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A Comparison of Sex-Specific Reproductive and Sexual Health Needs between Addiction Medicine and Primary Care Treatment Settings

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Abstract

Introduction: Reproductive and sexual health (RSH) is an important component of wellness and recovery for people with substance use disorder (SUD). Evidence to guide better integration of RSH services into SUD treatment is limited. Our objectives were to compare 1) unmet RSH needs; and 2) barriers to RSH service utilization between care settings providing treatment for SUD or other chronic medical conditions.

Methods: Participants at two outpatient clinics, addiction medicine (women n = 91, men n = 75) and primary care (women n = 59, men n = 50), completed a one-time electronic survey between July and September 2019. Separately for men and women, comparisons between addiction medicine and primary care groups were made using Pearson χ^2 , Fisher's Exact, and T-tests.

Results: Participants were 75.0% Black and aged 49.4 years. Overall, unmet RSH needs were less prevalent among participants at the primary care than the addiction medicine clinic, such as receipt of a past 12-month sexual exam (men: 36.0% vs. 17.3%; women: 55.6% vs. 30.1%). The most common barrier to RSH service receipt was cost (men: 59.4%; women: 52.6%), followed by fear of judgment for drug/alcohol use for SUD participants (men: 33% vs. 12%; women: 26% vs. 7%). Many SUD participants expressed high desire for integrated RSH services into the addiction medicine clinic (men: 51.4%; women: 59.8%).

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Declaration of interest

The authors have no conflicts of interest to disclose.

Conclusion/Implications: The integration of RSH into addiction medicine is lagging compared to care settings for people with other chronic medical conditions. Future research should focus on advancing sex- and gender-informed RSH service integration into SUD treatment settings.

Keywords

Substance use disorder; reproductive health; sexual health; gender; sex

Introduction

Medical co-morbidities and psychosocial vulnerabilities such as psychiatric conditions and unstable housing are common among people with substance use disorder (SUD) (Campbell et al., 2018). Reproductive and sexual health (RSH) is receiving increasing recognition as a critical domain for people with SUD (Wright, 2019). The World Health Organization defines sexual health as “a state of physical, emotional, mental and social well-being in relation to sexuality” (WHO, 2006). RSH needs differ between men and women, such as those related to family planning, cancers of the reproductive tract, and violence (Temmerman et al., 2014; WHO, 2006). RSH has been and continues to be a priority area for action to eliminate health disparities and advance wellness for both men and women (DHHS, 2021; Temmerman et al., 2014). However, for people in SUD treatment, multiple barriers to receipt of RSH services exist at individual, provider and system levels (Klaman et al., 2020), leading to unmet RSH needs such as contraception (Terplan et al., 2015) and sexually transmitted infection (STI) treatment (Feaster et al., 2016). Addressing these RSH disparities for people in SUD treatment is important to optimize individuals’ health, wellness and recovery.

Integration of RSH services into SUD treatment is one strategy to overcome barriers and close the gap on unmet RSH needs (Black & Day, 2016). However, evidence to guide comprehensive, sex- and gender-informed integration efforts is limited. First, research in this area historically has focused on HIV transmission more than other RSH needs (MacAfee et al., 2019; Terplan et al., 2015; Terplan et al., 2016). RSH goes beyond condom use to include not only family planning and contraception, but other areas such as intimate partner violence and preventative care (e.g., genitourinary cancer prevention). Second, RSH needs differ by sex and gender, but much of the prior work focused at the intersection of RSH and SUD has excluded men (Marcell et al., 2018). Third, many previous studies assessing the prevalence of unmet RSH needs among people with SUD have lacked a comparison group similar in socio-demographics and healthcare utilization patterns (MacAfee et al., 2019; MacAfee et al., 2020; Terplan et al., 2015). To summarize, comparative data are needed to inform how integration strategies overcome barriers to RSH service utilization specific to SUD in addition to other social determinants of health shared with other patient populations.

Overall, we need more evidence to guide development and implementation of sex- and gender-informed, readily accessible, tailored RSH interventions for people receiving SUD treatment that address a comprehensive definition of RSH. Thus, the primary objective of our study is to compare, separately for men and women, unmet RSH needs by treatment setting within an academic medical center: (1) people receiving SUD treatment at an outpatient addiction medicine clinic and (2) people receiving care for other chronic medical

conditions at a primary care clinic. The secondary objective is to compare patient-reported barriers to utilization of RSH services between these two groups. We chose to compare RSH needs between addiction medicine and primary care populations as both are outpatient clinics focused on chronic disease management. This rationale allows our findings to align with the ongoing paradigm shift in addiction medicine where SUD treatments are best delivered within a chronic disease model (versus an acute care model) (Kelly & William, 2011). Based on prior evidence highlighting low utilization of RSH services by women in SUD treatment settings (MacAfee et al., 2020; Terplan et al., 2015), we hypothesized that men and women receiving care at the addiction medicine and primary care clinics will differ in unmet RSH needs (e.g., less unmet STI testing/treatment need within addiction setting) and reported barriers to RSH service utilization (e.g., discrimination more common among addiction participants).

Methods

Participants and design

The current study is a cross-sectional survey with medical record review of a convenience sample of patients recruited from an academic medical center's outpatient addiction medicine and primary care clinics. Participants completed a voluntary, electronic survey about RSH between July 2019 and February 2020. Study participants were English-speaking and at least 18 years old. Participants with reading or visual difficulties had the option to have the survey read aloud by a research assistant in a private space. Survey completion took an average of 40 minutes, and participants were compensated \$20. A retrospective medical record chart abstraction was conducted for all participants. Consent was obtained from all participants. This study was approved by the Institutional Review Board.

Addiction medicine clinic—The Multidisciplinary Outpatient Addictions (MOTIVATE) clinic opened in April 2017 and provides outpatient SUD treatment for over 500 adults yearly, with approximately 90% receiving treatment for opioid use disorder with buprenorphine. MOTIVATE is designated by state Medicaid services as a “preferred office-based opioid treatment center.” MOTIVATE is affiliated with a safety net health system with most patients referred by a provider (e.g., inpatient consults). On site addiction medicine providers come from multiple specialties, ranging from psychiatry to emergency medicine. The addiction medicine clinic provides integrated behavioral health services and offers on-site screening for HIV/STIs (urine, serum); referrals within the same academic medical system are provided to primary care, OBGYN, hepatology, and other specialties as indicated.

Primary care clinic—Participants comprising the comparison group were recruited from the waiting rooms of the Primary Care Clinic with the Department of Internal Medicine affiliated with the same academic medical center in an urban area as the addiction medicine clinic. Eligibility criteria were the same as the addiction medicine group, except that patients currently receiving SUD treatment were excluded. This clinic provides medical care to approximately 9,000 patients, age 18 and older, who account for more than 32,000 visits yearly.

Demographic, psychosocial and clinical characteristics

Demographic and psychosocial variables were captured by a one-time electronic survey. Demographic items included self-identified gender (cisgender man, cisgender woman, transgender man, transgender woman, other) and sex assigned at birth (male, female, other), age, race, insurance, sexual orientation, and education. Psychosocial variables included unsafe housing (“Are you worried that in the next 2 months, you may not have stable housing?”), food insecurity (“In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money for food?”), childcare (“Do problems getting childcare make it difficult for you to work or study?”), social support and prior child welfare involvement (“As a parent, have you ever interacted with Child Protective Services?”). For all participants, when asked if they had seen a health care provider in the last 12 months, health care provider was defined as a provider apart from their addiction or primary care provider. Recent discrimination was defined as answering yes to the question “In the past 12 months, have you ever felt you were treated unfairly in getting your healthcare services due to [your race or ethnic group, age, language or accent, drug or alcohol use, insurance type, body weight, income level, religion, gender, sexual orientation, or ‘some other reason’]”.

Clinical variables were abstracted from the participants’ medical records, including insurance status, psychiatric and medical diagnoses, medications, laboratory test results, substance use history and treatment. Detailed information on substances for which participants were receiving SUD treatment and medical conditions for the comparison group were abstracted from clinical intake assessments.

Reproductive and sexual health variables

Receipt of reproductive and sexual health services—All participants reported receipt of RSH services on the survey. A sexual health exam was defined as a pelvic exam (women) or erectile dysfunction or premature ejaculation evaluation (men). Preventative care screenings for women included pap smears and mammograms. Pap smear receipt was defined by having a pap smear in the past 3 years (21–29 years) or 5 years (30–65 years). Mammogram receipt was defined as answering yes to having a mammogram in the past year (40–49 years) or two years (50–74 years). For men, preventative care screening included receiving a prostate or rectal exam within the last year if aged 55–69 years.

Additional RSH services assessed included assistance with domestic or intimate partner violence (“In the past 12 months, did you receive any services to help reduce the violence in your home?”), human papillomavirus (HPV) vaccine receipt (restricted to patients under the age of 45; “Have you received at least one HPV shot, also known as Cervarix or Gardasil?”), infertility evaluation (“In the past 3 years, have you and your partner been to a doctor or other medical provider because you have been unable to become pregnant?”), and chronic pelvic pain treatment (“Did you receive any treatments for your pelvic pain in the past 6 months?”) for participants with these symptoms.

Past 12-month testing/treatment receipt for HIV, Hepatitis C and STIs was asked for participants who had 1 sexual partner in the past year. Current contraception use was assessed among participants defined as having a current contraceptive need. Current

contraceptive need was defined as participants who had 1 opposite-sex sexual partner in the past year and did not wish to conceive. Women above age 51 or with a reported hysterectomy were excluded. Current contraceptive use was assessed by asking participants to select whether they and/or their partner used a highly effective method (tubes tied or blocked, vasectomy, intrauterine device - IUD, contraceptive implant), effective (shots, oral contraceptive pills, contraceptive patch or ring, emergency contraception), less effective (condoms, natural family planning, withdrawal, abstinence, other), or no contraceptive method. Dual method use was defined as using condoms with an effective or highly effective contraceptive method.

Barriers to receiving sexual and reproductive health services—Survey items about barriers to receiving RSH care included cost, knowledge of resources, distance, clinic hours, judgment, trust, apprehension of results, childcare, and work. Answering “strongly agree” or “agree” to statements such as, “reproductive/sexual health care is too expensive” to indicate cost as a barrier, “I don’t know where to get reproductive/sexual health services” to indicate knowledge of resources as a barrier, “the clinic where I could get reproductive/sexual health care is too far” to indicate distance as a barrier, “the clinic where I could get reproductive/sexual health care is not open when I can get there” to indicate clinic hours as a barrier, and “I’m worried that there are no health providers for [‘men’ or ‘women’] available to provide me reproductive/sexual health care” to indicate lack of available providers as a barrier. Furthermore, “I don’t trust the clinic or providers where I can get reproductive/sexual health care” to indicate trust as a barrier, “I’m worried about what results I might get if I were to get reproductive/sexual health care” to indicate apprehension of results as a barrier, and “I am afraid that I may be treated poorly or judged because of my drug or alcohol use where I would get reproductive/sexual health care” to indicate judgment were classified as reporting a barrier. Lastly, “I cannot find childcare when I need it to go to the clinic for reproductive/sexual health care” was used to identify childcare as a barrier and “I am unable to get time off of work to go to the clinic for reproductive/sexual health care” was used to identify work as a barrier.

Desire for integration of reproductive and sexual health services into the addiction medicine clinic—Participants recruited from the addiction medicine clinic reported on their desires for integration of selected RSH services into SUD treatment using the survey item: “Thinking about the different health concerns above, if MOTIVATE were to provide any of the following services, would you want to receive the service at MOTIVATE, a referral to go somewhere else, or nothing?” Services assessed for barriers included the following: sexual health exam, contraceptive services, HIV/STI testing and treatment, and assistance with intimate partner violence.

Analysis

Descriptive statistics were generated for the addiction medicine and primary care clinic groups. Separately for men and women, differences between groups were assessed using Pearson χ^2 and Fisher’s Exact tests for categorical variables and Student’s t-tests for continuous variables. For all analyses, significance was set at 0.05. The Winsorizing method was used to minimize the effect of outliers in the number of treatment episodes variable.

(Tukey, 1961) Statistical analyses were performed using SAS 9.4 (SAS Institute Inc., Cary, NC).

Results

A total of 275 participants completed the study (97% response rate), comprising of 91 cisgender women and 75 cisgender men recruited from the addiction medicine clinic as well as 59 cisgender women and 50 cisgender men recruited from the primary care clinic; no participants identified as a gender minority. Therefore, we refer to ‘men’ and ‘women’ in our results.

Demographics were generally similar between groups with some minor differences (Table 1), such as participants from the addiction medicine clinic being younger and less predominantly Black than participants from the primary care clinic. While most participants across both groups reported accessing healthcare apart from their SUD or primary care providers, more psychosocial disadvantage was reported by participants recruited from the addiction medicine than the primary care clinic (e.g., higher prevalence of unsafe housing, food insecurity, and history of involvement with child welfare). However, past 12-month discrimination in a healthcare setting was reported more often by primary care than SUD participants ($p < 0.0001$; Table 1).

Most participants recruited from the addiction medicine clinic were receiving treatment for opioid use disorder ($n = 79/91$, 86.8% women; $n = 63/74$, 85.1% men; Table 2), and most participants recruited from the primary care clinic were receiving treatment for hypertension ($n = 46/59$, 78.0% women; $n = 37/50$, 74.0% men), diabetes ($n = 28/59$, 49.1% women; $n = 27/50$, 54% men), and/or chronic pain ($n = 31/59$, 52.5% women; $n = 19/50$, 38.0% men; Table 2).

Primary care participants were more likely to have received a sexual health exam in the past 12 months compared to SUD participants (Table 3; $p = 0.002$ for men and $p = 0.001$ women), with men recruited from the addiction medicine clinic being least likely ($n = 13/75$, 17.3%) and women from the primary care clinic the most likely ($n = 30/59$, 55.6%) to report exam receipt. For preventative care screenings, fewer than half ($n = 13/28$, 46.4%) of women (40–74 years old) from the addiction clinic reported receiving a mammogram compared to 84.1% ($n = 37/44$) of primary care participants ($p = 0.001$). Additionally, fewer men (55–69 years old) from the addiction ($n = 4/26$, 15.4%) than the primary care ($n = 13/35$, 37.1%) clinic reported receipt of a prostate or rectal exam.

Among participants who were sexually active, approximately a third to a half reported past 12-month STI testing and/or treatment across both groups. Among men, approximately half of the addiction ($n = 41/75$, 55%) and primary care ($n = 31/50$, 62%) groups had a current contraceptive need (Table 3). However, most men reported themselves and/or their partners not using any contraception (Addiction $n = 30/41$, 73%; Primary care $n = 21/31$, 68%; $p = 0.62$). For women, due to the age differential between the addiction and primary care groups, many women recruited from the addiction medicine clinic had a current contraceptive need ($n = 37/90$, 41%) compared to only two participants from the primary care clinic.

Nonetheless, most women in the addiction group reported they and/or their partners were not using any contraception (n = 28/37, 76%; Table 3).

The majority of participants recruited from both clinics reported at least one barrier to receiving RSH services, with cost being the most prevalent barrier reported by both women (n = 50/95, 52.6%) and men (n = 57/96, 59.4%). Among participants from the addiction medicine clinic, the second most common barrier reported by men was having a lack of knowledge about RSH resources (n = 27/64, 42.2%), and for women, a concern about being judged for drug or alcohol use (n = 18/70, 25.7%; Table 4).

Overall, many participants stated they would like RSH services to be integrated into SUD treatment, with more participants desiring direct service provision at the addiction medicine clinic than a referral to a different location. The most common RSH services desired by both men and women included sexual health exams, HIV/STI testing and treatment (Table 5).

Discussion

It is important to prioritize building recovery-oriented SUD treatment systems that meet people's medical and psychosocial needs. RSH is an important component of health and wellness. Despite high general healthcare utilization by both groups, we found unmet RSH needs to be more prevalent among participants recruited from an addiction medicine clinic than participants from a primary care clinic. These findings reflect how integration of RSH into addiction medicine is lagging compared to care settings caring for people with chronic medical conditions other than SUD. Reasons for these disparities by treatment setting are multifactorial, including system-level barriers (Klaman et al., 2020) as well as social determinants of health and stigma. Integration of RSH services into addiction treatment removes barriers and addresses the RSH needs of people with SUD. Although many participants in our study stated they desired integrated services, future work is needed to inform development and assessment of evidence-based, person-centered RSH integration models for SUD treatment programs.

Even though study participants were recruited from different medical settings, unmet RSH needs were common across both groups. These shared disparities reflect how social determinants of health can be strong predictors of many health outcomes and large drivers of health inequities (Temkin et al., 2018). Study participants were recruited from a safety net healthcare system. Over a third of participants reported no insurance coverage, almost half reported food insecurity, and the majority reported that cost was a barrier to RSH service receipt. Consequently, the substantial unmet RSH needs found among participants from the addiction medicine and primary care clinics are similar to prior reports of unmet health needs among populations facing similar challenges (Dong et al., 2018). As steps are taken by treatment settings to address unmet RSH needs across the life course for people with SUD and other vulnerable populations, it is of utmost importance to take a multi-level approach targeting biopsychosocial domains from the individual to societal levels (NIMHD, 2018).

Notably, some unmet RSH needs and reported barriers were more prevalent among participants recruited from the addiction than the primary care clinic. In addition to the lack of RSH service integration being employed by addiction programs, people with SUD face challenges accessing many health services; these challenges include those shared with others in their general population (e.g., transportation) as well as challenges unique to people with SUD (e.g., stigma). For example, despite being recruited from clinics within the same healthcare system and having similar socio-economic profiles, SUD participants more commonly reported unsafe housing and history of involvement with child welfare. Fear of child welfare involvement is reported by women with SUD as being a barrier to receiving SUD treatment (Frazer et al., 2019) as well as RSH services (MacAfee et al., 2019). Further, over a quarter of participants from the addiction medicine clinic reported fear of judgment for substance use as a barrier to RSH service receipt. Stigma and discrimination across community, legal, and healthcare settings adversely impact the health of people with SUD and have been highlighted as top public health priorities in the current opioid crisis (Blanco et al., 2020). Overall, our study findings highlight the urgent need for addiction treatment settings to incorporate RSH into their implementation of new approaches that aim to close health disparities for people with SUD.

Among participants recruited from the addiction medicine clinic, desire for integration of RSH services into SUD treatment was high for both men and women, similar to prior findings among women in other SUD treatment settings (MacAfee et al., 2020). Notably, participants more often stated they preferred for RSH services to be provided at the addiction medicine clinic rather than be provided a referral to a different location. Prior qualitative work highlights how people with SUD fear discrimination that can come with disclosure of their SUD treatment status to RSH providers (Bornstein et al., 2020). Providers and patients alike support integration of RSH services into addiction treatment settings as an avenue to address this barrier. Further, addiction medicine providers are well positioned to address this need as they are already aware of patients' SUD status and are commonly experienced in discussing sensitive topics using shared decision making techniques (MacAfee et al., 2019). However, SUD provider- and program-level barriers to service provision remain significant, such as funding and staffing (Klaman et al., 2020; MacAfee et al., 2019). As SUD treatment programs translate this growing body of literature into advancements in clinical care, lessons learned from initiatives to integrate HIV services into SUD treatment (Rich et al., 2018) may be helpful to inform how to achieve similar outcomes for RSH.

Finally, we found RSH unmet needs and barriers to be common for both men and women across both treatment settings. Most prior studies focused on RSH and SUD have only included women (Terplan et al., 2015). If men have been included, a main research focus has been on the pharmacological effects of medication treatment on sexual health (Bliesener et al., 2005). A prior study by Terplan et al. in 2016 of men and women receiving SUD treatment found large unmet RSH needs, high desire for RSH integration, and many of both sexes reporting difficulty seeing a RSH provider within the prior year. Our study findings highlight how these RSH disparities and barriers have continued to persist through the opioid crisis for both men and women. Further, we found that some barriers may be more prevalent for men than women; specifically, a lack of knowledge about RSH resources was

the second most common barrier reported by men. As interventions targeting RSH education and service access are developed by addiction treatment programs, it is imperative for them to also be sex- and gender-informed in their tailoring as well as evaluated using sex-stratified analyses in subsequent studies.

Our study has limitations. First, participants were selected using a convenience sample from outpatient addiction medicine and primary care clinics with a single medical center. Findings may not be representative of those who chose not to participate in the study and individuals engaged with alternative or no SUD treatment modalities. Social desirability bias may have skewed our results as the survey was by self-report and asked about sensitive issues. Information bias is possible for the variables obtained from our chart review given the retrospective design, constrained variables available for abstraction, and information limited by provider documentation and patient report. Gender identity was assessed in the survey, but no participants identified as being of a gender minority; this excluded our ability to assess study objectives among this highly vulnerable population for both substance use and unmet RSH needs. The age differential between the groups limited our assessment of contraceptive needs between participant groups and may have contributed bias to other study findings. Future research with larger sample sizes (e.g., wider range of ages represented) is indicated to further assess disparities in RSH needs in individuals with addiction.

To our knowledge, our study is the first to report on a comprehensive assessment and comparison of sex-specific RSH needs across two treatment settings, addiction medicine and primary care. We found that RSH is being better addressed in primary care compared to addiction medicine clinics, leaving people receiving SUD treatment with substantial unmet RSH needs. Historically, HIV pioneered the integrated medical care approach within SUD treatment. Given that HIV is one important component of RSH, we were optimistic we would find greater RSH service utilization among the addiction medicine population than our study found. These disparities in RSH between addiction medicine and primary care clinics were consistent across both sexes. They also highlight a missed opportunity by addiction treatment settings to improve patient health outcomes by merging their past experience with integrated HIV services with the ongoing paradigm shift to provide SUD treatment within a chronic disease model. Our findings add to the growing body of literature supporting integration of RSH services into addiction treatment as an avenue to transform current addiction treatment programs into recovery-oriented models of care that are tailored to the unique needs of people with SUD. Future research and public health interventions should address how addiction medicine settings can best support patients seeking recovery in their RSH goals that go beyond contraceptive need and uptake using evidence-based, person-centered approaches.

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Table 1.

Demographics, clinical and psychosocial characteristics of study sample.

Characteristics	Women			Men		
	Total N (%) n = 150	Addiction medicine n = 91	Primary care n = 59	Total N (%) n = 125	Addiction medicine n = 75	Primary care n = 50
Age (years) [Mean (SD)]	47.5 ± 14.2	40.7 ± 12.4 ^{**}	57.8 ± 9.9 ^{**}	51.7 ± 11.9	47.2 ± 12.1 ^{**}	58.4 ± 7.7 ^{**}
Race^a						
Black	110 (73.8)	60 (66.7)	50 (84.8)	96 (78.0)	56 (75.7)	40 (81.6)
White	29 (19.5)	26 (28.9)	3 (5.1)	20 (16.3)	13 (17.6)	7 (14.3)
Other	10 (6.7)	4 (4.4)	6 (10.2)	7 (5.7)	5 (6.8)	2 (4.1)
Insurance^{b,c}						
Public	77 (53.5)	51 (59.3)	26 (44.8)	73 (58.9)	42 (56.0)	31 (63.3)
Private	14 (9.7)	10 (11.6)	4 (6.9)	8 (6.5)	6 (8.0)	2 (4.1)
None	53 (36.8)	25 (29.1)	28 (48.3)	43 (34.7)	27 (36.0)	16 (32.7)
Sexual orientation^d						
Straight/heterosexual	110 (78.6)	60 (70.6)	50 (90.9)	110 (88.7)	67 (89.3)	43 (87.8)
Gay or Lesbian	8 (5.7)	8 (9.4)	0 (0.0)	5 (4.0)	2 (2.7)	3 (6.1)
bisexual/other	22 (15.7)	17 (20.0)	5 (9.1)	9 (7.2)	6 (8.0)	3 (6.1)
Education^e						
<high school degree	28 (18.7)	16 (17.6)	12 (20.3)	29 (23.4)	18 (24.0)	11 (22.5)
High school degree/equivalent	68 (45.3)	42 (46.2)	26 (44.1)	53 (42.7)	38 (50.7)	15 (30.6)
>high school degree	54 (36.0)	33 (36.3)	21 (35.6)	42 (33.9)	19 (25.3)	23 (46.9)
Seen healthcare provider in past 12 months	130 (89.7)	76 (87.4)	54 (93.1)	106 (86.9)	59 (80.8) [*]	47 (95.9) [*]
Psychiatric condition (any)	82 (54.7)	53 (58.3)	29 (49.2)	50 (40.0)	34 (45.3)	16 (32.0)
Depression	72 (49.3)	48 (55.2)	24 (40.7)	46 (36.8)	33 (44.0) [*]	13 (26.0) [*]
Anxiety	75 (51.4)	49 (56.3)	26 (44.1)	46 (36.8)	32 (42.7)	14 (28.0)
PTSD	36 (24.7)	27 (31.0) [*]	9 (15.3) [*]	19 (15.2)	16 (21.3) [*]	3 (6.0) [*]
Unsafe housing	67 (46.5)	59 (67.8) ^{**}	8 (14.0) ^{**}	60 (49.6)	49 (67.1) ^{**}	11 (22.9) ^{**}
Food insecurity	60 (42.0)	41 (47.7)	19 (33.3)	46 (38.7)	34 (47.9) [*]	12 (25.0) [*]

Characteristics	Women		Men	
	Total N (%) n = 150	Addiction medicine n = 91	Primary care n = 59	Total N (%) n = 125
Childcare insecurity	39 (27.3)	38 (44.2)**	1 (1.8)**	41 (34.2)
Discrimination in health care setting	94 (62.7)	40 (44.0)*	54 (91.5)*	84 (67.2)
Prior child welfare involvement	29 (29.0)	26 (40.0)*	3 (8.6)*	4 (14.8)
				3 (16.7)
				41 (56.2)**
				0 (0.0)**
				37 (49.3)**
				47 (94.0)**
				1 (11.1)

* P value < 0.05 indicating significant difference between study groups separately for women and men.

** P value < 0.01 indicating significant difference between study groups separately for women and men.

^a For these parameters, n = 149 (women) with n = 90 in addiction Medicine and n = 59 in Primary care and n = 123 (men) with n = 74 in Addiction Medicine and n = 49 in Primary care.

^b Data was self-reported in survey except for insurance status which was abstracted from medical record.

^c For these parameters, n = 144 (women) with n = 86 in Addiction Medicine and n = 58 in Primary care and n = 124 (men) with n = 75 in Addiction Medicine and n = 49 in Primary care.

^d For these parameters, n = 140 (women) with n = 85 in Addiction Medicine and n = 55 in Primary care and n = 124 (men) with n = 75 in Addiction Medicine and n = 49 in Primary care.

^e For these parameters, n = 150 (women) with n = 91 in Addiction Medicine and n = 59 in Primary care and n = 124 (men) with n = 75 in Addiction Medicine and n = 49 in Primary care.

Table 2.

Current treatment receipt by addiction medicine and primary care study groups.

	Total N (%)	Women N (%)	Men N (%)
Addiction medicine	N = 165	N = 91	N = 75
Opioids	142 (86.1)	79 (86.8)	63 (85.1)
Stimulants	8 (4.9)	2 (2.2)	6 (8.1)
Alcohol	7 (4.2)	3 (3.3)	4 (5.4)
Benzodiazepines	4 (2.4)	3 (3.3)	1 (1.35)
Other substance use disorder	4 (2.4)	4 (4.4)	0 (0.0)
Primary care	N = 109	N = 59	N = 50
Hypertension	83 (76.2)	46 (78.0)	37 (74.0)
Diabetes	55 (50.5)	28 (47.5)	27 (54.0)
Chronic Pain	50 (45.9)	31 (52.5)	19 (38.0)
Pulmonary Disease	23 (21.1)	14 (23.7)	9 (18.0)
Heart Failure	19 (17.4)	8 (13.6)	11 (22.0)
Hepatitis C	9 (8.3)	1 (1.7)	8 (16.0)
HIV/AIDS	7 (6.4)	2 (3.4)	5 (10.0)

Table 3. Receipt of reproductive or sexual health services among women and men receiving treatment at addiction medicine and primary care clinics.

	Women			Men		
	Total N (%) n = 150	Addiction medicine n = 91	Primary care n = 59	Total N (%) n = 125	Addiction medicine n = 75	Primary care n = 50
Received past 12-month sexual health exam	55/137 (40.2)	25/83 (30.1)**	30/54 (55.6)**	31/125 (24.8)	13/75 (17.3)**	18/50 (36.0)**
Preventative care screenings						
Pap smear within past 3 years (21–29 age range, n = 18) OR within 5 years (30–65 age range, n = 103)	108/121 (89.3)	72/79 (91.1)	36/42 (85.7)	–	–	–
Mammogram within the past 2 years (40–49 age range, n = 15) OR within 1 year (50–74 age range, n = 57)	50/72 (69.4)	13/28 (46.4)**	37/44 (84.1)**	–	–	–
Prostate or rectal exam (55–69 years old, n = 61)	–	–	–	17/61 (27.9)	4/26 (15.4)	13/35 (37.1)
Additional services received						
Assessment or assistance with domestic or intimate partner violence ^d	25/134 (18.7)	18/81 (22.2)	7/53 (13.2)	8/116 (6.9)	5/70 (7.1)	3/46 (6.5)
HPV Vaccine (among subgroup <45 years old, n = 52 women, n = 27 men)	16/54 (29.6)	16/50 (32.0)	0/4 (0.0)	2/31 (6.5)	2/29 (6.9)	0/2 (0.0)
Infertility evaluation or treatment	8/129 (6.2)	6/78 (7.7)	2/51 (3.9)	8/114 (7.0)	7/68 (10.3)	1/46 (2.1)
Chronic pelvic pain treatment	4/27 (14.8)	2/16 (12.5)	2/11 (18.2)	5/44 (11.4)	3/28 (10.7)	2/16 (12.5)
Sexually active participants	101/143 (70.6)	70/86 (81.4)*	31/57 (54.4)*	100/124 (80.7)	64/75 (85.3)	36/49 (73.5)
Past 12-month HIV testing	42/99 (42.2)	31/69 (44.9)	11/30 (36.7)	33/102 (32.3)	17/66 (25.8)	16/36 (44.4)
Past 12-month hepatitis C testing	45/99 (45.5)	35/69 (50.7)	10/30 (33.3)	38/101 (37.6)	20/65 (30.8)	18/36 (50.0)
Past 12-month other STI testing (i.e., gonorrhea, chlamydia)	39/97 (40.2)	30/67 (44.8)	9/30 (30.0)	26/100 (26.0)	13/65 (20.0)	13/35 (37.1)
Past 12-month STI treatment	30/96 (31.2)	23/67 (34.3)	7/29 (24.1)	20/101 (19.8)	11/66 (16.7)	9/35 (25.7)
Past 12-month HIV pre-exposure prophylaxis	5/97 (5.2)	2/68 (2.9)	3/29 (10.3)	3/98 (3.1)	3/61 (4.9)	0/37 (0.0)
Participants with current contraceptive need^a	39/149 (26.2)	37/90 (41.1)*	2/59 (3.4)*	72/125 (57.6)	41/75 (54.7)	31/50 (62.0)
Dual use of condoms with highly effective or effective contraceptive method	0	0	0	5/72 (6.9)	2/41 (4.9)	3/31 (9.7)
Highly effective contraceptive method use ^b	7/39 (18.0)	6/37 (16.2)	1/2 (50.0)	8/72 (11.1)	5/41 (12.2)	3/31 (9.7)
Effective contraceptive method use ^c	1/39 (2.6)	1/37 (2.7)	0/2 (0.0)	4/72 (5.6)	2/41 (4.9)	2/31 (6.5)
Less effective contraceptive method use ^d	3/39 (7.7)	3/37 (8.1)	0/2 (0.0)	14/72 (19.4)	6/41 (14.6)	8/31 (25.8)
No contraception use	29/39 (74.4)	28/37 (75.7)	1/2 (50.0)	51/72 (70.8)	30/41 (73.2)	21/31 (67.7)

* P value < 0.05 indicating significant difference between study groups separately for women and men.

** P value < 0.01 indicating significant difference between study groups separately for women and men.

^a Current contraceptive need was defined as participants who had 1 opposite-sex sexual partner in the past year and did not wish to conceive. Women above age 51 or with a reported hysterectomy were excluded.

^b Highly effective contraceptive method use included tubes tied or blocked, vasectomy, iuD, contraceptive implant.

^c Effective contraceptive method use included shots, oral contraceptive pills, contraceptive patch or ring, emergency contraception.

^d Less effective contraceptive method use included condoms, natural family planning, withdrawal, abstinence, other.

Barriers to receiving reproductive and sexual health (RSH) services reported by women and men receiving treatment at addiction medicine and primary care clinics.

Table 4.

	Women			Men		
	Total N (%) n = 150	Addiction medicine n = 91	Primary care n = 59	Total N (%) n = 125	Addiction medicine n = 75	Primary care n = 50
Cost ^d	50/95 (52.6)	29/61 (47.5)	21/34 (61.8)	57/96 (59.4)	37/63 (58.7)	20/33 (60.6)
Knowledge of RSH resources ^b	13/105 (12.4)	7/67 (10.5)	6/38 (15.8)	36/101 (35.6)	27/64 (42.2)	9/37 (24.3)
Distance from RSH care centers ^c	19/100 (19.0)	11/64 (17.2)	8/36 (22.2)	27/99 (27.3)	21/64 (32.8)	6/35 (17.1)
Clinic hours ^d	13/94 (13.8)	4/60 (6.7) [*]	9/34 (26.5) [*]	25/99 (25.3)	19/65 (29.2)	6/34 (17.7)
Fear of judgment for drug or alcohol use ^e	20/100 (20.0)	18/70 (25.7) [*]	2/30 (6.7) [*]	27/104 (26.0)	23/70 (32.9) [*]	4/34 (11.8) [*]
Lack of available providers ^f	9/104 (8.7)	7/69 (10.1)	2/35 (5.7)	22/105 (21.0)	18/69 (26.1)	4/36 (11.1)
Trust ^g	8/106 (7.6)	4/68 (5.8)	4/38 (10.5)	14/101 (13.9)	10/66 (15.2)	4/35 (11.4)
Apprehension of results ^h	20/107 (18.7)	13/73 (17.8)	7/34 (20.6)	21/101 (20.8)	18/65 (27.7) [*]	3/36 (8.3) [*]
Childcare ⁱ	15/74 (20.3)	13/57 (22.8)	2/17 (11.8)	19/74 (25.7)	15/54 (27.8)	4/20 (20.0)
Work ^j	13/77 (16.9)	9/53 (17.0)	4/24 (16.7)	21/86 (24.4)	19/61 (31.2) [*]	2/25 (8.0) [*]

^{*} P value < 0.05 indicating significant difference between study groups separately for women and men.

^a Cost was defined as answering “strongly agree” or “agree” to the statement “reproductive/sexual health care is too expensive”.

^b Knowledge of resources: “I don’t know where to get reproductive/sexual health care”.

^c Distance: “the clinic where I could get reproductive/sexual health care is too far”.

^d Clinic hours: “the clinic where I could get reproductive/sexual health care is not open when I can get there”.

^e Judgement: “I am afraid that I may be treated poorly or judged because of my drug or alcohol use where I would get reproductive/sexual healthcare?”.

^f Lack of available providers: “I’m worried that there are no health providers for [‘men’ or ‘women’] available to provide me reproductive/sexual health care”.

^g Trust: “I don’t trust the clinic or providers where I can get reproductive/sexual health care”.

^h Apprehension of results: “I’m worried about what results I might get if I were to get reproductive/sexual health care”.

Childcare: "I cannot find childcare when I need it to go to the clinic for reproductive/sexual health care".

Work: "I am unable to get time off of work to go to the clinic for reproductive/sexual health care".

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Table 5.

Participant reported desires for integration of selected reproductive and sexual health services into addiction treatment setting^a.

	Women N = 91		Men N = 75	
	Desire referral by treatment provider	Desire service provision in addiction treatment	Desire referral by treatment provider	Desire service provision in addiction treatment
	N (%)	N (%)	N (%)	N (%)
Sexual health exam	10/82 (12.2)	49/82 (59.8)	6/72 (8.3)	37/72 (51.4)
Contraceptive services	9/81 (11.1)	31/81 (38.3)	7/72 (9.7)	29/72 (40.3)
HIV testing	8/79 (10.1)	52/79 (65.8)	6/72 (8.3)	38/72 (52.8)
Hep C testing	6/81 (7.4)	56/81 (69.1)	7/71 (9.9)	39/71 (54.9)
STI testing	10/79 (12.7)	44/79 (55.7)	6/71 (8.5)	36/71 (50.7)
STI treatment	11/80 (13.8)	43/80 (53.8)	8/71 (11.3)	35/71 (49.3)
Hep C treatment [§]	8/80 (10.0)	45/80 (56.3)	11/68 (16.2)	30/68 (44.1)
Assessment or assistance with domestic or intimate partner violence [¶]	6/79 (7.6)	37/79 (46.8)	6/71 (8.5)	27/71 (38.0)

^aPatients were asked about selected reproductive/sexual health services: “Thinking about the different health concerns above, if [your addiction clinic] were to provide any of the following services, would you want to receive the service at [your addiction clinic], a referral to go somewhere else, or nothing?”.