness of fit" (p.307), which has been identified as vital to the efficacy of peer relationships (Bochiccio et al., 2019).

Benefits of peer support to facilitate care engagement among those with substance use disorder and/or mental health conditions are supported by research. For example, in a literature review of 10 studies by Tracy et al.(2011), it was found that services that included peer specialist support increased treatment engagement and dual diagnosis recovery treatment among individuals who were inpatients, abusing substances and had a history of high relapse compared to those who had treatment as usual (TAU). TAU consisted of outpatient psychiatric treatment and medication management, and substance abuse social work services. Another study, by Ashford et al. (2019), looked at relapse and rehospitalization among patients seen in the emergency department who had experienced an opioid overdose or who had received a substance-use disorder diagnosis. When treated in the emergency department, these patients were provided with two distinct referrals at discharge. The first type of referral was to specific levels of care, i.e., withdrawal management program and residential recovery. The second type contained community-based referrals, which included peer engagement via multiple channels, such as text messaging, in-person encounters and telephone conversations. The study authors found that the increased implementation of motivational interviewing by peer specialists resulted in 77% of the patients continuing with overall engagement in care, and 7.9% of patients who were initially resistant to peer support elected to continue with treatment and requested follow-ups. The results showed not only more engagement in individuals with OUD, but also in those with other substance use disorders, such as alcohol, methamphetamines, and/or polysubstance

disorders. However, individuals with benzodiazepine use disorder were most disinterested in peer support. The findings also suggest that peers in this study used their lived experiences in substance use and recovery to leverage their engagement, as patients considered peers credible insiders with pertinent knowledge (Ashford et al., 2019).

Leveraging peer support means making the most of the concept of expert experience, using shared history and background to reinforce validity in the peer's role in substance use recovery (Loumpa, 2012). Research by Turpin and Shier (2017) looked at intra-personal development arising from peer support in longer-term treatment programs and the benefits of shared experiences. The authors found three key themes in their study results that supported patients in their recovery process. These included the opportunities for patients to gain new perspectives and insights into their behaviors, treatment opportunities arising from the shared journey to recovery, and mutual support and reassurance. A systematic review by Bassuk et al. (2016) examined studies related to peer-delivered support services for addictions. It identified statistically significant findings, which showed that individuals receiving peer intervention demonstrated positive recovery outcomes and improvements in substance use, including decreased re-hospitalization rates and increased treatment adherence among individuals receiving peer intervention. Their results support another systematic review by Reif et al. (2014), which found a decrease in relapse rates, increased retentions in treatment, better relationships with treatment providers and social supports, and increased satisfaction with the treatment experience. Improvement in other outcomes included decreased rehospitalization rates, severity of drug use, self-efficacy, and quality of life. The authors also identified that Peer Specialists serve as models for how life is lived in recovery and this, in turn, helps peer specialists maintain and sustain their own recovery.

Literature also supports the positive influence of Peer Support Specialists on patients at various levels of care transition. For example, a qualitative study by Pantridge et al. (2016) found that four types of support were provided by Peer Support Specialists - affiliational, emotional, informational, and instrumental. These were experienced over the course of care at a treatment agency. These are recognized by SAMHSA as the four types of social support that may be provided by Peer Support Specialists during three different phases: during treatment, which includes detoxification, residential and outpatient programs, during transition periods while moving between levels of care within the treatment program, and during recovery management. The last of these involves Peer Support Specialists following-up with former patients, who are encouraged and given the opportunity to return to the agency to participate in a weekly peer support group (Pantridge, et al. (2016). Emotional support was most commonly mentioned in this study, with the client describing feelings of trust and reliability in relation to their Peer Support Specialist. Given their shared experience with treatment and recovery, Peer Support Specialists were seen to be well-suited to providing comfort and easing anxiety, particularly during treatment. Clients mentioned the positive impact of shared experience, encouragement, and feelings of improved self-esteem. In addition, staff at the agency described the instrumental support provided by Peer Support Specialists in facilitating treatment transitions, resulting in increased treatment retention, and also by the follow-up services that give patients who may have relapsed the opportunity to re-engage in services.

In summary, research shows the overarching themes of stigma, access, psychosocial support to promote self-directed care and self-efficacy as having a bearing on treatment engagement. Consistently, research findings indicate that individuals receiving peer specialist support place an emphasis on establishing trust and respect within the relationship. They value

authenticity, shared lived experiences, knowledge of multiple resources and pathways to recovery, non-judgmental guidance via education rather than direction, and a realistic view of a successful substance-free life.

Theoretical Framework

Given the attributes that individuals with substance use disorder seek in successful peer support relationships, the theoretical concept of Modeling and Role-modelling can be applied to this intervention to facilitate successful outcomes. Modeling and Role-modeling Theory was developed by Helen Erickson, Mary Ann Swain and Evelyn Tomlin (Erickson et al., 1983). It integrates several theories, including the work of Abraham Maslow, Erik Erikson, Hans Selye, Jean Piaget, and George Engel, providing a holistic approach to patient care. While the authors describe it as a theory and paradigm for nursing practice (Erickson et al., 1983), Modeling and Role-modeling can guide and inform thoughts, decision-making and actions not only in nursing, but in any specific or individualized care situation, particularly in MAT for substance use disorder patients.

The Modeling and Role-modeling Theory emphasizes the importance of human development, which informs our understanding of how people are alike and also different. Humans are similar in that they are holistic, multi-system beings, in whom there is a relationship between the mind and the body. Humans have basic physiological and psychological needs, which, if unmet, interfere with holistic growth. This in turn can precipitate or aggravate physical or mental distress and illness. When needs are not met in one subsystem, energy is drawn from another to maintain equilibrium which may result in maladaptation (Erickson et al. 1983). Drawing upon Maslow's theory, Erickson et al. (1983) affirm that every person wants to maximize their potential or be the best they can be. To grow into and achieve this potential,

people progress and master sequential stages of cognitive and psychosocial development, as theorized by Piaget and Erikson. Affiliate-individuation is also described by Erickson et al. (1983) as a common human alikeness. This occurs when a person's self-perception is both synchronous and separate from a significant other at the same time. It is described as "…an intrapsychic phenomenon and can occur without being reciprocated." (p. 68) In other words, affiliate-individuation can be described as dependence on an individual while simultaneously experiencing the happiness of autonomy from that individual.

People can be described as different or unique by inherent endowment. This defines an individual's genetic make-up or intrinsic characteristics that may influence their health status, and their unique ability to adapt to stress or stressors. An individual's adaptation potential describes their ability to utilize available resources to manage stressors and determines how they differentiate between stress and distress (Erickson et al., 1983). The authors draw upon Hans Selye's physiological stress adaptation and George Engel's psychosocial point of view to demonstrate the uniqueness of human response and the ability of human beings to mobilize these needed resources in relation to stress or stressor exposure. While many perceptions and responses may be common among different people, each person forms a unique awareness or opinion of other individuals, events, or situations. This allows one to better comprehend the other individual's model of their world.

Modeling and Role-modeling Theory: Concepts and Aims

The central concept of Modeling and Role-modeling Theory is an understanding of the client's world. Combining and analyzing constructs of that world then facilitates the client in achieving, sustaining, and promoting health through purposeful interventions (Erickson et al., 1983). When applying the Modeling and Role-modeling Theory to the peer-client relationship,

the Peer Support Specialist models the client's world as it exists for the client, by obtaining information or data and analyzing it to gain insight and understanding of the world from the clients' perspective. Once one sees the world as the client does, the Peer Support Specialist can role-model (Walsh et al., 1988). According to Erickson et al. (1983), role-modeling is the "…essence of nurturance… and requires and unconditional acceptance of the person as a person is while gently encouraging and facilitating growth and development at the person's own pace and within the person's own model." (p. 95) A unique quality of a Peer Support Specialist is their lived experience of substance use and recovery. This experience gives greater insight into the client's world, to which the Peer Support Specialist can relate. The Peer Support Specialist can draw upon this insight to accept and value the client's experiences, build trust within the relationship, and utilize experiential skills to help guide the client in building self-efficacy.

Another concept of Modeling and Role-modeling Theory is that of self-care. This includes knowledge of self-care, resources, and action. It is assumed that the client has a fundamental understanding of what compromised their health status and what will help them improve it or facilitate wellness. It is the Peer Support Specialist's role to understand the client's perceptions and to help the client to identify internal and external resources, and mobilize them with a goal of reaching an optimal level of health.

As Erickson et al. (1983) stated, individuals are in many ways similar yet different. Therefore, the objectives of the interventions can be standardized, while specific interventions can be implemented based on the client's unique situation. There are five interventional aims of the Modeling and Role-modeling Theory. These include fostering a trusting relationship with the client, promoting hope and positive self-esteem, promoting the client's perception of control, assisting the client to identify and utilize their own strengths, and establishing mutually agreed

upon goals that allow the client to meet basic needs and promote health (Sappington et al., 1996). The experiential Peer Support Specialist's knowledge places them in an ideal position to implement distinct interventions for clients' unique needs. Sherman et al. (1998) assert that the most compelling attribute of the Peer Support Specialist is "…the absence of status differences between themselves and those they serve…[Peer Support Specialists] …can identify with their clients' plight and develop trusting relationships that facilitate willing participation in the health care delivery system." (p. 230) The authors also affirm that sharing similar experiences helps recruitment and retention in treatment programs, and they describe the shared life circumstances as a phenomenon that facilitates health role-modeling.

The concepts and aims of the Modeling and Role-modeling Theory support and align with the intended goal of utilizing Peer Support Specialists in facilitating treatment engagement. Peer-to-peer support is believed to have a positive effect on treatment adherence and harm reduction. This research aims to assess one organization's current peer support program for the effectiveness of this intervention to further guide practice and policy.

Purpose Statement

The objective of this project is to evaluate the effectiveness of the organization's Certified Recovery Services program and its ability to keep clients engaged with substance abuse treatment and recovery. The organization's outcome measures are currently guided by compliance with regulations set forth by behavioral health services provided through the Pennsylvania Medical Assistance managed care program, PA HealthChoices. While programmatic outcomes are focused on engaging clients in developing a pathway to recovery, the organization has not established internal outcome measures or benchmarks that evaluate the effectiveness of the Certified Recovery Services program in facilitating clients' treatment

engagement compared to those not enrolled in the program. For this research, organizational criteria to measure the program's effectiveness will be determined by the number of clients enrolled in the Certified Recovery Services program who remained engaged in or completed substance use recovery treatment over a period of 180 days compared to those who remained in treatment or recovery but were not enrolled in the program.

Chapter 3

Methods

Context

Certified Recovery Services are defined as being in-lieu of services in Pennsylvania's Behavioral Health service continuum. In other words, these recovery-oriented services can be offered in place of treatment. Magellan Behavioral Health of Pennsylvania manages behavioral health services for PA HealthChoices and guides the organization's oversight and monitoring to ensure proper documentation and delivery of services. Clients in the Certified Recovery Services program are enrolled via aftercare coordination programs within the organization upon discharge from detox or residential programs, referral from another provider who offers the client substance use treatment, client self-referral for those seeking support to initiate or engage in sobriety or court mandate. Court-mandated treatment is a court intervention requiring correctional treatment for individuals with substance addiction who may be at risk of endangering themselves or others when engaging in risky or dangerous behaviors. The aim of court-mandated treatment is to reduce recidivism of the offending behavior (Hachtel, et al., 2019). Enrollment in the organization's substance use recovery program is voluntary unless court mandated. Certified Recovery Services must be recommended by a licensed practitioner of the healing arts within the scope of state practice laws. Practitioners include physicians,

physician's assistants, certified registered nurse practitioners, licensed clinical social workers, licensed marriage and family therapists, licensed professional counselors, or psychologists, who must provide written recommendation that Certified Recovery Services are medically necessary. The recommendation must include the diagnosis and identify a functional impairment of the client. Impairment is defined as difficulties that significantly interfere or limit a person's ability in achieving and/or maintaining developmentally appropriate functional skills in individual, social, family and/or vocational/educational contexts (Pyramid Healthcare, Inc., 2020).

The Certified Recovery Services program provided by the organization is available to clients over the age of 18 years with a diagnosis of substance use disorder or co-occurring substance use disorders and mental health diagnoses. In the case of co-occurring diagnosis, the diagnosis must include substance use disorder. Services must be available to individuals in all stages of the recovery process, including the pre-contemplative stage, where the client does not intend to take action to change their behavior, and those not yet engaged in any type of substance use treatment or services. The client must give consent to receive these services, except when they are court mandated. The program period of engagement is 60 days, and the provider may bill for services provided to the client during this time (Pyramid Healthcare, Inc., 2020).

Certified Recovery Specialists

The Certified Recovery Services program utilizes peer support provided by Certified Recovery Specialists (CRS). The services provided by the CRS are an integral part of this program. The Pennsylvania Certification Board (PCB) describes Certified Recovery Specialists (2020) as

> "…individuals with personal, lived experience in their own substance use disorder recovery. By offering insight into the recovery process based on their own experience, recovery specialists can provide a unique perspective while provide recovery support services. The CRS is not a sponsor, case manage [sic] or a therapist but rather a role model, mentor, advocate, and motivator. (Applications information, Certified Recovery Specialist [CRS])

The Certified Recovery Specialists must meet the educational requirements of a high school diploma or General Educational Development (GED) and 54 hours of education training. They must also have passed the PCB's written certification exam, which confirms the individuals as Certified Recovery Specialists. The Certified Recovery Specialists must also maintain their certification by meeting the PCB requirements of 30 credits for re-certification every two years (Pennsylvania Certification Board, 2020). In addition to certification requirements, the organization requires weekly Certified Recovery Specialists supervision consisting of at least one hour of individual face-to-face meetings. Group Supervision is also encouraged but not required and does not count toward the weekly individual-based supervision.

Interventions

The Certified Recovery Specialists is often the first point of contact after client enrollment. Once the client is enrolled, the organization's programmatic goals are to have initial contact by telephone within 24 hours between the Certified Recovery Specialists and the client, and a face-to-face meeting within 72 hours. An Individual Recovery Plan is developed within 60 days of the first contact. The client and the Certified Recovery Specialists develop individualized client goals and measurable objectives which are relevant to the client's recovery. The plan must include interventions to meet these goals and specify the role of the Certified

Recovery Specialists in the recovery process, as well as the frequency of services. With the client's consent, the Certified Recovery Specialists also works with the treatment team, other programs, and support services, as well as the client's family. While the Certified Recovery Specialists may provide services on an individual basis, they may also offer group services which include several individuals meeting together (Pyramid Healthcare, Inc., 2020).

The Certified Recovery Specialists core functions are to mentor and model the recovery lifestyle. By modeling a functional lifestyle in recovery, the Certified Recovery Specialists provides an example of how life would be like in successful recovery. The Certified Recovery Specialists also serves to provide education, support, and encouragement through the recovery process by assisting clients in making informed decisions on their recovery pathway, and offering information on various pathways that are available, and how to access treatment and services (Eddie et al., 2019). The Certified Recovery Specialists also helps to connect clients with community-based services and networks that support and enhance the recovery lifestyle and assist them in navigating the resources available. Often these resources have been utilized by the Certified Recovery Specialists, who can assess their suitability for the client's unique situation. Another function of the Certified Recovery Specialists is that of facilitating the client's transition to autonomy through the enhancement of self-management in making healthy decisions. (A. Verrastro, personal communication, September 8m 2020) (SAMSHA, 2015).

Service Delivery

Client encounters with the Certified Recovery Specialists are documented in billable units for reimbursement of services rendered. One unit equals a full 15 minutes of service. Each encounter between the client and the Certified Recovery Specialists is documented in the client's electronic medical record (EMR) and must be completed within 24 hours of the service. It is

understood that documentation quality varies among the Certified Recovery Specialists due to previous or current career and/or life experiences. For example, documentation by a Certified Recovery Specialists may be different or unique from other providers, such as clinicians or case managers. However, encounters and documentation must meet defined criteria. The encounters must consist of direct contact between the Certified Recovery Specialists and the client, as opposed to passive engagement, such as attending social events, or viewing media, or attending educational events in the client's presence. Additionally, verification forms signed by the clients at the end of face-to-face contacts must be submitted with each claim to the third-party payer. Encounter forms, however, are not required for phone calls between the Certified Recovery Specialists and the client. Face-to-face encounters require documentation by the Certified Recovery Specialists, which includes progress notes indicating the date, start and end time in clock hours, location of services provided, and circumstances. The content of the encounter documentation must include how the encounter relates to the client's individual recovery plan goals. The Certified Recovery Specialists must update the client's recovery plan every 30 days or sooner at the client's request, or if the goal(s) has/have been met. The Certified Recovery Specialists must also reassess the client in terms of continued need for ongoing services every 60 days. When the individualized recovery goals are met, the client is discharged from the program unless there is evidence of further need of services. Upon discharge, a summary including information on client engagement, services provided, and progress made by the client is required. The discharge summary should also include what services the client used or is engaged with upon discharge. Recommendations, such as community services or programs to encourage sobriety should be included if the client refuses future support from the Recovery Services Program. The reason for discharge, such as completion of treatment, client decision or lack of

client engagement should also be indicated in the documentation. A dated attestation must also be included, showing that the client was informed of the availability of future re-enrollment in the Certified Recovery Services program, along with the signatures of the client, the Certified Recovery Specialists, and the supervisor (Pyramid Healthcare, Inc., 2020).

Study of Interventions

Project Design

The Standards for Quality Improvement and Reporting Excellence (SQUIRE) guidelines were used for this research as a framework for reporting new knowledge on how to improve healthcare. The SQUIRE guidelines are intended to address system level work to support the improvement of healthcare quality, safety, and value (Ogrine et al., 2016). For this research, which has an experimental design, quantitative methodology was used to analyze a population of clients seeking recovery treatment for substance use disorder. The population in this research comprised males and females aged 18 to 65 years who had a single or co-occurring diagnosis of opioid use disorder, as defined by the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013), and who had clinical services for treatment of opioid use disorder consisting of therapy, counseling and/or induction and maintenance of MAT. According to the DSM-V (2013), to confirm a diagnosis of OUD, a problematic pattern of its use must result in clinically significant impairment or distress with at least two of the following observed within a 12-month period:

Opioids are often taken in larger amounts or over a longer period than was intended.

There is a persistent desire or unsuccessful efforts to cut down or control

opioid use.

A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.

Craving or a strong desire or urge to use opioids

Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home

Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids

Important social, occupational, or recreational activities are given up or reduced because of opioid use.

Recurrent opioid use in situations in which it is physically hazardous

Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.

Exhibits tolerance

Exhibits withdrawal (p. 541)

Measures

Evidence to support active engagement was identified via a retrospective review of clients' electronic medical records (EMR), which included recorded treatment encounters. Data retrieved showed how many individuals (n=1570) were treated for opioid use disorder during the reporting period between January 1, 2020 and June 30, 2020 utilizing a service history report. This is a standard report that is included in the EMR service bundle or collective package included with the EMR software.

All clients are seen for a level of care assessment to determine if they qualify for outpatient treatment services. It was assumed that clients who had one of these visits and no further treatment did not continue with recovery services and thus were excluded from the data. Clients who had peer specialist specific services were identified to confirm enrolment in the program. These services included attendance of community meetings by the Certified Recovery Specialists, such as recovery team meetings, on behalf of the client (without the client present), as well as attendance with clients to progress their recovery plan. Data related to Certified Recovery Specialists office services were also collected. These are general office services provided by the Certified Recovery Specialists, such as meeting with a potential new client to review Certified Recovery Specialists services, and education on what a client can expect from such services. Other office services might include a routine meeting with a current client to review or work through their recovery plan, for example. Support group encounters led by the Certified Recovery Specialists consisting of 2 to 6 clients, larger groups of 7 to 12 clients, as well as individual client encounters was also included in the data collection. Clients with no record of visits with the Peer Recovery specialist (n=898) were considered not enrolled in the program.

Data were also analyzed that did not relate to services with Certified Recovery Specialist engagement. While all services outside of Certified Recovery Specialists encounters are available to all clients, these additional data were used to establish the services provided to all clients. Therefore, they were useful to compare the services provided to those enrolled in the CRS program and those who were not enrolled. The data consisted of clinician-facilitated individual and group sessions. Clinicians are individuals who are trained counselors with a bachelor's degree or higher in their area of expertise. Data related to client encounters with

providers of MAT include MAT induction (initial dosing of buprenorphine and naloxone medication), and/or administration of naltrexone injections. An example of the data form used to record encounters and collect data, including initial, individual, and group treatment sessions with the client, as well as services involving MAT as described above (see Appendix A for sample of data collection form).

Outcomes Measurement

Outcomes were measured by the total number of treatment encounters, confirmed by the EMR service generated report for a 6-month period. A descriptive analysis of specific services was also explored to determine frequency of encounters between the two groups. The encounters included initial treatment sessions with a clinician, clinician facilitated group treatment sessions, and clinician facilitated individual treatment sessions, MAT induction with buprenorphine or naltrexone, and medication administration or MAT medication check. These measures were used to compare the type of services that all clients were receiving during the period being reviewed. Services were calculated for a total number of encounters and compared between the two groups.

Analysis

Sylvia and Terhaar (2015) discuss the usefulness of comparison groups in deciding whether outcomes have been successfully met by comparing two groups of similar individuals. The authors posit that random assignment of individuals or groups ensures that groups are equal in demographics and other features, so that the effect of the intervention can be attributed specifically to the intervention rather than a differing characteristic.

To assess the CRS program's effectiveness in keeping clients engaged in treatment and recovery, the data of individuals who were enrolled in the program and those who were not were analyzed to compare the types and numbers of encounters. Collected data were stored in a password-protected Microsoft Excel spreadsheet (Appendix 1) without any client identifiers (name, date of birth, medical record number, etc.). Outliers were removed. The resulting data were then analyzed using the collective number of service encounters by each client. Service engagement data of individuals enrolled in the program, confirmed by documented encounters, i.e., provider visits and clinician visits, were extracted and compared to the same encounters of clients who were not enrolled in the CRS program. In general terms, the overall number of encounters between client and provider was collected and compared between the two groups to assess client engagement with treatment.

Given that the data were drawn from two distinct cohorts with an uneven distribution, the unrelated t test was used to establish the difference between the two sets of data (Sylvia & Terhaar, 2015) (Howitt & Cramer, 2008). The t test is used to determine whether the hypothesized value for the population mean should be rejected or not (Hesse, Nortey & Ofosu, 2017). Use of the t test in this study helped determine if the mean treatment adherence rate was higher for individuals who received peer support via Certified Recovery Specialists than individuals who had no peer support. The t test scores were calculated using the Microsoft Excel program. Results of this statistical analysis will be presented below.

Ethical Considerations

The research for this project did not involve human subjects directly, thus IRB approval was not required by the investigator's institution. The organization from which the data was obtained did not require a separate IRB approval process, as the organization does not have an

internal IRB. A letter of approval was given to the principal investigator with permission to collect data from the organization via their EMR services reports without identifying clients or providing employee information (see Appendix B). The data were provided directly by the organization, with the expectation that they would be used for the investigator's scholarly research, for educational purposes only, and not distributed or published by external entities without the express written approval of the organization. Data were stored securely via password protection using Microsoft Excel, using the utmost care to ensure the anonymity of the participants' data, with no client identifiers indicated in this retrospective review.

Conflicts of Interest

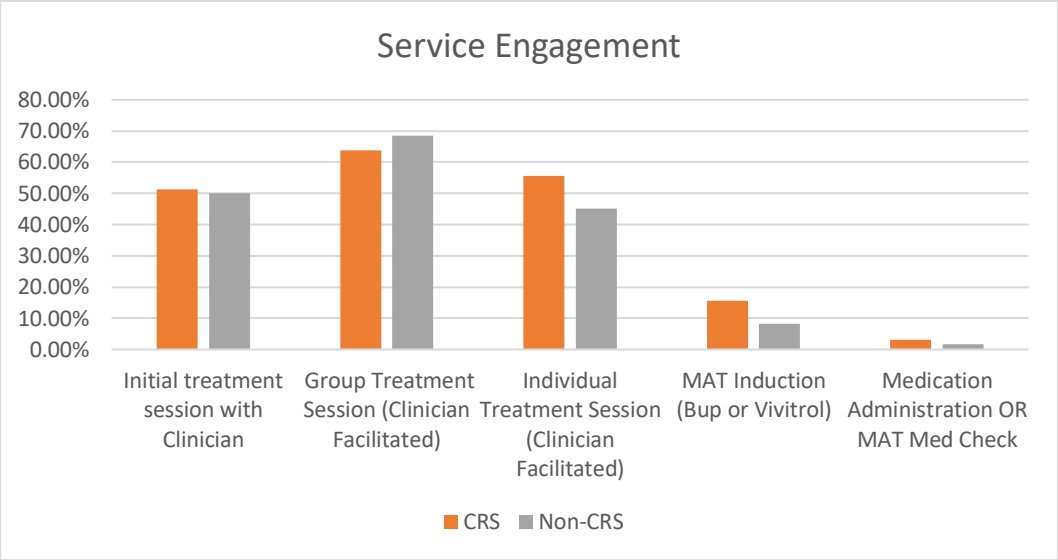
The principal investigator is a contracted employee of the organization, but practices at a different outpatient location in a different capacity and within the scope of practice as a Certified Registered Nurse Practitioner - Psychiatric Mental Health. The investigator has no contact, physically, or virtually via telehealth, or other communications with the clients receiving care at the study location. The study was conducted outside of paid hours by the investigator who declares no conflict of interest.

Results

Participants in the CRS program were found to have a higher percentage of service participation overall than those not in the CRS program. Figure 1 displays the percentage of participants engaged in the respective treatment or service by those enrolled in the CRS program and those not enrolled.

Figure 1

Percentage of clients using services.



Mean use of all services was examined. Use of all services was found to be higher overall (m=9.29) for clients enrolled in the CRS program than clients not enrolled in the CRS program (m=6.41). Table 1 demonstrates the mean use of each service by both groups.

Table 1. Mean use of services by each group

Program	Initial Treatment Session with Clinician	Group Treatment Session (Clinician Facilitated)	Individual Treatment Session (Clinician Facilitated)	MAT Induction (Bup or Vivitrol)	Medication Administration OR MAT Med Check	Mean engagement all services by group
CRS m=	1.98	31.53	6.37	1.43	4.29	9.29/10.77
Non-CRS m=	1.60	19.60	4.65	1.34	4.9	6.41/7.62
p=	0.003311	0.000301	0.004551	0.2876	0.8975	

Clients in the CRS program were more likely to engage in certain treatment services. Initial treatment sessions with a clinician were statistically higher for clients in the CRS program

(p=0.033). Also, statistically significant were the clinician-facilitated group treatment sessions (p=0.0003) and individual treatment sessions (p=0.0045). Further results indicated that there was no statistical difference between individuals who received MAT induction (p=0.2876) and medication administration (p= 0.8975) services.

Chapter 4

Discussion

Interpretation

Treatment engagement for clients with a primary or co-occurring diagnosis of opioid addiction was defined by the collective number of visits for specific recovery services from January 2020 through June 30, 2020. After establishing the level of care appropriate for outpatient treatment, the client meets for an initial treatment session with the clinician. The intake process for clients seeking treatment consists of an initial treatment session. Initial treatment sessions consist of meeting with the client to engage in treatment planning. While all clients who receive recovery treatment engage in an initial treatment session, the data shows that clients enrolled in the CRS program had a higher percentage (51.18%) and mean (m=1.98) of attending initial treatment than clients who were not enrolled in the CRS program (50% and m=1.60, respectively), indicating a statistical significance (p=0.003). This may imply that the individuals were more motivated to engage due to the option or potential access to and anticipated benefit of peer support. This can be supported by a qualitative study by Petterson et al. (2019), which suggests that the initiation of abstinence and maintaining sobriety by individuals with substance use disorders involves the support or recognition by a peer or caring relationship with a service provider giving a sense of connectedness without feelings of shame or guilt.

Data related to participation in group treatment sessions indicate a statistical significance (p=0.0003) between the two groups with a percentage of 68.59% and a mean of m=19.60 among the non-CRS program clients. The mean for clients in the CRS program is 31.53 with a percentage of 63.78. A decrease in percentage is found in clients enrolled in the CRS program. However, this may be due to the number of peer specialist facilitated group sessions that are made available to clients in the program. This provides alternative options to these clients for group therapy. Also, to account for a higher mean of CRS program individuals engaged in group treatment sessions and a lower percentage, the percentage values of these data analyze the number of individuals who attend a session. Whereas the mean shows the number of sessions attended. Non-CRS clients have access to only one type of group session, which is facilitated by the clinician. Considering this, the data indicate that there is more treatment engagement by clients enrolled in the CRS program.

The percentage of clients engaged in individual treatment sessions is higher in the CRS program (55.67%, m=6.37) than for clients not enrolled in the CRS program (45.03%. m=4.65) and is statistically significant (p=0.0045). Ashford et al. (2019) suggests that peer specialists employing motivational techniques have increased utility of services. This would indicate that peer specialists, through their own lived experience, are in a better position to guide patients in the recovery process to seek appropriate services based upon determined needs. Another consideration is that the bridging of peer support with clinician services within the same organization facilitates more prompt treatment engagement.

There was no statistical significance in MAT induction (p=0.2876) or medication administration services (p=0.8975) between clients enrolled or not enrolled in the CRS program. Requirements for these services are attendance of therapy sessions and negative urine drug

screens. It can be inferred that contingency is non-differential for either group as this is a standard requirement for MAT.

Limitations

A significant limitation in this research was not being able to determine treatment outcomes in respect of program completion, i.e., successful completion, changes in level of care, disqualification from the program, and self-termination or relapse. Another limitation was the lack of descriptive data, such as gender and the specific ages of the clients, or the ability to determine where the client was in the process of recovery. For example, was the client new to the program, 2 months into recovery, did the client relapse and re-enroll in services.

Conclusions

This data analysis supports the value of peer support specialists in facilitating client treatment engagement for opioid use disorder. Findings of clinician-facilitated treatment in the form of group and individual therapies are greater in those who were enrolled in the organization's CRS program. Quality measurements for the CRS program to determine treatment outcomes would be further supported by identifying which services are more likely to be used by individuals with reported successful program completion. Even though the data available do not provide specific information on the client's status upon discharge, i.e., completion of treatment, self-termination, failing to meet eligibility or relapse, a descriptive analysis of services utilized the most and least between the two groups would inform areas in need of improvement and to set benchmarks for those most utilized. As was expected, those enrolled in the Recovery Services Program demonstrated more service encounters to support increased engagement in care than those not enrolled in the program.

Other services that could inform outcome measures include clinician facilitated prevention sessions, family group sessions, and nurse contact to provide education or assess medication side effects, for example. However, for the purpose of this research, these services were not included to focus exclusively on those services most utilized by both groups, but this would be an area for future research to support program quality.

While literature supports the benefits of peer recovery specialists, there is a dearth of information evaluating organizational programs that implement this intervention. Results obtained from this research were to be used to assess the effectiveness of the organization's current CRS program in keeping patients engaged in recovery treatment. This information is intended to identify trends in specific services utilized by each group of clients managed at one of the organization's outpatient locations. It is anticipated that research results will guide future interdisciplinary practice in the prevention of substance abuse relapse and promote harm reduction in this population. The information obtained from this data analysis will contribute to the development of the organization's policy and procedures, and programmatic goals. It will also be used to evaluate future client needs to ensure successful program outcomes and to improve their treatment engagement and subsequent recovery.

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Appendix A
Data collection form.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Certified Recovery Service Community.	Certified Recovery Specialist Community with Member	Certified Recovery Specialist lead group (2-6 members)	Certified Recovery Specialist Individual	Certified Recovery Specialist Lead Group (7-12 members)	CRS Office Service	CRS Office with Member	CRS Services provided via phone	CRS Support Group (family members)		Group Treatment Session (Clinican Facilitated)	Individual Treatment Session (Clinican Facilitated)
2	Client	**CRSCOMM**	**CRSCOMME**	**CRSGROUP**	**CRSINDIVID**	**CRSLGGRP**	**CRSOFF**	**CRSOFFMEN**	**CRSPHONE**	**CRSSMGRP**	**FAMILY**	**GRP**	**INDTX**
3	1												
4	2												
5	3												
6	4												
7	5												

N	O	P	Q	R	S	T	U	V	W	X
MAT Induction (Bup or Vivitrol)	Initial treatment session with clinican	Prevention Session clincian facilitated	Care Assessment- Scheduled in advanced.	Level of Care Assessment- Walk In	MAT Nursing Individual Session	Medication Administration OR MAT Med Check	Psych Med Check	Psych Eval	Nursing Med Check for suboxone	# of Encounters
INDUCT	**INTAKE**	**LIFE**	**LOCASMT**	**LOCWALK**	**MATNRSIND**	**MEDADM**	**MEDCHK**	**PSYEVAL**	**SUBNURMC**	**Grand Total**

Appendix B
Organization Approval for Use of Data

Pyramid Healthcare, Inc.

CORPORATE OFFICE
P.O. Box 967
Duncansville, PA 16635
P: 814-940-0407
F: 814-946-1402
1-888-694-9996

7-14-2020
Pyramid Healthcare, Inc

This letter is to confirm Michele Zuccarini has permission to use data from our organization without identifying client or employee information in her dissertation process. Data was provided to Michele directly and has not gone through any IRB approval process, as our organization does not have an internal IRB. It is our expectation that this data set is to be used for educational purposes only and should not be distributed or published in external entities without written approval from our organization.

If you have any additional questions please reach out to me directly at contact information listed below.

Warmly,

Amanda Verrastro, MSW, LSW
Director of Performance Improvement
Averrastro@pyramidhc.com
484-788-1742