

**The Effects of Comorbidities on the Clinical Care of Women with Substance Use Disorders
and the Benefits of a Coordinated Care Approach**

by

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Substance use disorders (SUDs) are a major public health issue in the United States, as incidence and severity continue to rise. Individuals with SUDs often face other comorbidities, or co-occurring conditions, such as chronic pain and co-occurring mental illness. The impact of comorbidities on SUD trajectory is particularly pronounced for adults who identify as women. For instance, according to the 2020 National Survey on Drug Use and Health: Women, 9.5 million women over the age of 18 in the United States had both a SUD and a co-occurring mental illness.

This thesis explores the effects of comorbidities, or co-occurring conditions, on the clinical care and treatment of women with SUDs. First, this thesis presents an overview of the current literature, including gaps in the literature, on the barriers that exist for the care and treatment of women with SUDs due to co-occurring conditions and the effects of these barriers. Next, this thesis presents the results of an original research study that involved

semi-structured interviews with eight clinicians who have a professional background in treating women with SUDs. Transcripts from the interviews were analyzed to explore the perceived effects of comorbidities on the clinical care and treatment of women with SUDs, including barriers to treatment. Themes related to how a coordinated care approach and integrated treatment could benefit the health of this population were also explored as part of the analysis. Qualitative analysis revealed four overarching themes related to barriers that clinicians perceived women with SUD to face; these ranged from individual to organizational and policy-related

factors. Results from this thesis are important for public health in that they can inform research and practice related to the unique needs of women with SUDs and co-occurring conditions. For example, results from the research study in the context of the literature review suggest that funding for social support programs or the creation of more informed policies surrounding the prescription of opioids could greatly benefit this population. In identifying future areas for research and practice, this thesis also aims to promote awareness and acceptance of women with SUDs and co-occurring conditions.

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Preface

Positionality Statement

I, Krittika Banerji grew up in a Cleveland, Ohio suburb where I attended a diverse, high-ranking public high school. Both of my parents are proud immigrants from India who worked very hard to give me the life that I now have. I identify as a cis-gender heterosexual female. I have never personally experienced a substance use disorder (SUD) or know of anyone in my immediate family who has. After completing my MPH practicum at the Onala Recovery Center, I gained an interest in the experiences of SUD. Even though I am not able to personally identify with my chosen population, I hope that with my research endeavors, I can diversify conversations surrounding women's health and the health of those with a SUD. My research has been supported by the Carol L. McAllister Student Resource Fund. This research scholarship is awarded to support work that is qualitative, ethnographic, and community-based participatory in nature. It addresses one or more of the following content areas: maternal/child health, women and development, and social inequalities. This award has been used to fund compensation for research interview participants, as a token of appreciation for their time and expertise.

Acknowledgments

To begin with, I would like to thank my parents for their unwavering support in my pursuit of this degree. Their encouragement and belief in me have been pivotal in allowing me to achieve this milestone. I am also very grateful to Jennifer Bloodworth and Christina Michel who played a huge part in fostering my interest in the subject I've chosen to research. Lastly, I would like to thank my thesis committee members, Dr. Beth Hoffman, Dr. Jaime Sidani, and Professor Tina Batra Hershey for their support over the course of my research and writing journey. Their extensive research experience has been an invaluable resource to me, and their feedback and advice have been crucial in forming this study. I extend my heartfelt gratitude to all those who have supported my growth and success.

1.0 Introduction

Individuals with substance use disorders (SUDs) often face other comorbidities or co-occurring conditions. Of the conditions in the environment that affect health and functioning outcomes, or social determinants of health, that contribute to the impact of SUDs and co-occurring conditions, gender exists as a significant one (Miani et al., 2021).

This thesis assesses the effects of comorbidities, or co-occurring conditions, on the clinical care of adults who identify as women who have SUDs. With limited pointed research on the effect of co-occurring conditions and their treatment, there is opportunity to learn from clinicians who regularly engage with women facing SUDs. Care coordination, which is characterized by active cooperation, collaboration, and communication among an individual's clinicians, can be implemented to properly treat the co-occurring conditions that women with SUDs face. Thus, this thesis will first provide background on SUDs and care coordination, followed by an original research study aimed to obtain clinician insight to assess the effects of comorbidities, or co-occurring conditions, on the clinical care of women who have SUDs. Eight clinicians with a background working with women with SUDs were interviewed to understand what they think the effects of comorbidities are on clinical care, how they have and would address comorbidities among their patients with SUDs, and if they believe a coordinated care approach would be beneficial. This thesis concludes with integrating findings from the research study with the literature review to make recommendations for future public health research and practice to ultimately better the health and wellness of women with SUDs.

1.1 Terminology

It is important to first define several key terms and concepts used in this thesis. I have chosen to mainly use the term “substance use disorders,” as it encompasses the use of a large number of substances that individuals might be using, and a large volume of existing research refers to several different substance-related disorders in this encompassing way. According to the National Institute of Mental Health, a substance use disorder (SUD) is defined as “a treatable mental disorder that affects a person’s brain and behavior, leading to their inability to control their use of substances like legal or illegal drugs, alcohol, or medications.” Addiction is the most severe form of SUD (NIMH, 2023). According to DSM-5, a substance use disorder (SUD) involves patterns of symptoms caused by an individual continuing to use a substance despite its negative effects (American Psychiatric Association, 2013). The DSM-5 outlines 11 criteria arising from substance misuse that fall under four basic categories of impaired control, physical dependence, social problems, and risky use (Gateway, 2021)

In this thesis, women refer to all individuals who identify as female, regardless of biological sex. This includes both those who are born of female sex as well as transgender women. Gender refers to a self-identifying classification.

Clinicians refer to all healthcare providers who provide direct patient care within a clinical health setting. All interview participants in this study are clinicians who have a range of roles and professional titles. This can include roles such as physicians, mental health therapists, nurses, certified recovery specialists, and more.

Comorbidity is a medical term that describes the existence of more than one disease or condition in one’s body at the same time. Comorbidities are often long-term, or chronic.

Comorbidities may also be referred to as co-occurring or coexisting conditions, with related terms such as “multimorbidity” (WebMD, 2021).

Care coordination is an approach to clinical care within which clinical knowledge is freely shared and communicated. Caregivers and clinicians actively collaborate to ensure that all patient information is shared and that there is collaboration on each individual patient’s care (National Academies Press, 2006; CMS, 2024).

Social determinants of health (SDOH) are the conditions in the environments in which people are born, live, work, and age that affect health and functioning outcomes. Gender is now broadly acknowledged in its role in the production and exacerbation of health inequities and in its relevance as a social determinant of health (Miani et al., 2021).

1.2 Background on Substance Use Disorder

Substance use disorders are a major public health issue in the United States. As of 2022, 48.7 million people were living with a SUD in the United States, and the number of people facing SUD-related mortality continues to rise (SAMHSA, 2023). There were 80,411 reported overdose deaths in 2021 and approximately 40% of them were among women (CDC, 2023) (Vankar, 2024). This represents a 51% increase from a decade earlier in 2011, when 41,340 overdose deaths were reported (CDC, 2018).

1.3 Substance Use Disorder Among Women

Substance use prevalence has trended upward over the last few decades, particularly among women. For instance, deaths associated with prescription opioids have risen more sharply for women than men. Since 1999, these deaths have increased 400% in women as opposed to 265% in men (CDC, 2018). Gender disparities in SUD treatment are also prevalent, even though SUD in women persists as an important topic across public health disciplines (Fonseca et al., 2021). Existing evidence-based treatments that are considered to be most beneficial to women include behavioral therapies such as cognitive behavioral therapy (CBT) and dialectical behavior therapy (DBT), as well as medication assisted treatment (MAT) (NIMH, 2024). All of these treatment options are available on an outpatient basis, following medically-assisted drug detox if necessary. Inpatient care at rehabilitation facilities is also a common treatment option. Following inpatient treatment, many individuals choose to transition to sober-living houses that allow for a community-oriented approach to sobriety (America's Rehab Campuses, 2021).

Several studies have indicated that women with SUD are less likely to seek treatment compared to men. Reviews of SUD treatment entry, retention, and SUD-related outcome data suggest that women are less likely to enter treatment relative to men (Polak et al., 2015; McHugh et al., 2018). In 2002, the male-to-female gender ratio in substance use treatment facilities in the United States was 2.3:1 (Greenfield et al., 2007).

These differences in treatment receipt by gender may be in part due to stigma. Women more often experience social stigma associated with their substance use than men do (Brady & Randall, 1999; Polak et al., 2023). Both internalized and direct stigma from others exist as significant barriers to women seeking and accessing health services such as SUD services and reproductive health services (McCartin et al., 2022).

Disproportionate treatment access is also accompanied by several specific comorbidities, or co-occurring conditions, that affect the clinical care of women with SUDs. In terms of clinical features, significant differences in risk exist for psychiatric comorbidity, exposure to intimate partner violence, and associated high risks in reproductive health (Fonseca et al., 2021). For instance, the World Health Organization (WHO) estimates that the prevalence rates of lifetime intimate partner violence (IPV) in women facing SUD range between 40% and 70% as opposed to 17% to 35% in the general population (Fonseca et al., 2021).

Women also face disproportionate associated reproductive health risks as a result of SUDs. These risks include higher rates of infertility, vaginal infections, repeat miscarriages, premature delivery, and a higher vulnerability than men with SUDs to HIV and HCV infection (Fonseca et al., 2021). Mental illness also exists as one of the largest comorbidities for women with SUD treatment (Kelly & Daley, 2013; National Academies Press, 2006; Vogel et al., 1998).

1.4 Conceptual Model

All of the above-mentioned factors that relate to the challenges of caring for women with SUDs can be characterized using the social ecological framework. This framework is a multilevel conceptualization of health that includes different factors (intrapersonal, interpersonal, organizational, environmental, and public policy) to emphasize multiple levels of influence and affirm the idea that individual health behaviors affect and are affected by various contexts (Scarneo et al., 2019). The social ecological model starts by looking at direct relationships such as intrapersonal and interpersonal processes then expands further to institutional factors, and finally

public policy. Delving into the relationships between layers leads to multi-level interventions which are more successful and sustainable.

The social ecological model can be used to develop a conceptual model framing this thesis project that can provide overall context for further examining the multi-level factors affecting this public health issue.

In the case of suboptimal treatment for women with SUDs and comorbidities, this health problem stems from several factors. Women with SUDs and other comorbidities face an increased level of reproductive health risks at an intrapersonal level which contribute to their suboptimal treatment (Fonseca et al., 2021). Women with SUDs and comorbidities have also been seen to experience increased rates of intimate partner violence (IPV) on an interpersonal level which increases their level of reproductive health risks, ultimately contributing to the suboptimal treatment of women with SUDs and comorbidities (Fonseca et al., 2021). At the community level, there is a lower number of women than men seeking and entering SUD treatment (Polak et al., 2015; McHugh et al., 2018). -These low numbers lead to less than ideal treatment for women with SUDs and comorbidities as a lower number of women are attesting to the quality and effectiveness of existing treatment options, which makes for less tailoring and adjusting of services for women. A personal history of mental illness on an intrapersonal level also greatly contributes to the suboptimal treatment for women with SUDS and comorbidities. There is also an increased level of social stigma experienced by women at the community level associated with their substance use that contributes to the overall health problem of their suboptimal treatment (Brady & Randall, 1999; Polak et al., 2023) (**Figure 1**).

It is recognized that this conceptual model does not include other important factors that are related to suboptimal treatment for women with SUDs and comorbidities, such as availability of

treatment, socioeconomic status, social support, access to healthcare, and criminalization, that were not addressed in this thesis project.

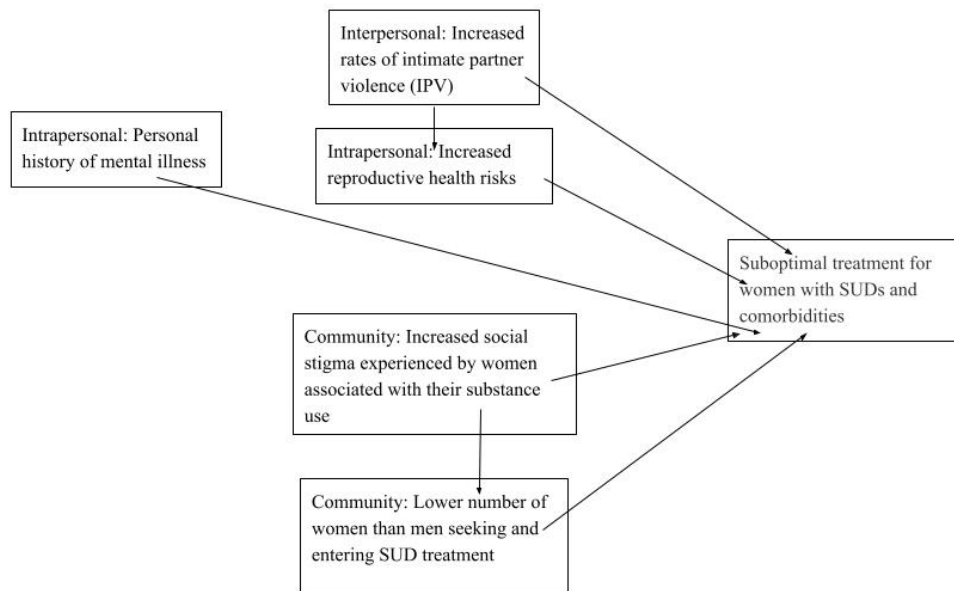


Figure 1 Conceptual model utilizing the social ecological framework to contextualize challenges to the health of women with SUDs

1.5 Substance Use Disorder and Comorbidities

Those living with substance use disorders (SUDs) often have other comorbidities or co-occurring conditions. These include mental and physical conditions that, in conjunction with an individual's substance use, pose unique challenges for their clinical care and treatment. These comorbidities especially affect the care and treatment received by women. The effects of these comorbidities will be highlighted in the following sections.

1.6 Mental Health-Related Comorbidities

A psychiatric illness is the most commonly diagnosed comorbidity among individuals with SUDs. There is an abundance of evidence demonstrating a high prevalence of persons diagnosed with both a psychiatric illness and a SUD in the United States (Kelly & Daley, 2013; National Academies Press, 2006; Vogel et al., 1998). According to results from the 2021 National Survey on Drug Use and Health, 45.8% of adults aged 18 to 25, 39.5% of adults aged 26 to 49, and 22.6% of adults aged 50 or older who had a psychiatric illness also had a co-occurring SUD (SAMHSA, 2022). Furthermore, according to the 2015-2017 National Survey on Drug Use and Health data, the prevalence of past-year mental illness was 64.3% and serious mental illness was 26.9% among adults with opioid use disorder (OUD) (Jones, McCance-Katz, 2019). Systematic reviews conducted on research studies have found a higher prevalence of SUDs among individuals with severe mental illness and that the “course of severe mental illness is negatively influenced by a substance use disorder” (RachBeisel et al., 1999). This comorbidity is particularly prevalent among individuals with OUD (Jones & McCance-Katz, 2019).

Rates of co-occurring SUDs and mental illness disproportionately impact women. A review conducted in 2021 drew multiple conclusions related to SUDs in men versus women. Alongside an accelerated onset of SUDs, women were more at risk of experiencing a psychiatric comorbidity compared to men. This review cited the World Health Organization (WHO) finding that women who had experienced intimate partner violence (IPV) were more at risk for a psychiatric comorbidity; prevalence rates of lifetime IPV in women with SUD ranged between 40% and 70% as opposed to 17% to 35% in those without a SUD, and women with this comorbidity were more prone to a "more severe course of both diseases" (Fonseca et al., 2021).

According to the 2020 National Survey on Drug Use and Health: Women, 9.5 million women over the age of 18 in the United States were diagnosed with both a SUD and a mental illness (SAMHSA, 2020). A 2012 study of 577 women in a residential substance abuse treatment program who had co-occurring mental illnesses and SUDs found that multiply-diagnosed women face an increased overall level of burden, with “burden” being defined as “the total number of “diagnoses” or “significant problems,”” using a coding system of points given to individuals based on the number of present conditions (Brown et al., 2012).

Those facing the dual diagnosis of psychiatric illness and SUD typically have poorer health and social outcomes than patients with either diagnosis alone (Siegfried, 1998). There is also evidence that those facing comorbidities are more likely than those with one disorder to experience major impairments in economic roles—such as unemployment—and social roles—such as social isolation (Kessler, 1995). With mental illness existing as one of the largest comorbidities for those with SUD, a specialized approach for simultaneous treatment is necessitated.

1.7 Physical Health-Related Comorbidities

There are many physical health-related comorbidities and chronic medical conditions that exist in conjunction with SUDs. Patterns of the multimorbidity of SUDs and chronic conditions and diseases are prevalent and studies document the increased odds of an individual having a SUD with the presence of one or more chronic, long-term conditions (Stephens et al., 2020; Wu et al., 2018).

A study conducted in 2019 used electronic health record (EHR) data to document the correlation between the comorbidity of SUDs and nine chronic disease groups with hospitalization

rates (Wu et al., 2018). The chronic conditions being examined were hypertension, arthritis, diabetes, chronic kidney disease, asthma, chronic obstructive pulmonary disease, ischemic heart disease, cancer, and hepatitis. In the study sample (n = 211,880), 48.3% of individuals had at least one of the nine chronic conditions examined. The study found that the prevalence of SUDs (overall 13.3%) among patients increased with the presence of multiple chronic conditions, with 14.3% of patients with one chronic condition having a SUD, 21.2% of patients with two to three chronic conditions having a SUD , and 32.5% of patients with four to nine conditions having a SUD; chronic condition presence was associated with increased odds of having a comorbid SUD. All hospitalization was also higher in individuals with SUDs than those without (Wu et al., 2018). A 2007 review of data from the 2002 Canadian Community Health Survey (CCHS) found that significant associations also exist between the presence of chronic respiratory conditions in individuals and substance dependence (Patten & Williams, 2007). Chronic viral infections also commonly co-occur with SUDs (Loftis & Lim, 2016).

Chronic pain that is often associated with several different disorders is an especially complicated comorbidity that exists in conjunction with SUDs. Point prevalence estimates of chronic pain range from 10% to 50% of across the United States population. Higher rates of chronic pain are reported among individuals with opioid and other SUDs (Brooner, 2008) (Karasz, 2004). As opioids are often effectively used to treat chronic pain, it is challenging for both those with SUDs and the providers treating them to navigate their co-occurring conditions (Cheatle & Gallagher, 2006).

1.8 Coordinated Care

The effects of SUDs on women's health are unique and require proper diagnosis, attention, and ultimately treatment. To best be managed, comorbidities with SUD require a nuanced and integrated approach; such as a coordinated care approach. A coordinated care approach is characterized by active cooperation, collaboration, and communication among an individual's clinicians (National Academies Press, 2006).

With coordinated care, clinical knowledge is freely shared and communicated, and providers actively collaborate so that safe, appropriate, and effective care can be provided while redundant care processes are avoided (National Academies Press, 2006; CMS, 2024). Coordinated care allows for a collaborative approach that ensures that all patient information is shared and that clinicians work together on each individual patient's care. Communication in a coordinated care approach can include verbal communication, manual communication in writing, or communication through technological platforms such as shared electronic health records. Integrated treatment is often a facet of this approach to care. Integrated treatment focuses on two or more conditions, often with the use of multiple concurrent treatments (Kelly & Daley, 2013). Integrated treatment works to address the individual needs of patients or clients and involves treatment interventions for co-occurring disorders in the context of a primary treatment relationship (National Academies Press, 2006).

Due to the above-detailed co-occurring conditions, an approach that makes it easier for individuals with SUDs to manage their comorbid conditions is imperative (Pew, 2020). The increase in innovative care techniques including greater utilization of evidence-informed co-treatment of chronic conditions and SUDs would improve the care of individuals with comorbid chronic conditions and SUDs (Stephens et al., 2020). The integrated treatment approach has been

sparingly explored in terms of comorbid mental illness and SUDs, despite being accepted to be the most promising treatment strategy for treating both disorders; practice standards recommend that people with this comorbidity receive integrated treatment (Brousselle et al., 2010; RachBeisel & Dixon, 1999). Integrated treatment plans targeting comorbidity have consistently been found to be superior compared to the use of separate treatment plans for individual disorders (Kelly & Daley, 2013).

One way that highly prevalent comorbidities have been addressed through existing evidence-based interventions is in dual-recovery-based interventions such as Double Trouble in Recovery (DTR). DTR is a “mutual aid program adapted from the 12-step method of AA, which specifically embraces those who have a dual diagnosis of substance abuse/dependency and psychiatric disability” (Vogel et al., 1998). The founder of DTR found that traditional 12-step groups were not suitable for those with additional psychiatric disabilities, whose problems often went unaddressed and were stigmatized in these existing groups. Preliminary studies conducted on DTR yield that recent substance use is limited, suggesting that DTR attendance may have a positive effect (Vogel et al., 1998). Member ratings also indicate that DTR meetings are a setting where they can feel safe and comfortable discussing their addiction in conjunction with their psychiatric disabilities (Vogel et al., 1998). An integrative treatment approach to addressing co-occurring mental illness and SUDs allows for such a setting of productive comfort and safety.

Though the topic has been explored, limited research exists detailing the benefits of a coordinated or integrated care approach specific to SUDs and overall comorbid conditions. Therefore, there is an opportunity to gain insight into this approach from clinicians who regularly engage with individuals with substance use disorders, especially those individuals who identify as women.

2.0 Research Methodology

The aim of this study was to obtain clinician insight to assess their perceptions about the effects of comorbidities, or co-occurring conditions, on the clinical care of women who have substance use disorders (SUDs), and to explore the facets and feasibility of a coordinated care approach. To achieve this aim, eight semi-structured interviews were conducted with clinicians who have worked in various roles with women who have SUDs. With the collected qualitative data, clinician perspectives were analyzed regarding the effects of co-occurring conditions on the treatment and care of women with SUDs, what best practices may exist to address them, and their perspectives on a coordinated care approach.

2.1 Materials and Design

2.1.1 Participants and Recruitment

For this study, clinicians were recruited using snowball sampling, recruitment emails, and professional networks of the study Principal Investigator (PI). Potential interview participants were contacted via email to explain the research project and gauge interest in participation. Clinician email addresses were obtained through multiple methods. First, a preliminary Google search was conducted for clinicians in the Pittsburgh area who have a background working with women with SUDs. Terms such as provider, clinician, female, women, substance use, opioid use were used for search purposes. This resulted in the identification of two addiction-focused psychiatrists, one

Addiction Recovery Specialist, two OB/GYNs, one Addiction and Substance Abuse Counselor, one mental health therapist, and one Licensed Professional Counselor. A professional connection at Cleveland Clinic in Cleveland, OH was also used to identify additional clinicians interested in participating. This individual contacted potential participants on the PI's behalf, providing contact information for four clinicians who showed interest in participating. A total of 11 clinicians were sent recruitment emails (**Appendix A**). Clinicians who agreed to participate were then emailed an informational script (**Appendix B**) with details about the study purpose, potential study risks and how they would be minimized, and affirmation that that they could withdraw without consequence at any time.

The participant interviews (n=8) were conducted by the PI over Zoom and audio recorded. Verbal consent was obtained at the start of each interview. Participation in clinician interviews was voluntary. Transcripts were produced using Zoom's automated transcript feature and cleaned for accuracy prior to coding processes. All recorded audio and transcript data was securely stored on an encrypted personal laptop for analysis purposes only. The interviews lasted between 30 and 45 minutes each. Clinicians were each offered \$30.00 gift cards to compensate them for their time and expertise.

This study was approved by the University of Pittsburgh Human Research Protection Office (STUDY24010194) as exempt (**Appendix C**).

2.1.2 Interview Guide Development

An interview guide was drafted based on the current literature regarding co-occurring conditions on SUD treatment and different care approaches. The interview guide (**Appendix D**) included semi-structured, open-ended questions, and was divided into three main sections, each

with a series of related questions. The sections were introductory questions, main questions, and closing questions. The introductory questions asked about the professional background of the clinicians being interviewed and their experience working with women with SUDs. The main questions focused on topics such as clinicians' perceptions about the barriers to the clinical care of women with SUDs, the effects of different co-occurring conditions on the treatment and care of women with SUDs, and the quality of care received by these women. The closing questions inquired about the clinicians' perception of the feasibility of a coordinated care approach and the necessary aspects for its success. The interview ended with a question that allowed for snowball sampling, where interview participants were asked if they knew of any other potential individuals who might be interested in providing their time and insight to this research study. This question yielded two additional study participants.

The interview guide was pilot tested with four experts in SUDs with varying professional backgrounds to assess and obtain face validity before employing the written interview guide. These experts included one licensed clinical psychologist with training in substance use in primary care settings, one Assistant Professor of Medicine with post-doctoral interests in opioid misuse/opioid use disorder interventions, one post-doctoral scholar with previous publications about opioid use disorder in pregnant populations, and one licensed professional counselor with experience working with populations affected by substance use disorder. These four experts were sent requests for review via email communications and given questions by the PI to focus on during review (**Appendix E**).

Expert feedback regarding the clarity of questions and their relevance to the subject matter was reviewed and incorporated into the final interview guide. Questions not easily understood were edited for clarity, minor additions and removals were made to question structures that were

too lengthy or too brief, and questions deemed unrelated were removed. The final interview guide is available in **Appendix D**.

2.1.3 Data Analysis

The auto-generated transcripts of the interviews were hand-checked and cleaned for accuracy by the PI. These cleaned transcripts were then uploaded into NVivo, a qualitative coding software (Lumivero, 2023). A codebook was developed and reviewed by the thesis committee (**Appendix F**). The codebook was developed using themes and patterns found to be prevalent in the conducted clinician interviews and consistent with the existing literature. Each transcript was coded by the PI and then summarized into results and key findings. To further analyze the coded data for emerging themes, a grounded theory approach using inductive reasoning was employed. A grounded theory approach is a research methodology that can be employed to conduct qualitative research processes through which theories and hypotheses can be constructed from data that was systematically obtained and analyzed (Tie et al., 2019).

A formatted report of a coding summary by code was run to identify prominent themes across the individual codes within the data set and their frequency. This was extracted through Nvivo, following data coding.

During data analysis, the themes were sorted into four categories, based on the outlined overarching themes (See **Table 2**), and were coded accordingly using the data from the eight conducted interviews. During data coding, several similar themes emerged across the conducted interviews. This served as evidence of the presence of thematic saturation and confirmed that additional interviews did not need to be conducted.

3.0 Results

Eight clinicians participated in the semi-structured interviews. The participants included two addiction-focused psychiatrists, one Addiction Recovery Specialist, two OB/GYNs, one Addiction and Substance Abuse Counselor, one mental health therapist, and one Licensed Professional Counselor. All interviewees practiced either in Pennsylvania or Ohio (See **Table 1** for summary of participants).

Table 1 Professional Summary of Participants

Professional Role of Participants	Count*
Psychiatrist	2
Mental Health Therapist	1
Licensed Professional Counselor	1
Addiction Recovery Specialist	1
OB/GYN	2
Addiction and Substance Abuse Counselor	1
*Interviews completed with Interview Guide	

The overarching themes found during data analysis were barriers faced by women with SUDs who wish to receive substance use treatment, effects of physical comorbidities and chronic conditions on how women with SUDs receive clinical care, effects of mental health-related comorbidities on how women with SUDs receive clinical care, and a coordinated care approach

(See **Table 3**). The formatted report of a coding summary by code generated using NVivo, identified prominent themes across the individual codes within the data set and their reference frequency (See **Table 2**).

Table 2 Individual Codes and Reference Frequency Across Interviews

Global Themes	Organizing Themes	Number of Interviews Referenced In	Number of Total References
Barriers faced by women with SUDs who wish to receive substance use treatment.	Stigma	5	20
	Access/availability	8	25
	Childcare	5	12
	Insurance	5	17
	Transportation	4	6
Effects of physical comorbidities and chronic conditions on how women with SUDs receive clinical care.	Chronic pain	6	15
	Introduction to substances	3	5
	Maintaining treatment	3	7
Effects of mental health-related comorbidities on how women with SUDs receive clinical care.	Misdiagnosis	2	9
	Medication Mismanagement	3	5
Coordinated care approach	Funding	7	18
	Staffing/burden	4	8
	Communication	3	15
	Service Reimbursement	3	8

3.1 Barriers Faced by Women With SUDs Who Wish to Receive Substance Use Treatment

The first global theme was barriers faced by women with SUDs who wish to receive substance use treatment. This theme included five subthemes: stigma, access/availability, childcare, insurance, and transportation. The two subcodes mentioned most frequently across the data set were stigma and access/availability. Stigma was referenced 20 times by participants across five of the conducted interviews. Access/availability was referenced 25 times by participants across all eight of the interviews conducted.

Stigma was clearly identified as a perceived barrier to receiving treatment. Both internalized and direct stigma from others due to substance use exist within the healthcare system, affecting individuals with SUDs and serving as a point of fear for many women seeking substance use treatment. Specifically, interviewees noted that they believed the fear of being stigmatized by providers was a roadblock to receiving SUD treatment for women who would otherwise be more eager to seek out substance use services. As described by one interviewee:

“And if they do recognize something's wrong, they're afraid to go for the fear of the stigma and being scorned and being, you know, addressed in a negative way.”

Another interviewee said:

“And so that's another area of stigma that we've been having to address because that too is a barrier to people seeking help.”

Another interviewee described how the language used in healthcare settings often furthers stigma:

“Whatever the barrier is, they all kind of start with stigma. You know, there's the patient's own stigma, but more importantly, the health care system stigma where we treat. Even the way we talk about addiction, you have a clean year and a dirty year. Like in what other place in medicine do we talk like that? Or even the way we talk about, we say, oh, you had a relapse, you know, when the appropriate is a recurrence of use. Or like, oh, we have to detox you. No, it's withdrawal management. We're managing their withdrawal. That's what we're doing. So, everything starts with stigma. So that, and it goes to our language.”

Access/availability was mentioned across all eight clinician interviews and was a large topic of discussion when addressing the barriers women seeking SUD treatment face. Participants identified a clear need for substance use treatment services, but noted that there is a simultaneous shortage of treating clinicians. One interviewee said:

“Definitely accessibility. There is such a shortage and there is such a high need.”

One interviewee explained how even when they think their clinic is not the best fit for a patient, they still accept them because they know how difficult it is to access treatment:

“Well, I mean, they're not good. It's hard to get into treatment. And that's why sometimes people find me, and I know they're not appropriate for our clinic, but I know how hard it is to find someone like me. So, I take them.”

One interviewee felt that men and women have equal access to treatment options, but they do not have equal societal support which causes a disparity in treatment access:

“I feel like men and women have the same access to treatment but again kind of back to the point I made about like yes, like a man or a woman has the same right to go into any office they want, they just may not have the societal support, you know what I mean?”

On the topic of societal support, the lack of childcare support was also frequently referenced by clinicians as a large barrier to treatment for women with SUDs. Two interviewees referenced this barrier and how it often impedes women from being able to adequately seek treatment:

“Childcare, you know for mothers with young children especially if the father of children or if there isn't any other supportive folks then they get in a real, you know, a real bind as to how am I going to participate in this treatment program or go into sober living if they won't take my kids as well. And I'm not going to put them up for adoption or call DCFS on myself so that creates another barrier”

“Not being able to maybe seek treatment because they don't have anywhere else for their kids to go and don't wanna put their kids into the system.”

Participants also mentioned that access to first-line treatment for comorbid mental illness and the prescription of certain medications is often diminished for women with a SUD. As one interviewee described:

“Again, they're not given access to the same medicines you would give to somebody without a substance use disorder, right? So like for example, a lot of women with substance disorders legitimately have ADHD. Right. But they are oftentimes, And I mean, there's reasons for this, but oftentimes they're not gonna have access to stimulant medications, right? Because there's a concern that they might abuse them, which is not unfounded. I mean, they certainly do have that concern. But it does mean that they're not getting access right away to something that is considered generally a first-line treatment for a disorder that they have.”

3.2 Effects of Physical Comorbidities and Chronic Conditions on How Women with SUDs Receive Clinical Care

The second global theme was the effects of physical comorbidities and chronic conditions on the care received by women with SUDs. This global theme included three subthemes: chronic pain, introduction to substances, and maintaining treatment. The two subcodes mentioned most frequently across the data set were chronic pain and maintaining treatment. Chronic pain was

referenced 15 times by participants across six of the conducted interviews. Maintaining treatment was referenced seven times by participants across three of the conducted interviews.

Chronic pain was one of the most frequently seen physical health-related comorbidities by participating clinicians alongside the occurrence of SUDs in women and brings along a unique set of challenges for patients. One interviewee said:

“I think the main issues are chronic pain. Anything that causes chronic pain is the number one.”

Another interviewee similarly described:

“So, for physical conditions, so like chronic pain, probably being one of the most common physical conditions.”

One interviewee addressed how reports of pain are often not taken seriously due to existing stigma:

“And there's a lot of stigma that's attached to that too. Even when the pain is legitimate. It's still maybe questioned.”

Maintaining treatment was mentioned across half of the conducted interviews as a large factor as to how physical comorbidities and chronic conditions affect the ways in which women with SUDs receive clinical care. Clinicians explained how, with an increasing amount of health issues and co-occurring physical conditions, it becomes increasingly difficult for women to

coordinate and maintain treatment and related appointments alongside their SUDs. As described by one interviewee:

“And then you know there's always the question of time too a lot of these visits do take time and commitment and you know, when the person's eager to restart their lives and especially if they're trying to get jobs and many of those jobs are not necessarily jobs in which they feel they have as much negotiating power, and therefore they feel compelled to put in the hours, work the hours, work the shifts that their bosses tell them to. Which may not be compatible to when appointments are available. You know, that can be challenging.”

Similarly, another interviewee described:

“That can be hard for them to juggle a lot of times, especially if they are newly in sobriety or trying to enter treatment, you know, they're not, they're still using, you know, all these medical conditions are highly time intensive in terms of especially initial treatment when the condition is not stable. And so that could be very hard for them to juggle, right?”

Interviewed clinicians also referenced how certain physical health-related challenges and issues can also act as a prominent introduction to substance use for many women. Childbirth, small injuries, and dental care are some of the most frequent avenues for the introduction of substance use behaviors with the prescribing of opioids and narcotics for related pain. One interviewee

described how dentists often prescribe a lot of opioids but are not as often included in data reflection those patterns:

“About how like dentists prescribe a lot of opioids but they don't often get included in the data or like the review of prescribing patterns”

Another interviewee described how the prescription of opioids for oftentimes small, harmless injuries can progress into issues with substance use disorders:

“You know, possibly a harmless injury, you know, like they, you know, they tore their rotator cuff, you know playing, you know, playing baseball and then all of a sudden they start getting opioid pain pills. So, and then, you know, 6 months later, it's like, now we've got a problem. You know, even though they had no history of addiction prior to that.”

Another interviewee described how the prescription of opioids pain pills during childbirth can oftentimes act as an introduction to issues with substance use for many women:

“I've had so many women tell me that their introduction to opioid pain pills was through childbirth. You know, which is not something you consider or you know is often talked about.”

3.3 Effects of Mental Health-Related Comorbidities on How Women with SUDs Receive Clinical Care

The third global theme was the effects of mental health-related comorbidities on the care women with SUDs receive. This global theme included two subthemes: misdiagnosis and medication mismanagement. Of the two subcodes, the one most frequently mentioned was misdiagnosis. Misdiagnosis was referenced nine times by participants across two of the conducted interviews.

Interviewed clinicians highlighted the prevalence of misdiagnosis related to mental health-related comorbidities. One interviewee candidly said:

“We slap a lot of diagnoses on people that are inappropriate and that also creates stigma.”

One interviewee identified the importance of continuous training for clinicians to be able to properly decipher the symptoms of different mental health-related diagnoses and how they apply to different patients:

“Yeah, a big one and I think to unqualified, not even unqualified, but Clinicians or providers that aren't trained appropriately and their training isn't kept up. We get kind of tunnel vision every, I think, clinician does whether your mental health, physical health, whatever it is, we get kind of tunnel vision that this is how people behave and this is the treatment and that's it. When in reality every person is different every substance is different every substance and every person is different.”

Two interviewees described that misdiagnosis often occurs due to the interference of substance-induced symptoms and the improper identification of symptoms of mental illness, and the extra effort that it may take to properly diagnose patients:

“It’s really important and sometimes I still struggle, so I’ll have to in my diagnosis is kind of keep a differential diagnosis or I’ll put like diagnosis versus substance-induced diagnosis.”

“I can kinda schedule, not as much as I want, but really adequate amounts of time to kind of tease apart, and I’m skilled at teasing apart things because that is a lot of mental health is like overlapping diagnosis. So, you have to get good at kind of being like, okay, you have insomnia. Is it anxiety, depression? Are you using a substance? ADHD? You know.”

3.4 Coordinated Care Approach

The fourth global theme was a coordinated care approach. This theme included four subthemes that all highlighted barriers to such an approach: funding, staffing/burden, communication, and service reimbursement. The two subcodes that were mentioned most frequently were funding and communication. Funding was referenced 18 times by participants across seven of the interviews conducted. Communication was referenced 15 times by participants across three of the conducted interviews.

Funding was identified across all but one of the interviews and was clearly identified as one of the most important factors in the successful implementation of a coordinated care approach.

Three interviewees spoke about the high cost of making a coordinated care approach work:

“You know, so it definitely takes a lot of investment I think systemically to make care coordination work.”

“But it just it does take a lot of money to, you know, to do it.”

“Integration is key, but they make you pay for it, they make you pay for the convenience of it.”

Two interviewees explained that organizations that can make a coordinated care approach work are able to do so because they have the required financial resources:

“And some organizations are able to do it. They're able to pay for it. They're able to spend, you know, a year planning and some organizations are not, you know.”

“But those places have to have government support to function.”

Communication was identified across three of the interviews conducted as another one of the most important factors in the successful implementation of a coordinated care approach. This discussion also brought forth the topic of hierarchy among providers within the healthcare system and how perhaps an institutionalized culture may need to be addressed for the proper

implementation of communication channels and methods. One interviewee spoke candidly about the current lack of adequate communication channels for clinicians to effectively communicate about their patients' care:

“It’s hard to get a hold of doctors. Oh my god, I literally have one on my desktop right now and I’m kind of dreading calling him because I just know how much back and forth there’s gonna be and it’s like I’m doing this in between being stacked all day with people.”

“I would love like one EMR, like one magical EMR where I can see the notes from the neurologist and the endocrinologists, just like one universal EMR. Or at least a system that’s easy to message people.”

One interview mentioned multiple times the importance of adequate and understanding communication among clinicians:

“Are we communicating enough? Like what are the standards here? There is a certain, unfortunately, there’s a hierarchy in the mental health and substance use field. So, is someone’s private psychiatrist going to take me a lowly drug and alcohol counselor seriously when I’m giving them feedback? If I go to get a release and call them and try to explain to them their best physical care and try to advocate, are they going to listen to me? No, maybe not.”

“So, I guess an understanding of the system and all of our roles in it, but we have to communicate more as a community.”

“Let's talk about it. Let's not Jump to conclusions and try to dictate everything. Let's just talk more.”

Table 3 Global and Organizing Themes, Descriptions, and Illustrative Quotes

Global Themes	Organizing Themes	Description	Illustrative Quotes
1. Barriers faced by women with SUDs who wish to receive substance use treatment.	Stigma	- Disapproval or discrimination against someone based on perceived characteristics	- "Whatever the barrier is, they all kind of start with stigma. You know, there's the patient's own stigma, but more importantly, the health care system stigma where we treat." - "There is a lot of stigma. There's a lot of stigma against any substance user. But especially when we talk about women ... we stigmatize, we put labels, and we use the crazy word."
	Access/availability	- Level of patient access to substance use treatment options - The amount and type of services that are available to patients, specifically women, who wish to receive substance use treatment	- "Definitely accessibility. There is such a shortage and there is such a high need." - "But I think sometimes when you're in the world and when you're kind of dealing with stuff, it's hard to know sort of where to go and how to access that care."
	Childcare	- The care or supervision of one's children	- "Childcare, you know for mothers with young children especially if the father of children or if there isn't any other supportive folks then they get in a real, you know, a real bind as to how am I going to participate in this treatment program or go into sober living if they won't take my kids as well. And I'm not going to put them up for adoption or call DCFS on myself so that creates another barrier." - "Not being able to maybe seek treatment because they don't have anywhere else for their kids to go and don't wanna put their kids into the system."

	Insurance	- Coverage of health care services and expenses	- "...Or they have insurance, but it's thin insurance. So, it doesn't cover the facilities that they want to go to." - "You know, a good insurance, a good insurance system is really key. Right, because If I can't, if my patients can't afford their medications, then I can't really treat them quite as well."
	Transportation	- The movement of persons from one place to another	- "But you know, then the other thing is transportation... where people might again, you know, they might be homeless, and they might not have a way to get around." - "But certainly, you know, biggest barriers... transportation."
2. Effects of physical comorbidities and chronic conditions on how women with SUDs receive clinical care.	Chronic pain	- Long-term continuous physical discomfort and distress	- "I think the main issues are chronic pain. Anything that causes chronic pain is the number one." - "So, for physical conditions, so like chronic pain, probably being one of the most common physical conditions."
	Introduction to substances	- Gateway into using drugs	Dental: "About how like dentists prescribe a lot of opioids but they don't often get included in the data or like the review of prescribing patterns." Small injury: "You know, possibly a harmless injury, you know, like they, you know, they tore their rotator cuff, you know playing, you know, playing baseball and then all of a sudden they start getting opioid pain pills. So, and then, you know, 6 months later, it's like, now we've got a problem. You know, even though they had no history of addiction prior to that." Childbirth: "I've had so many women tell me that their introduction to opioid pain pills was through childbirth. You know, which is not something you consider or you know is often talked about."
	Maintaining treatment	- The ability to sustain all different modes of one's care	- "That can be hard for them to juggle a lot of times, especially if they are newly in sobriety or trying to enter treatment, you know, they're not, they're still using, you know, all these medical conditions are highly time intensive in terms of especially initial treatment when the condition is not stable. And so that could be very hard for them to juggle, right?"

<p>3. Effects of mental health-related comorbidities on how women with SUDs receive clinical care.</p>	<p>Misdiagnosis</p>	<ul style="list-style-type: none"> - Incorrect classification of one’s condition based on presented symptoms 	<ul style="list-style-type: none"> - “It’s definitely problematic in that, like I had mentioned earlier, there’s so much misdiagnosis.” - “We slap a lot of diagnoses on people that are inappropriate and that also creates stigma.”
	<p>Medication Mismanagement</p>	<ul style="list-style-type: none"> - Incorrect handling of one’s prescribed medications due to numerous causes 	<ul style="list-style-type: none"> - “Again, they’re not given access to the same medicines you would give to somebody without a substance use disorder, right? So, like for example, a lot of women with substance disorders legitimately have ADHD. Right. But they are oftentimes, And I mean, there’s reasons for this, but oftentimes they’re not gonna have access to stimulant medications, right? Because there’s a concern that they might abuse them, which is not unfounded. I mean, they certainly do have that concern. But it does mean that they’re not getting access right away to something that is considered generally a first-line treatment for a disorder that they have, right? So that can make a difference.”
<p>4. Coordinated care approach</p>	<p>Funding</p>	<ul style="list-style-type: none"> - Money given to organizations from the government or larger entities to support their mission and goals 	<ul style="list-style-type: none"> - “You know, so it definitely takes a lot of investment I think systemically to make care coordination work.” - “But those places have to have government support to function.”
	<p>Staffing/burden</p>	<ul style="list-style-type: none"> - Number of employees hired to perform certain services or tasks - Hardship or distress caused by taking on a large number of tasks 	<ul style="list-style-type: none"> - “You know, you need the staff, you need a nurse, you need a social worker, you need At least those 2. You need at least those 2, you know, and they kind of have to be. They have to be given the protected time to be dedicated to this work... So, you need the staffing too.” - “Because right now they don’t because they can’t afford to keep the staff.”
	<p>Communication</p>	<ul style="list-style-type: none"> - Verbal, written, or gestural mode of sharing thoughts and ideas 	<ul style="list-style-type: none"> - “I would love like one EMR, like one magical EMR where I can see the notes from the neurologist and the endocrinologists, just like one universal EMR. Or at least a system that’s easy to message people.” - “So, I guess an understanding of the system and all of our roles in it, but we have to communicate more as a community.”

	<p>Service Reimbursement</p>	<ul style="list-style-type: none"> - The act of paying an individual back for services or duties they performed 	<ul style="list-style-type: none"> - “So, I think what that comes down to is the insurance industry being the insurance industry and not appropriately reimbursing services. Especially these important services that are literally important, life and death, for health. And they're not appropriately compensating those individuals.” - “Reimbursement I think is king for getting things to happen.”
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4.0 Discussion

This thesis employed a review of the literature on SUDs in women as well as interviews of eight clinicians with experience treating women with SUDs. There are several evidence-based treatment options for women with SUDs across the country, but access to and maintenance of these treatments is suboptimal due to a variety of factors. Several barriers pose a challenge to this access for women with SUDs wishing to receive care, especially those with co-occurring conditions. This seeming disconnect is evident as SUD-related fatalities continue to rise with 40% of the 2021 overdose death total of 80,411 consisting of women (CDC, 2023; Vankar, 2024).

The data collected in this study gives the clinician perspective on the effects of comorbidities, or co-occurring conditions, on the clinical care of women who have substance use disorders (SUDs) and the facets and feasibility of a coordinated care approach. While the limited amount of existing literature on this topic may not fully encompass the depth of this problem, pointed clinician insight, such as that gathered in this study, allows for an inside perspective on the daily problems and roadblocks faced by women with SUDs and their care providers. For instance, the majority of interview participants identified stigma as a large barrier to women with SUDs seeking and engaging with treatment options. Clinicians explained that stigma within the healthcare system serves as a point of fear and trepidation for women seeking substance use treatment, which is consistent with earlier findings in the literature on this topic. As previously mentioned, both internalized and direct stigma due to substance use exist as significant barriers to women seeking and accessing health services such as SUD services and women experience social stigma associated with their substance use more often than men do (McCartin et al., 2022; Brady & Randall, 1999; Polak et al., 2023). Women fear being stigmatized and spoken to in a negative

manner by providers and clinicians and this stands as a significant roadblock to care for women who would otherwise be more forthcoming in seeking out substance use treatment services.

Interview participants also frequently cited other barriers faced by women with SUD who wish to receive SUD treatment such as lack of transportation, lack of childcare, and insurance barriers. This was an important finding within this study, as clinicians provided firsthand insight into the barriers they have had to address among their patients. When asked what their ideal system would look like if they were put in charge of reforming the healthcare system to provide the best care possible to women with SUDs and co-occurring conditions, many of them cited the importance of baseline social services for women. Multiple clinicians highlighted the importance of adequate insurance coverage and social programs such as childcare, housing, and increased transportation options. This is consistent with a 2022 interview study conducted with treatment providers in Connecticut, Kentucky, and Wisconsin that suggested that the insurance coverage and access potential expected after the passage of the Affordable Care Act, the Paul Wellstone and Pete Domenici Health Parity and Addiction Equity has only been partially realized for people with SUD (Dickson-Gomez et al., 2022). Specifically, people who use drugs or have SUD continue to have a high probability of being uninsured, decreasing their access to SUD treatment (Dickson-Gomez et al., 2022).

Clinicians also had vast opinions on co-occurring conditions and their effects on the clinical care of women with SUDs. An important topic brought up by interview participants was women's ability to maintain their treatment when they are dealing with multiple health-related diagnoses. They explained that they have seen it become increasingly difficult for women to coordinate their treatment when they are handling co-occurring conditions alongside their SUDs. It is important for clinicians to be aware of this difficulty to assist affected women in their treatment journeys.

This difficulty of coordinating and maintaining treatment cited by the interviewed clinicians was not addressed in the findings in the literature for this thesis.

The clinicians interviewed for this study frequently mentioned that co-occurring mental illnesses were often misdiagnosed by providers due to the presentation of substance-induced symptoms. Bipolar disorder was a commonly cited misdiagnosis, as substance-induced symptoms are often mistaken for symptoms of bipolar disorder. This can result in patients being given the incorrect associated treatments. These findings are consistent with a 2022 review of substance-induced symptoms of mood disorders. This review explained that substance-induced disorders can develop in the context of either intoxication or withdrawal, and that depression and bipolar disorder are two of the most frequently seen diagnoses in this context (Revadigar & Gupta, 2022). ADHD was another disorder seen as important in the clinician interview study data. Clinicians explained that the diagnosis of ADHD, especially for women, was often missed; it is often not properly diagnosed until many years of treatment have passed. The Cleveland Clinic confirms this trajectory for women, explaining that women with ADHD are more likely to go undiagnosed or receive a misdiagnosis, potentially leading to frustration or feelings of powerlessness (Cleveland Clinic, 2023).

Another important finding of this research study was that the majority of interviewed clinicians were supportive of a coordinated care approach to the clinical care of women with SUDs if it is adequately supported. As previously stated, a coordinated care approach involves active cooperation, collaboration, and communication among an individual's clinicians. In this approach to care, clinical knowledge is freely shared and communicated, and caregivers actively collaborate so that safe, appropriate, and effective care can be provided (National Academies Press, 2006; CMS, 2024). Clinicians explained how the connection of health information via electronic health

records could encourage increased collaboration between an individual's providers and how adequate communication channels are imperative for this to sufficiently occur. This is consistent with sources that claim that greater communication and collaboration between different care teams allows for better patient outcomes, as efficiency is increased when all members of a health care team have a better understanding of treatment plans (Forcura, 2023). Interviewed clinicians explained that there are currently no universally effective channels for providers to communicate and collaborate on the care of their mutual patients and that it is difficult to coordinate care when clinicians are not able to communicate with one another.

Funding was also a large theme attached to coordinated care. Clinicians felt that if programs are not adequately funded, care coordination is not feasible or practical. With this, service reimbursements were brought up. For instance, one interviewee mentioned how care coordination often must be bundled with a medical appointment in billing and how they felt this should be separate in billing measures. It is important to note that many interview participants felt that insurance companies do not appropriately reimburse services. These study findings were not confirmed by existing literature, as the importance of funding in care coordination seemingly has not been addressed in research settings. Thus, it would be valuable for future research to examine this topic among larger samples of clinicians, hospital administrators, and other stakeholders.

The clinicians interviewed also felt that lack of funding plays into staffing and staff burden. With limited funding, organizations are often unable to pay their staff members for the care coordination they are handling. Staff burden is also an issue in that they are not given adequate and protected time to do the coordination work that they set out to, and in turn they are overworked, and clinician burnout is increased. Though existing literature does not explore staff burden and

burnout specifically in terms of care coordination, the effects of overall clinician burnout in the literature are consistent with the interviewed clinicians' sentiments. In a chapter from *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being*, existing literature on the prevalence of clinician burnout and its consequences is discussed. Clinician burnout has profound impacts on staffing capacities and productivity, as well as on the adequacy of the U.S. health care workforce (National Academies Press, 2019).

A few interviewed clinicians felt differently about a coordinated care approach and detailed reasons why patients themselves may not always want this collaborative approach to care. One interviewee explained how many of their patients were worried about confidentiality. The interviewee explained how these patients would prefer a more personalized and private treatment plan with a limited amount of providers. It is important to note this as an example of a scenario where the patient themselves does not wish for their care to be coordinated among different providers.

Overall, most clinicians who were interviewed as part of this study were in agreement that a coordinated care approach would be beneficial in the clinical care and treatment of women with SUDs. All the interviewed clinicians who held this view brought forward factors, such as funding and adequate staffing, that were necessary for care coordination to be successful.

4.1 Recommendations for Future Research and Practice

Within future public health research, there is scope for further exploration of the different facets of a coordinated care approach, the resources that it needs, and how it can aptly function to better the health and wellness of women with SUDs. In terms of future public health research and

practice, there are significant opportunities to invest time and resources towards the needs of women with SUDs. In practice, this could include increased funding for social support programs that may afford many women greater autonomy, in turn encouraging them to seek more treatment services. This could also increase the expansion of Medicare and Medicaid so that women with SUDs who wish to receive substance use treatment no longer run into insurance-related barriers. This could also include informed policies surrounding the prescription of opioids so that women with a history of substance use are able to manage pain while not being further pulled toward substances. The implementation of system-level policies can also help with establishing coordinated care approaches. For instance, the establishment of universal electronic health record systems may allow for more open transfer of health information and communication between a patient's care providers. Future public health research can also be conducted that explores the perspectives of women with SUDs themselves, to gain firsthand insight into their needs. By investing resources toward evidence-based interventions and programs, a well-coordinated system of care can be supported to effectively address the health and wellness of this population.

4.2 Limitations

The information in this research study on the effects of co-occurring conditions on the clinical care of women with SUDs and a coordinated care approach should be considered in the context of its limitations.

It is important to address that the highlighted barriers to treatment and care as well as opinions on care coordination are based on the perspectives of clinicians. Clinicians and providers are appropriately positioned to address these topics given their expertise and experience interacting

with patients. However, it is important to address that the perspectives of women with SUDs who are seeking treatment are not included in this research study, and that they may differ from those of the clinicians interviewed for research purposes. To attempt to minimize this effect, questions were written in a patient centered format and kept maximum focus on issues affecting the target population.

Another limitation was that the interviewed clinicians all practiced within one relative geographic location, which may direct their knowledge and expertise to that of a certain part of the country. To minimize the effects of this, clinicians were asked to broadly answer questions regarding their perceptions using their expertise but to not focus on any specific cases, as among other things this may have mirrored trends in the two states of practice.

Finally, all data collection, coding and analysis was conducted solely by the Principal Investigator and could not be verified by another source for this study. To address the limitation, all data was chosen to be hand-checked, and all analysis was double-checked for accuracy.

5.0 Conclusion

Several evidence-based treatment options for women with SUDs exist across the country, but their ability to engage with them is disproportionately affected due to several limiting factors. Barriers exist for women with SUDs that hinder them from receiving the most beneficial care and treatment for them. These barriers include things such as stigma, lack of access/availability, lack of childcare, insurance hurdles, and lack of transportation.

Women who have co-occurring conditions, either physical health-related, mental health-related, or both, face a unique set of challenges that can often hinder their access to ideal resources and treatment options. It is often difficult for women with co-occurring conditions to maintain treatment while they are handling multiple diagnoses. It becomes increasingly difficult for them to coordinate their treatment while they are handling co-occurring conditions alongside their SUDs.

Certain physical health-related challenges and issues can also act as a prominent introduction to substance use for many women. Childbirth, small injuries, and dental care are some of the most frequent avenues for the introduction of substance use behaviors with the prescribing of opioids and narcotics for related pain. Mental health-related comorbidities are also often misdiagnosed due to the intersection of presented substance-induced symptoms.

A coordinated care approach was found to be beneficial from the perspective of clinicians who have a professional background in treating women with a history of substance use. The connection of health information encourages increased collaboration between an individual's providers. Sufficient communication channels are pivotal in making this collaborative approach work. Adequate funding and staffing are also necessary for the success of a coordinated care

approach. This approach is favorable to the overall care, treatment, and health outcomes of women with SUDs.

In conclusion, there are significant opportunities in public health research and practice to invest time and resources toward the needs of women with SUDs. By investing resources toward such interventions and initiatives, a robust and well-coordinated system of care and treatment can be supported that effectively addresses the health and wellness of this population. Increased public health research and practice will also further conversations around substance use disorders and women's health, increasing awareness and acceptance. Overall, continued dedication of research and resources can greatly improve the health outcomes of women who have SUDs, increase rates of substance use treatment, and decrease the number of SUD-related fatalities.

Appendix A Recruitment Email

Recruitment Email Template

To: (participant email address)

Subject: Clinician interview inquiry for master's thesis

Hello (name). I hope you're doing well!

My name is Krittika Banerji, and I'm a second-year MPH student at the University of Pittsburgh, in the Behavioral and Community Health Sciences department. I wanted to get in touch with you about my graduate thesis research which centers around the clinical care of women with substance use disorders and its intersection with comorbidities.

In searching for clinicians whose experience aligns with the subject matter I aim to explore, you were someone I hoped to get in touch with. (Insert a sentence specific to their background/experience).

For my thesis, I am conducting clinician interviews as a method of exploring the topic, and I am reaching out to ask if you would be willing and available to be a part of my research process. The interviews will last no more than 30-45 minutes and will be conducted over Zoom for convenience. I am hoping to conduct them within the next few weeks.

If you have any questions, would like to meet to further discuss the topic, or if you'd be interested and able to participate, please let me know by (2 weeks from the date this email was sent). I sincerely appreciate your time and consideration. Looking forward to hearing from you!

Best,

Krittika

Appendix B Informational Script

Master's Thesis Informational Script

The Effects of Comorbidities on the Clinical Care of Women with Substance Use Disorders and the Benefits of a Coordinated Care Approach

PI: Krittika Banerji (krb149@pitt.edu)

The goal of this study is to assess the effects of comorbidities, or co-occurring conditions, on the clinical care of women facing substance use disorders. To conduct this study, 7 clinicians will be interviewed to gain insight into what they think these effects are, how they have and would address them, and if they believe a coordinated care approach would be beneficial. Each interview will last 30-45 minutes.

A risk involved with this study is the potential for emotional distress with the inherent sensitivity of the subject matter. This risk will be minimized by careful and informed facilitation of the interview process by the principal investigator (PI).

Another infrequent risk involved with this study is the potential for breach of confidentiality. Although every reasonable effort will be taken, confidentiality during Internet communication activities cannot be guaranteed and it is possible that additional information beyond that collected for research purposes may be captured and used by others not associated with this study.

To minimize involved risk, study participants will only be identified by a study ID for research analysis purposes.

Your participation in this study is voluntary, and you can withdraw from participation at any time. To do so, please contact the PI (Krittika Banerji) at krb149@pitt.edu.

If a participant decides that they no longer wish to participate in the interview process prior to the completion of their interview, all data collected that pertains to them will be destroyed.

If a participant is to decide that they no longer wish to participate in the interview process after the completion of their interview, their responses up until the point of withdrawal will be maintained.

If you choose not to participate, this will have no effect on your relationship with any entity.

This study is being conducted by Krittika Banerji, who can be reached at krb149@pitt.edu if you have any questions.

If you understand, agree with the above-outlined information, and would like to participate in this study, please contact Krittika Banerji at krb149@pitt.edu.

Appendix C IRB Exemption



EXEMPT DETERMINATION

Date:	February 20, 2024
IRB:	STUDY24010194
PI:	Krittika Banerji
Title:	The Effects of Comorbidities on the Clinical Care of Women with Substance Use Disorders and the Benefits of a Coordinated Care Approach
Funding:	None

The Institutional Review Board reviewed and determined the above referenced study meets the regulatory requirements for exempt research under 45 CFR 46.104(d).

Determination Documentation

Determination Date:	2/20/2024
Exempt Category:	(2)(iii) Tests, surveys, interviews, or observation (identifiable); and for which limited IRB review was conducted via expedited review
Determinations:	<ul style="list-style-type: none">• Students / Employees
Approved Documents:	<ul style="list-style-type: none">• Clinician Interview Questions, Category: Data Collection;• Informational Script, Category: Recruitment Materials;• Mock email, Category: Recruitment Materials;

If you have any questions, please contact the University of Pittsburgh IRB Coordinator, [Mollie Duerr](#). **NOTE:** Modifications are only required if they will affect the exempt determination. Continuing Review is not necessary under 45 CFR 46.109(f)(1)(ii). However, it is important to **close your study when finished** by submitting a Continuing Review.

Please take a moment to complete our [Satisfaction Survey](#) as we appreciate your feedback.

The University of Pittsburgh has a Federal Wide Assurance approved through the Office of Human Research Protections (FWA00006790).

Appendix D Interview Guide

Clinician Interview Questions

Introductory Questions)

Disclaimer: "The questions I will ask focus on your general practice or the field in general and will not ask you to share specific cases."

- I would like to start with hearing about you. Tell me about your professional background specific to treating women with substance use disorders.
- In your current role, what does your average day or week look like, and can you tell me about your typical patient panel?
- What are your impressions of the available substance use treatment options for women with SUDs?

Main Questions)

- What are some barriers in our current healthcare system faced by women with SUDs who wish to receive substance use treatment?
- What are some barriers you or your colleagues face in providing evidence-based care for women with SUDs?

- How do you think co-occurring physical conditions and chronic disorders affect the quality of care women with SUDs receive?
- How do you think co-occurring physical conditions and chronic disorders affect how you deliver care to women with SUDs?
(conditions such as lupus, MS, diabetes, and fibromyalgia if they ask for examples)
- How do you think co-occurring mental illnesses affect the quality of care women with SUDs receive?
- How do you think co-occurring mental illnesses affect how you deliver care to women with SUDs?
(conditions such as depression and PTSD if they ask for examples)

- Have you seen any trends in comorbidities in physical health in combination with mental health, or separately?

- How do comorbidities contribute to women's ability to **access** evidence-based treatment for SUDs?*
- How does the presence of comorbidities affect the **effectiveness** of SUD treatment such as recovery groups and MAT received by women with SUDs?*

Closing Questions)

•If you were put in charge of reforming the healthcare system to provide the best care possible to women with SUDs and co-occurring diseases, what would your ideal system look like?

•Do you believe a coordinated care approach is feasible in the clinical care of women with SUDs? Why or why not?

•If a coordinated care approach for the SUD treatment of women were to be widely implemented, what aspects and approaches do you think would be necessary to include and why?

“I’m going to go ahead and stop recording.”

•I am looking to expand the number of clinicians I am interviewing for my research, are there one or two clinicians that you’d be willing to provide an introduction to for my research?

Appendix E Reviewing Request Email

Email Request for Reviewing Interview Guide

Hi Dr.X. I hope you're well!

My name is Krittika, I am Dr. Sidani's advisee. She told me she had reached out to you about my thesis research and my interview process. Thank you so much for being willing to review my interview guide and potentially pilot test it with me. Some of the main things I'd love feedback on are:

- Are there any questions you would take out?
- Is there anything missing that is crucial to ask about?
- Is there anything you would keep but modify?
- Is anything confusing?

I'll attach my current interview guide. Again, thank you so much for being willing to take a look at this!

Best,
Krittika

Appendix F Codebook

Clinician Interview Qualitative Codebook

Note: all examples are from de-identified clinician interview data

Content codes (not mutually exclusive)

Appendix Table 1

Code	Definition	Example
Stigma (stigma)	<ul style="list-style-type: none"> - Disapproval or discrimination against someone based on perceived characteristics 	<ul style="list-style-type: none"> - "Whatever the barrier is, they all kind of start with stigma. You know, there's the patient's own stigma, but more importantly, the health care system stigma where we treat." - "There is a lot of stigma. There's a lot of stigma against any substance user. But especially when we talk about women ... we stigmatize, we put labels, and we use the crazy word."
Access/availability (access)	<ul style="list-style-type: none"> - Level of patient access to substance use treatment options - The amount and type of services that are available to patients, specifically women, who wish to receive substance use treatment 	<ul style="list-style-type: none"> - "Definitely accessibility. There is such a shortage and there is such a high need." - "But I think sometimes when you're in the world and when you're kind of dealing with stuff, it's hard to know sort of where to go and how to access that care."
Childcare (child)	<ul style="list-style-type: none"> - The care or supervision of one's children 	<ul style="list-style-type: none"> - "childcare, you know for mothers with young children especially if the father of children or if there isn't any other supportive folks then they get in a real, you know, a real bind as to

		<p>how am I going to participate in this treatment program or go into sober living if they won't take my kids as well. And I'm not going to put them up for adoption or call DCFS on myself so that creates another barrier.”</p> <ul style="list-style-type: none"> - “Not being able to maybe seek treatment because they don't have anywhere else for their kids to go and don't wanna put their kids into the system.”
<p>Insurance (insrnc)</p>	<ul style="list-style-type: none"> - Coverage of health care services and expenses 	<ul style="list-style-type: none"> - “...Or they have insurance, but it's thin insurance. So, it doesn't cover the facilities that they want to go to.” - “You know, a good insurance, a good insurance system is really key. Right, because If I can't, if my patients can't afford their medications, then I can't really treat them quite as well.”
<p>Transportation (transp)</p>	<ul style="list-style-type: none"> - The movement of persons from one place to another 	<ul style="list-style-type: none"> - “But you know, then the other thing is transportation... where people might again, you know, they might be homeless, and they might not have a way to get around.” - “But certainly, you know, biggest barriers... transportation”
<p>Chronic Pain (chrpain)</p>	<ul style="list-style-type: none"> - Long-term continuous physical discomfort and distress 	<ul style="list-style-type: none"> - “I think the main issues are chronic pain. Anything that causes chronic pain is the number one.” - “So, for physical conditions, so like chronic pain, probably being one of the most common physical conditions.”
<p>Introduction to substances</p>	<ul style="list-style-type: none"> - Gateway into using drugs 	<ul style="list-style-type: none"> - “About how like dentists prescribe a lot of opioids but they don't often get included in the data or like

(introsub)		<p>the the review of prescribing patterns.”</p> <ul style="list-style-type: none"> - “You know, possibly a harmless injury... and then all of a sudden they start getting opioid pain pills. So, and then, you know, 6 months later, it's like, now we've got a problem. You know, even though they had no history of addiction prior to that.” - “So, so many of our, I've had so many women tell me that their introduction to opioid pain pills was through childbirth.”
Maintaining treatment (maintreat)	<ul style="list-style-type: none"> - The ability to sustain all different modes of one’s care 	<ul style="list-style-type: none"> - “That can be hard for them to juggle a lot of times, especially if they are newly in sobriety or trying to enter treatment, you know, they're not, they're still using, you know, all these medical conditions are highly time intensive in terms of especially initial treatment when the condition is not stable.”
Misdiagnosis (misdiag)	<ul style="list-style-type: none"> - Incorrect classification of one’s condition based on presented symptoms 	<ul style="list-style-type: none"> - “It's definitely problematic in that, like I had mentioned earlier, there's so much misdiagnosis.” - “We slap a lot of diagnoses on people that are inappropriate and that also creates stigma.”
Medication mismanagement (medmis)	<ul style="list-style-type: none"> - Incorrect handling of one’s prescribed medications due to numerous causes 	<ul style="list-style-type: none"> - “Again, they're not given access to the same medicines you would give to somebody without a substance use disorder, right? So, like for example, a lot of women with substance disorders legitimately have ADHD. Right. But they are oftentimes, And I mean, there's reasons for this, but

		<p>oftentimes they're not gonna have access to stimulant medications, right? Because there's a concern that they might abuse them, which is not unfounded. I mean, they certainly do have that concern. But it does mean that they're not getting access right away to something that is considered generally a first-line treatment for a disorder that they have, right? So that can make a difference."</p>
Funding (fund)	<ul style="list-style-type: none"> - Money given to organizations from the government or larger entities to support their mission and goals 	<ul style="list-style-type: none"> - "You know, so it definitely takes a lot of investment I think systemically to make care coordination work." - "But those places have to have government support to function."
Staffing/burden (staff)	<ul style="list-style-type: none"> - Number of employees hired to perform certain services or tasks - Hardship or distress caused by taking on a large number of tasks 	<ul style="list-style-type: none"> - "You know, you need the staff, you need a nurse, you need a social worker, you need At least those 2. You need at least those 2, you know, and they kind of have to be. They have to be given the protected time to be dedicated to this work... So, you need the staffing too." - "Because right now they don't because they can't afford to keep the staff."
Communication (comm)	<ul style="list-style-type: none"> - Verbal, written, or gestural mode of sharing thoughts and ideas 	<ul style="list-style-type: none"> - "I would love like one EMR, like one magical EMR where I can see the notes from the neurologist and the endocrinologists, just like one universal EMR. Or at least a system that's easy to message people."

		<ul style="list-style-type: none"> - "So, I guess an understanding of the system and all of our roles in it, but we have to communicate more as a community."
<p>Service reimbursement (reimb)</p>	<ul style="list-style-type: none"> - The act of paying an individual back for services or duties they performed 	<ul style="list-style-type: none"> - "So, I think what that comes down to is the insurance industry being the insurance industry and not appropriately reimbursing services. Especially these important services that are literally important, life and death, for health. And they're not appropriately compensating those individuals." - "Reimbursement I think is king for getting things to happen."

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