



Developing Comprehensive Interventions to Address the Syndemic of HIV, Substance Use Disorders, and Violence Among Women Involved in the Criminal Justice System

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Research Presentation Outline

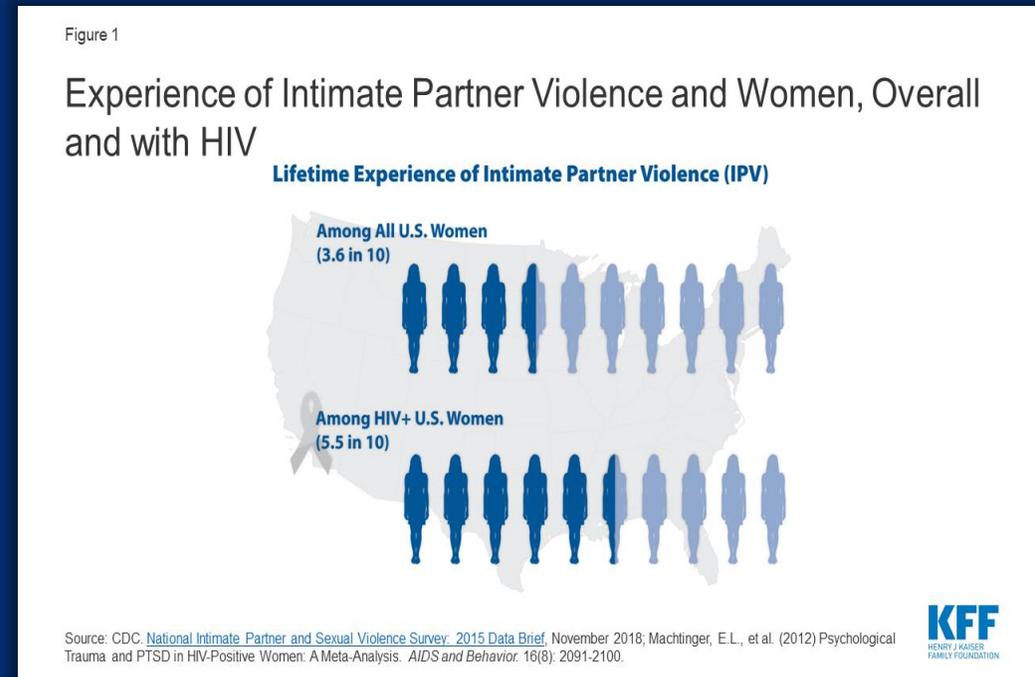
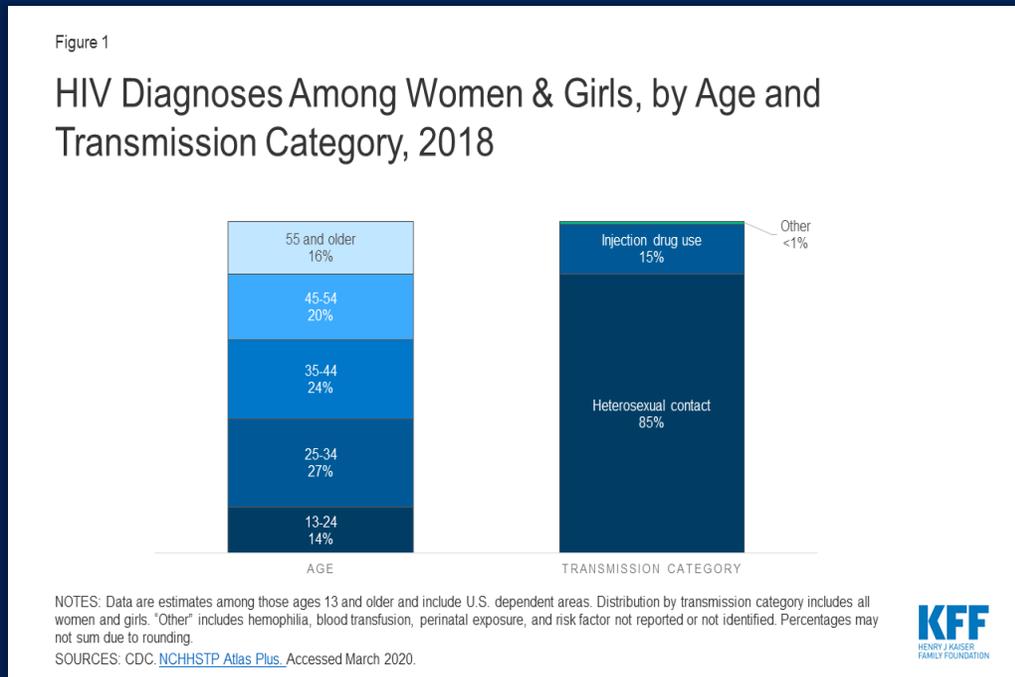
1. Introduction to the Substance Abuse, Violence, and AIDS
(SAVA) Syndemic 
2. A Focus on Women
3. Current Intervention and Rationale
4. Future Directions

Introduction to the SAVA Syndemic

The intersection of Substance Abuse (SA), Violence (V) and HIV/AIDS (A), known as the **SAVA syndemic**, is defined as the “concurrent, intertwined, and mutually reinforcing health and social problems of substance use, violence, and HIV/AIDS”

Singer, M. (1994). AIDS and the health crisis of the US urban poor; the perspective of critical medical anthropology. *Social Science & Medicine*, 39(7), 931-948.

Meyer, J. P., Springer, S. A., & Altice, F. L. (2011). Substance abuse, violence, and HIV in women: a literature review of the syndemic. *Journal of Women's Health*, 20(7), 991-1006.



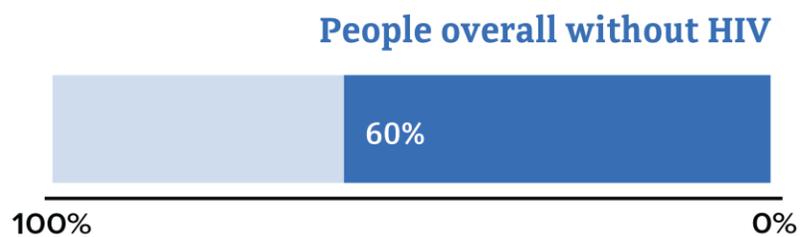
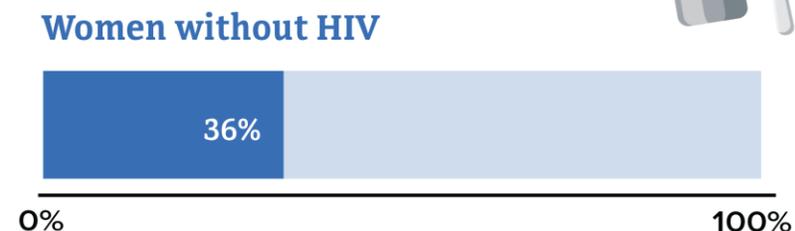
Introduction to the SAVA Syndemic

Injection Behaviors Among Women Who Inject Drugs in 23 US Cities, 2018*

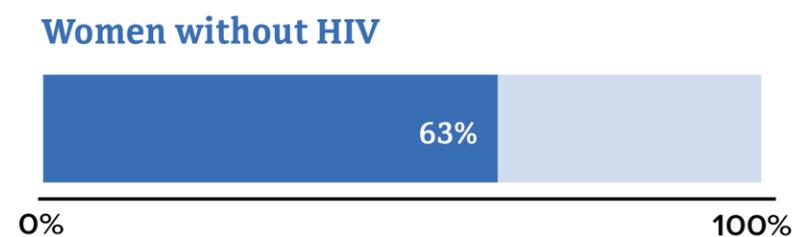
Sharing needles, syringes, and other drug injection equipment puts people at high risk for HIV and other infections.



used a syringe after someone else used it in the past 12 months



used any injection equipment after someone else used it in the past 12 months



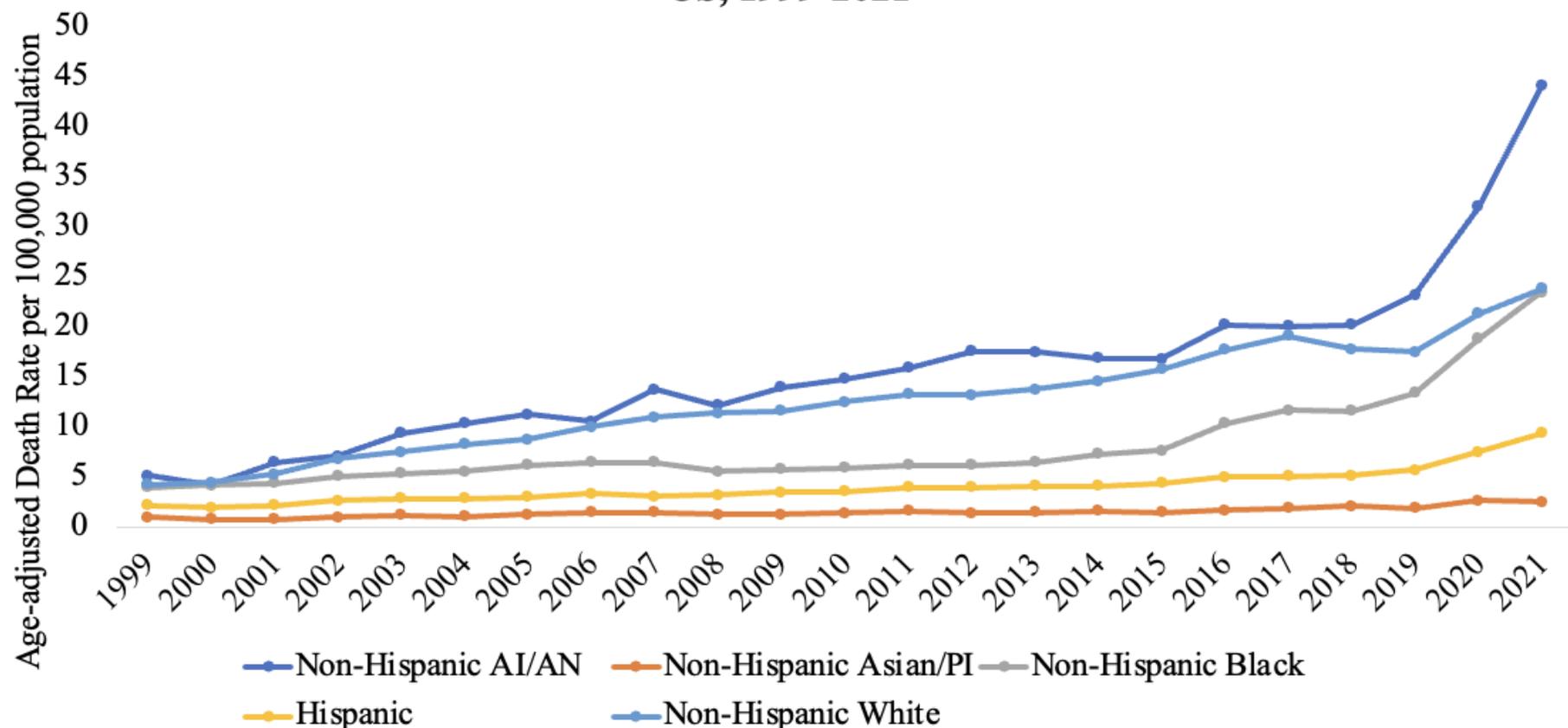
* Based on current gender identity.

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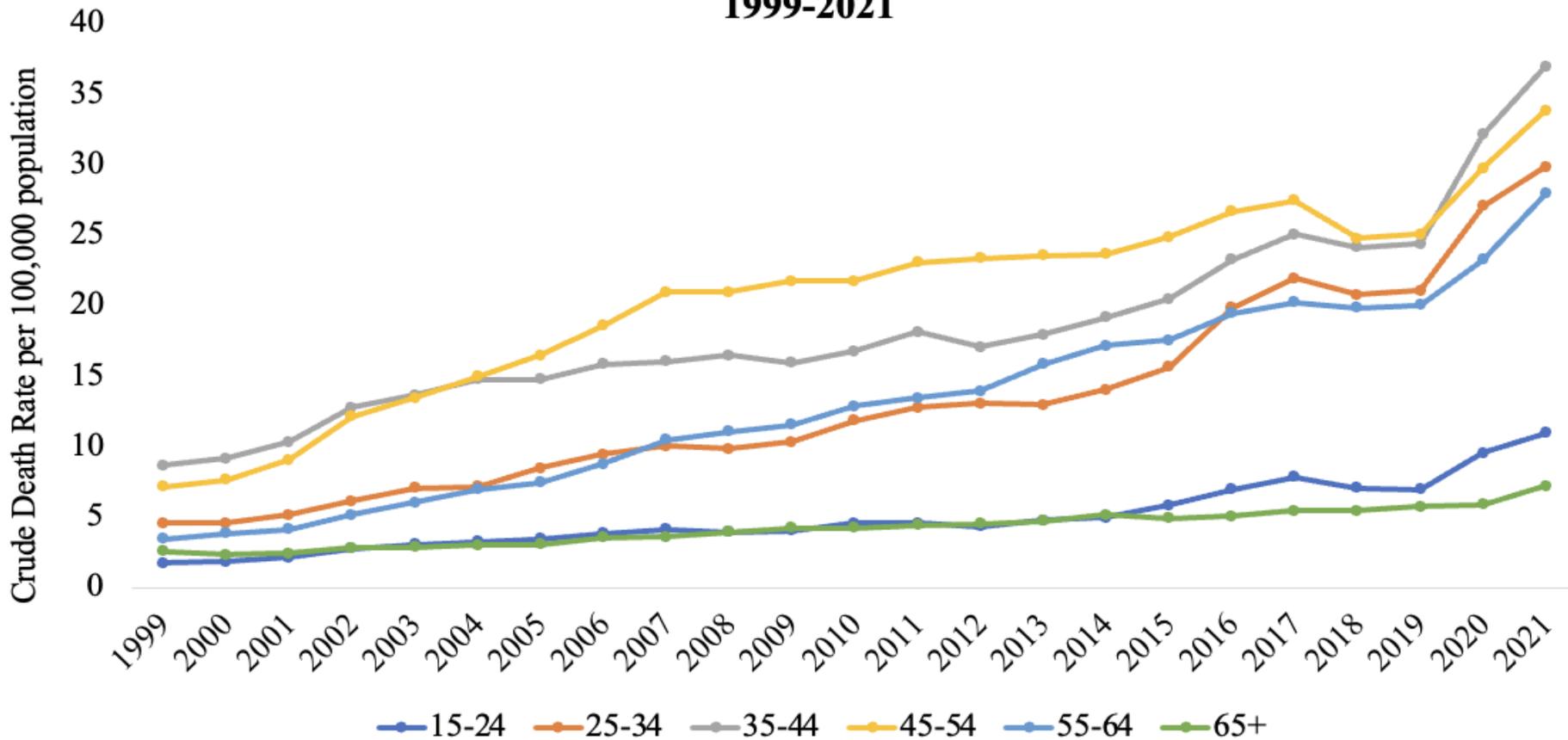
A Focus on Women

Figure 1. Drug Overdose Deaths among Women by Race/Ethnicity in the US, 1999-2021



A Focus on Women

Figure 2. Drug Overdose Deaths among Women by Age Group in the US, 1999-2021

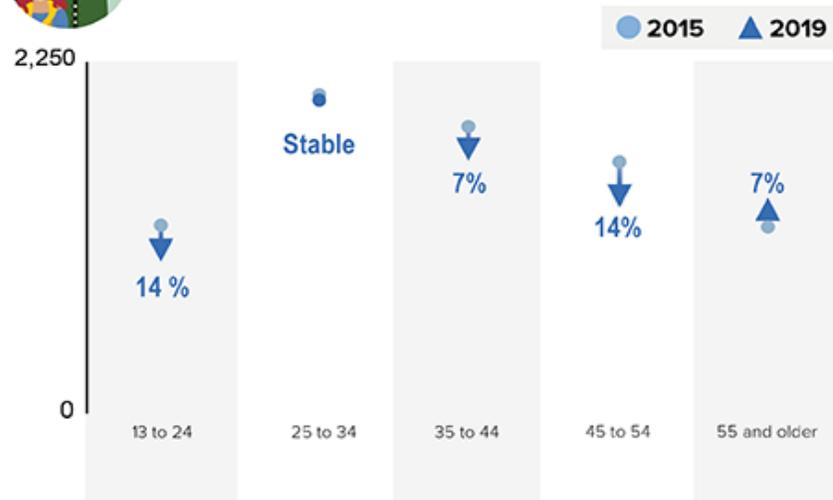


A Focus on Women

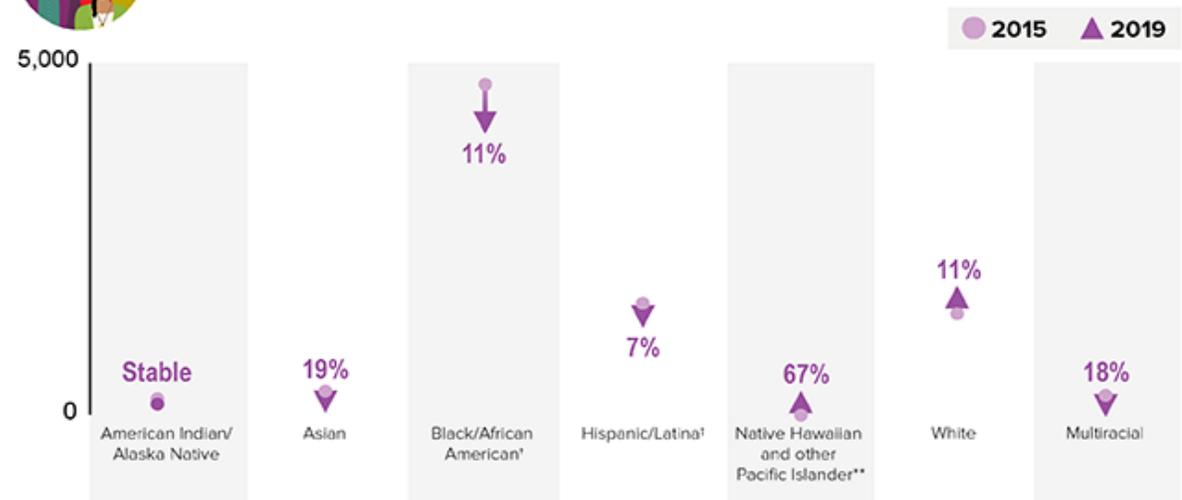
HIV Diagnoses Among Women in the US and Dependent Areas, 2015-2019*



Trends by Age



Trends by Race/Ethnicity



* Based on sex assigned at birth and includes transgender people. For more information about transgender people, visit CDC's HIV and Transgender People web content.

[†] Black refers to people having origins in any of the Black racial groups of Africa. *African American* is a term often used for people of African descent with ancestry in North America.

[‡] Hispanic/Latina women can be of any race.

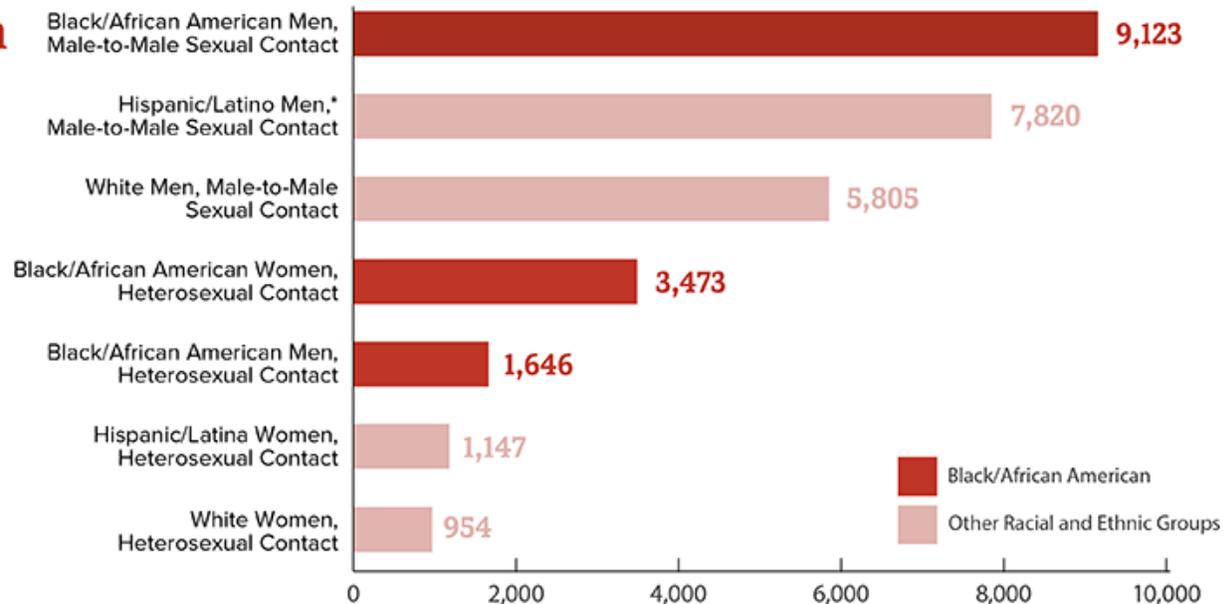
^{**} Changes in subpopulations with fewer HIV diagnoses can lead to a large percentage increase or decrease.

Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2019. *HIV Surveillance Report* 2021;32.

A Focus on Women

New HIV Diagnoses Among the Most-Affected Populations in the US and Dependent Areas, 2019

HIV affects Black/African American communities more than any other racial or ethnic group.



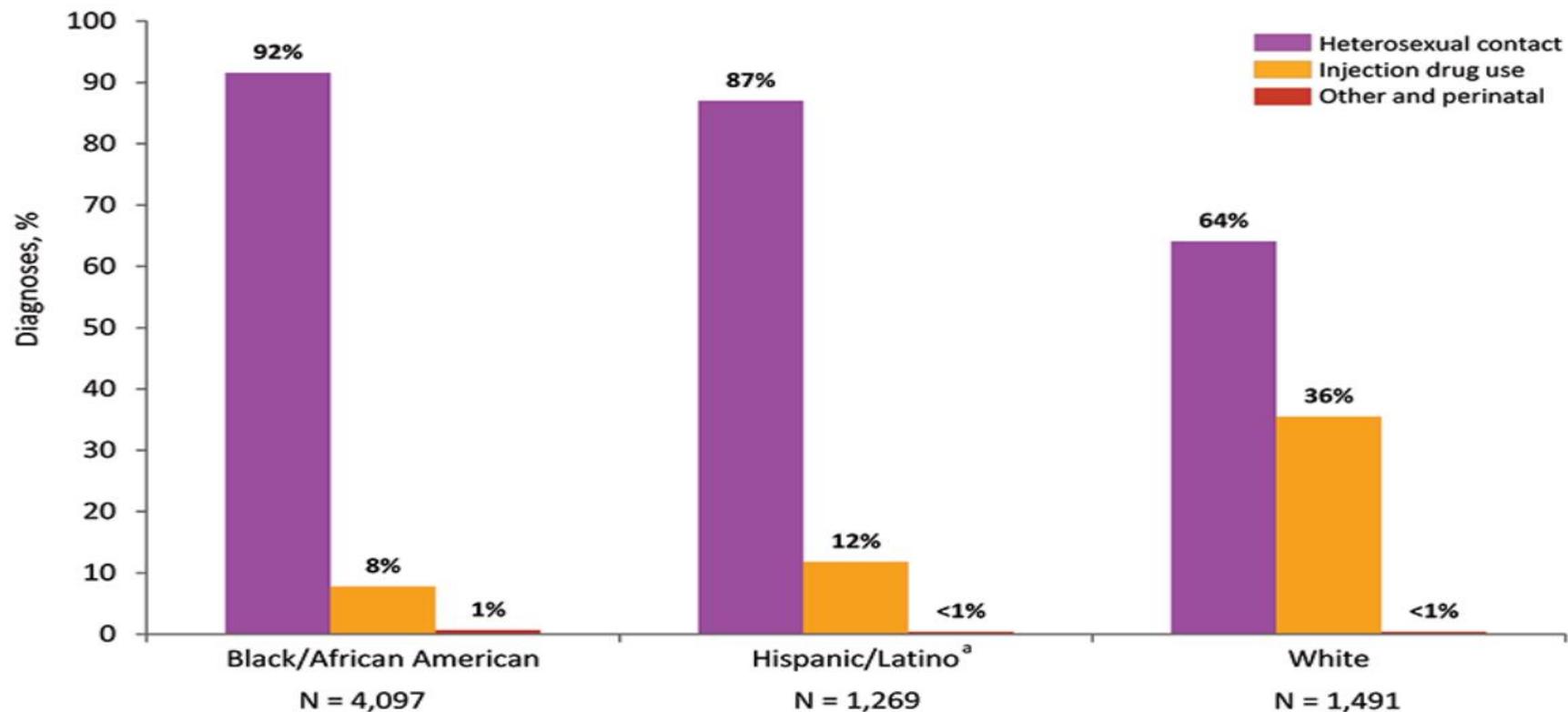
Subpopulations representing 2% or less of all people who received an HIV diagnosis in 2019 are not represented in this chart.

* Hispanic/Latino people can be of any race.

Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2019. *HIV Surveillance Report* 2021;32.

A Focus on Women

Figure 23. Percentages of Diagnoses of HIV Infection among Female Adults and Adolescents, by Race/Ethnicity and Transmission Category, 2018—United States and 6 Dependent Areas



Note. Data have been statistically adjusted to account for missing transmission category. See [Data Tables, Definitions, and Acronyms](#) for more information on race/ethnicity and transmission categories.

^a Hispanics/Latinos can be of any race.

A Focus on Women

“A lot of women have gone through traumatic pregnancies, abortions, rapes, a lot of sexual abuse, especially when it revolves around drugs. In my experience doing assessments with women specifically, I have to ask them all those questions, and it’s sometimes answered so nonchalantly, like, “Yes, ~~I was a prostitute. I sold my body for drugs.~~ I was beaten, I was raped...”

-SUD Treatment Professional,
Female, Lived Experience

“[Women are] really starting out with just an unfair score. It's more difficult for women in, especially MAT [medication-assisted treatment], they're stereotyped even more heavily than with men. They oftentimes are also carrying heavier mental health diagnoses, dual-diagnoses, and their comorbidity seem to be a lot more intense and severe.”

-SUD Treatment Professional
Female, 25 Years of Experience

“Women with SUD, I find, when they come in seeking help are much more ~~broken~~ than men are usually. They've had a harder time getting to the point of asking for help, and their stories, although mixed, are one common thread of a lot of trauma.”

-SUD Treatment Professional,
Male, Lived Experience

A Focus on Women: Sex Work

~~“Women have to use their bodies in order to feed their habit,~~ whereas I don't see that as much with the male population. With the female population, they are taken advantage of greatly in order to feed their addiction... I think it's just much more often than people realize, and I think that's also more than partially why women need trauma treatment because trauma can be their whole life. It's a repeating vicious cycle that until they get the treatment for that and know their worth, nothing's going to change.”

-Attorney and Treatment Court Coordinator
Female, 47

A Focus on Women: Women who Trade Sex

Correlates	Currently Trading Sex Odds Ratio (95% Wald CI)	Formerly Traded Sex Odds Ratio (95% Wald CI)
Age 18-29	0.25 (0.12-0.55)	0.28 (0.13-0.61)
Less than high school diploma	2.67 (1.29-5.47)	1.56 (0.77-3.18)
Unstable Housing	4.03 (1.71-9.48)	2.61 (1.17-5.81)
Child Sexual Abuse	2.14 (1.06-4.33)	1.66 (0.82-3.36)
Injection Drug Use	3.20 (1.21-8.48)	2.14 (.78-5.87)
Alcohol and Cocaine Dependence	4.21 (1.69-10.52)	4.66 (1.87-11.60)
Risky Sex & Drug Use Perceptions	3.39 (1.64-6.99)	1.83 (.88-3.79)

A Focus on Women: Intergenerational Substance Use

<i>Multivariable Adjusted Model</i>				
<i>Variable</i>	Not Adjusted for Familial Trauma		Adjusted for Familial Trauma	
	<i>Odds Ratio [95% CI]</i>	<i>p-value</i>	<i>Odds Ratio [95% CI]</i>	<i>p-value</i>
Intergenerational Substance Use ¹	1.30 [1.07, 1.57]	0.0071	1.28 [1.05, 1.55]	0.0138
Intergenerational Trauma ²	--	--	1.55 [0.85, 2.81]	0.1545
Criminal Justice Involvement				
<i>Probation vs. Community</i>	0.88 [0.56, 1.38]	0.5746	0.88 [0.56, 1.39]	0.5881
<i>Prison vs. Community</i>	3.75 [2.25, 6.24]	<.0001	3.84 [2.31, 6.38]	<.0001
Age, per 5 years	0.94 [0.86, 1.03]	0.1693	0.95 [0.87, 1.04]	0.2481
Marital Status				
<i>Married/Living as Married vs. Single</i>	0.77 [0.60, 1.00]	0.0512	0.77 [0.60, 1.00]	0.0501
<i>Previously Married vs. Single</i>	0.92 [0.73, 1.16]	0.4830	0.92 [0.73, 1.16]	0.4898
Education, per additional year	0.97 [0.89, 1.05]	0.4038	0.97 [0.89, 1.05]	0.4684
Raised By				
<i>Single Parent vs. Both Parents</i>	1.13 [0.74, 1.74]	0.5689	1.15 [0.75, 1.77]	0.5274
<i>Non-Parents vs. Both Parents</i>	0.90 [0.51, 1.59]	0.7122	0.88 [0.50, 1.56]	0.6680
Kids, per additional child	1.01 [0.91, 1.12]	0.8579	1.00 [0.90, 1.11]	0.9753
Homeless in prior year	1.13 [0.82, 1.56]	0.4397	1.13 [0.82, 1.56]	0.4490

1 An ordinal variable defined as the sum of the number of parents and grandparents participants reported to have drug or alcohol use disorders

2 Present (at least one parent or grandparent with a history of PTSD) or absent (no parents or grandparents with a history of PTSD)

Intergenerational Substance Use on CPS cases

<i>Multivariable Adjusted Model</i>				
<i>Variable</i>	Not Adjusted for Familial Trauma		Adjusted for Familial Trauma	
	<i>Odds Ratio [95% CI]</i>	<i>p-value</i>	<i>Odds Ratio [95% CI]</i>	<i>p-value</i>
Intergenerational Substance Use ¹	1.40 [1.11, 1.78]	0.0050	1.35 [1.06, 1.72]	0.0139
Intergenerational Trauma ²	--	--	1.83 [0.89, 3.76]	0.1004
Criminal Justice Involvement				
<i>Probation vs. Community</i>	2.13 [1.19, 3.81]	0.0109	2.19 [1.22, 3.91]	0.0082
<i>Prison vs. Community</i>	1.52 [0.87, 2.65]	0.1406	1.54 [0.88, 2.69]	0.1266
Age, per 5 years	0.87 [0.78, 0.98]	0.0222	0.88 [0.79, 0.99]	0.0349
Marital Status				
<i>Married/Living as Married vs. Single</i>	0.99 [0.98, 1.00]	0.0603	0.98 [0.97, 1.00]	0.0555
<i>Previously Married vs. Single</i>	1.00 [0.98, 1.01]	0.4089	0.99 [0.98, 1.01]	0.4145
Education, per additional year	0.83 [0.75, 0.93]	0.0010	0.84 [0.75, 0.94]	0.0016
Raised By				
<i>Single Parent vs. Both Parents</i>	0.99 [0.59, 1.67]	0.9714	1.00 [0.59, 1.70]	0.9878
<i>Non-Parents vs. Both Parents</i>	0.96 [0.51, 1.81]	0.8931	0.92 [0.48, 1.76]	0.7986
Kids, per additional child	1.08 [1.04, 1.13]	0.0003	1.11 [1.05, 1.17]	0.0003
Homeless in prior year	1.01 [1.00, 1.02]	0.0011	1.01 [1.01, 1.02]	0.0014

1 An ordinal variable defined as the sum of the number of parents and grandparents participants reported to have drug or alcohol use disorders

2 Present (at least one parent or grandparent with a history of PTSD) or absent (no parents or grandparents with a history of PTSD)

A Focus on Women

“When I was young, my mother had a very, very bad drug abuse problem and alcoholism, and my father did as well. I grew up around it. It was normal to me. I started using with her, actually when I was about 11 years old, with her and some other family members. I ended up becoming a stripper at a very young age, about 12, 13.”

-Female, 38, self-identified as in recovery

A Focus on Women

“Where I grew up, everybody used, everybody's family used. My mom was an ~~addict~~, so she hung around other ~~addicts~~... Everybody that I was around drank or did drugs of some kind, so that's just all we ever seen and knew. Of course, we just thought that's just like what everybody does. Everybody's parents passed out and stay asleep for days or weeks at a time. Everybody's dad drinks and drives and beats their mom up or their dad. That's just what I thought was normal.”

-Female, 45, Self-Identified As In Recovery

A Focus on Women

“[T]he cycle has repeated itself so not only are they [the mothers] using drugs, but soon now then also are their children. They struggle with that as well. Trying to help them when they're taking on that guilt—that they feel ashamed that they are the reason why their kid is using and just the therapy aspect of it alone. I have a patient who takes care of her young grandson and trying to get him treatment because his mom is still using and she's the patient there as well...Addiction is a family disease. It affects everyone..”

-Addiction Counselor and Case Manager
Female, Lived Experience, 45 years old

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Current Intervention and Rationale

Variables	RR (95% CI)
Black	1.64 (1.26, 2.14)
Ever married	1.24 (1.01, 1.52)**
18-29 years of age	1.03 (.82, 1.35)
Less than high school diploma	.98 (.81, 1.19)
Separated from parents 6+mos	.95 (.77, 1.17)
Arrested 4+ times	1.58 (1.22, 2.06)
Intervention group (PPCMI)	.98 (.81, 1.19)
Low religion/spirituality	1.37 (1.07, 1.74)
Recruited from court system	.85 (.64, 1.16)
Baseline violence	1.07 (.88, 1.33)
Drug use perceptions	1.76 (1.37, 2.26)
Time (4-month)	1.02 (.80, 1.33)
Time (8-month)	.97 (.74, 1.28)
Baseline perceptions* Time (4-month)	.74 (.54, 1.01)
Baseline perceptions* Time (8-month)	.72 (.52, 1.00)

Current Intervention and Rationale

MEDICATIONS FOR OPIOID OVERDOSE, WITHDRAWAL, & ADDICTION

Medications for opioid **overdose**, **withdrawal**, and **addiction** are safe, effective and save lives.

The National Institute on Drug Abuse supports research to develop new medicines and delivery systems to treat opioid use disorder and other substance use disorders, as well as other complications of substance use (including withdrawal and overdose), to help people choose treatments that are right for them.

FDA-approved medications for opioid addiction, overdose, and withdrawal work in various ways.

- ← Opioid Receptor Agonist**
 Medications attach to opioid receptors in the brain to block withdrawal symptoms and cravings.
- ← Opioid Receptor Partial Agonist**
 Medications attach to and partially activate opioid receptors in the brain to ease withdrawal symptoms and cravings.
- ← Opioid Receptor Antagonist**
 Medications block activity of opioid receptors in the brain to prevent euphoric effects (the high) of opioids and alcohol and help reduce cravings.
- ← Adrenergic Receptor Agonist**
 A medication that attaches to and activates adrenergic receptors in the brain and helps alleviate withdrawal symptoms.

REDUCES OPIOID USE AND CRAVINGS

Methadone
Daily liquid or tablet
Dolophine®, Methadose®
Generics available

Naltrexone
Monthly injection
Vivitrol®

Buprenorphine
Daily tablet
Monthly injection
Sublocade®
Generic tablets available

Buprenorphine/Naloxone
Daily film under the tongue or tablet
Zubsolv®, Suboxone®
Generics available

TREATS WITHDRAWAL SYMPTOMS

Lofexidine
As-needed tablet
Lucemyra®

Naloxone
Emergency nasal spray or injection
Narcan®, Kloxxado®
Generics available

REVERSES OVERDOSE

MAT HAS BEEN SHOW TO...



Improve patient survival



Increase retention in treatment



Decrease illicit opiate use and other criminal activity among people with substance use disorders



Increase patients' ability to gain and maintain employment



Improve birth outcomes among women who have substance use disorders and are pregnant

Current Intervention and Rationale

BEHAVIORAL HEALTH CARE

By Noa Krawczyk, Caroline E. Picher, Kenneth A. Feder, and Brendan Saloner

Only One In Twenty Justice-Referred Adults In Specialty Treatment For Opioid Use Receive Methadone Or Buprenorphine

ABSTRACT People in the US criminal justice system experience high rates of opioid use disorder, overdose, and other adverse outcomes. Expanding treatment is a key strategy for addressing the opioid epidemic, but little is known about whether the criminal justice system refers people to the highest standard of treatment: the use of the opioid agonist therapies

EXHIBIT 2

Odds ratio of receiving opioid agonist treatment among the study population, by primary referral source

	Receiving treatment	Odds ratio	
		Unadjusted	Adjusted
CRIMINAL JUSTICE VERSUS NON-CRIMINAL JUSTICE			
Non-criminal justice	40.9%	Ref	Ref
Criminal justice	4.6	0.07****	0.08****
TYPE OF CRIMINAL JUSTICE			
DUI or DWI ^a program	9.9%	Ref	Ref
Court	3.4	0.32**	0.32**
Probation or parole	5.1	0.49****	0.50****
Diversions program	1.9	0.18***	0.25**
Prison	9.6	0.97	1.16
Other	5.4	0.51	0.60

SOURCE Authors' analysis of data for 2014 from the Treatment Episode Data Set-Admissions. ^aDriving under the influence or driving while intoxicated. ** $p < 0.05$ *** $p < 0.01$ **** $p < 0.001$

Current Intervention and Rationale

- Interviews with criminal justice-involved women, MOUD professionals, and criminal justice professionals
- Develop a gender-specific, trauma-informed intervention to reduce substance use and co-occurring issues among women involved in the criminal justice system
- Pilot intervention

Research Study on Women, Substance Use, and Criminal Justice Seeks Participants



Are you a woman who has been in drug treatment for opioid use (any prescription pain medicines, heroin, fentanyl) where you took medication (suboxone, naltrexone, methadone, or buprenorphine)?

Do you work in a drug treatment center that uses medication (suboxone, naltrexone, methadone, buprenorphine) to help women who use opioids?



Are you a criminal justice professional that works with women in need of drug treatment?

If so, you may be eligible for a study where you share your thoughts on drug treatment needs and criminal justice concerns among women.

All participants will be paid \$35 for a 45-minute interview.



Current Intervention and Rationale

What We Hope to Accomplish:

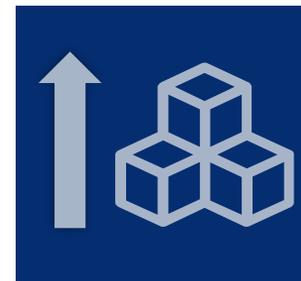
- **To make evidence-based drug treatment more accessible to women with the most need by removing known barriers.**
- The effective linkage and retainment into MOUD treatment by...
 - Reducing public and internalized stigma and addressing logistical challenges (e.g., lack of transportation, childcare, case management)



Stigma



Transportation



Childcare



Case Management



Current Intervention and Rationale

Eligibility Criteria:

- Female
- 18+ years of age
- PA resident and intends to remain in PA for the duration of the study
- OUD
- Interested in MOUD
- Released from jail or prison within the past 12 months.





Current Intervention and Rationale

Recruitment Target:

- 50 women with opioid use disorder
- (25 for CRS assistance + 25 for CRS assistance plus trauma-informed group curriculum).
- Jail or prison within the past 12 months.

PARTICIPANTS NEEDED





Current Intervention and Rationale

Female Certified Recovery Specialist (CRS) Case Management:

- All women will receive support from CRS to help with life adjustments (housing, health, and social services) and linking and retention into MOUD programs.
- All CRS are females, with children, in long-term addiction recovery and have been in jail/prison and are now addiction recovery specialists
- Have extensive experience with Children and Youth Services

Current Intervention and Rationale

When they're involved in drug and alcohol and criminal justice and usually children and youth, the requirements in order for them to be successful almost seem insurmountable. I know how I would feel as a person not struggling with substance use if I had to meet all of the requirements that are placed upon some of our patients who are struggling just to stay clean from one day to the next. I think that's been probably the biggest thing that I have noticed, and just overall in regards to women in treatment.

-SUD Treatment Professional
Female, 25 Years of Experience

Current Intervention and Rationale

Opioid Overdose Response Training:

- All 50 women will receive overdose response training and be given take-home naloxone (Narcan)



HIV/STI Risk Reduction Counseling:

- Referrals and case management to needed health appointments



Current Intervention and Rationale

I didn't know how easy it [using naloxone] was. I started beating on my son because he wasn't breathing and he was turning blue and all of a sudden...he just bear-hugged me and like took a deep breath. It was the scariest moment of my life—thinking my son was dying and not knowing how to use our Narcan....I felt like such an idiot, trying to read these directions, and I couldn't focus because my son's overdosing. It was horrible. It was horrible for my kids, for my other son to endure to deal with it.

-Female, Self-Identified As Not In Recovery, 54

Current Intervention and Rationale

- **Evaluated the association between SAVA and recidivism 8 months post baseline.**
- **Criminal Justice Data**
 - Regional Justice Information System (REJIS) (municipal violations)
 - The Missouri Uniform Law Enforcement System (MULES) (misdemeanor and felony arrests occurring in Missouri)
 - Center (NCIC) Interstate Identification Index (Triple I) (charges outside the state of Missouri)



Current Intervention and Rationale

- **45%** of the women had at least one offense 8 months post baseline.
 - **25%** had at least one misdemeanor or municipal violation but no felony charge
 - **20%** of participants had at least one felony charge
 - Companion cases
 - Reinstatement of original charges (absconding)
- Women categorized as having the SAVA syndemic at baseline **had nearly 4 times the odds** of having at least one misdemeanor/municipal violation by the 8-month follow-up





Current Intervention and Rationale

- Child Care and Transportation Vouchers:
 - Onsite childcare and vouchers for transportation costs to and from MOUD appts and group meetings for women in the trauma-informed intervention group
 - CRS can provide 1-on-1 transportation to health and social services appts



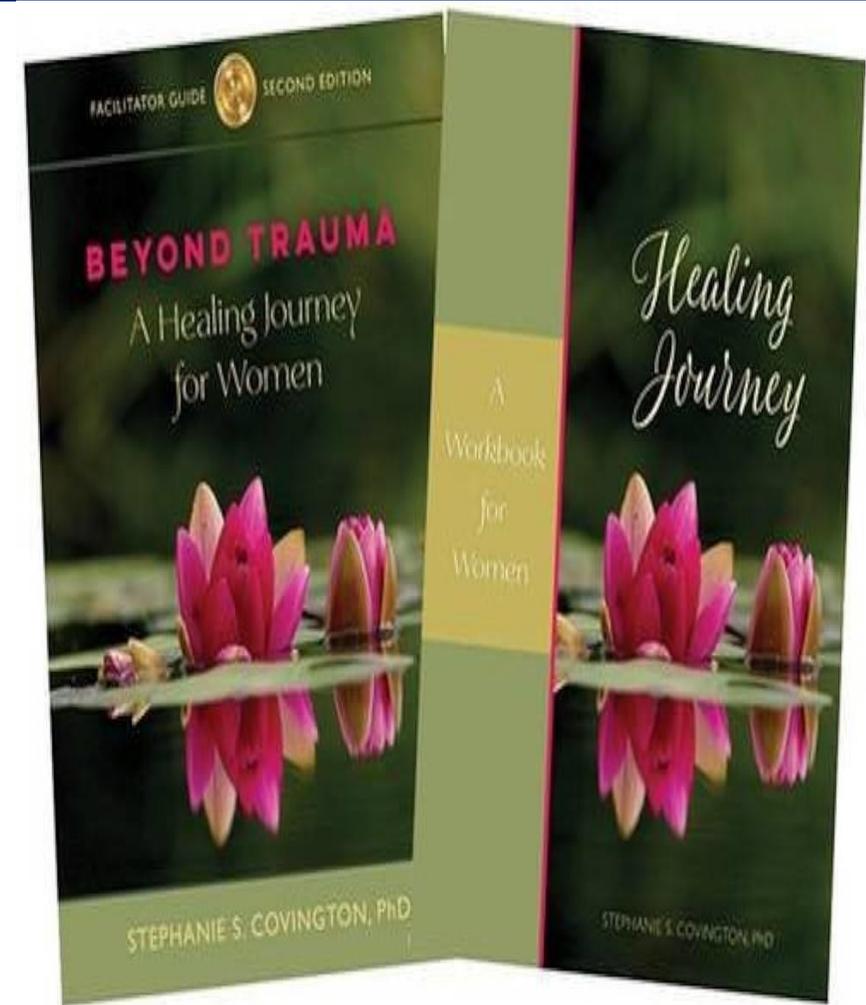
Current Intervention and Rationale

“To my knowledge, at least in the treatment facilities that I've personally been involved with sending people to, or family members to, or defendants, they don't offer any sort of childcare during the day for people to attend. I hate to be stereotypical, but I think most of the time, the burden of taking care of children falls on the woman. I think that without having some access to affordable childcare, they're unable to pursue the treatment that they might need.”

-Prosecutor, Female
35 years old

Current Intervention and Rationale

- Trauma-Informed Intervention
- A manualized 12-session Beyond Trauma curriculum, an evidence-based trauma support group for women who use drugs. It will be a weekly support group;
- A female CRS will facilitate the session with a facilitator workbook.
 - There will be 25 women in the trauma-informed group, ideally breaking up into 2 subgroups for a more intimate setting.





Current Intervention and Rationale

“I think there need to be programs directed specifically for women who use drugs. I also think that our county jail should offer sexual trafficking courses and what that looks like. I know a lot of the women that I speak to just in hearing their story, I can identify trafficking but they don't identify it. How to identify that and process that and work through that. I also think it would be helpful for some domestic violence classes or therapy while they're incarcerated.”

-Drug Court Professional, Lived Experience

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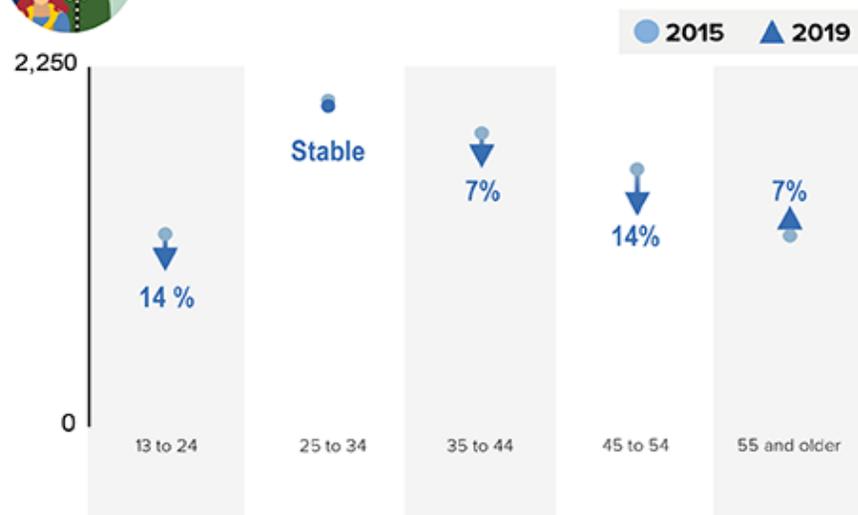
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Future Directions

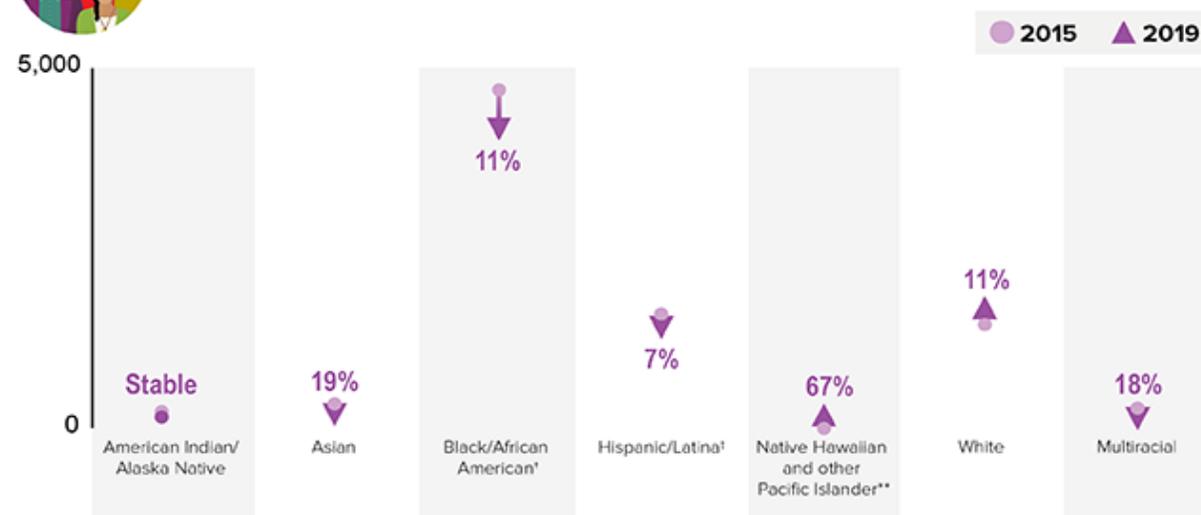
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Trends by Age



Trends by Race/Ethnicity



* Based on sex assigned at birth and includes transgender people. For more information about transgender people, visit CDC's HIV and Transgender People web content.

[†] *Black* refers to people having origins in any of the Black racial groups of Africa. *African American* is a term often used for people of African descent with ancestry in North America.

[‡] Hispanic/Latina women can be of any race.

^{**} Changes in subpopulations with fewer HIV diagnoses can lead to a large percentage increase or decrease.

Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2019. *HIV Surveillance Report 2021*;32.

Acknowledgements

Funding: National Institute on Drug Abuse (K01DA051715; PI: Jones, AA), Penn State Consortium on Substance Use and Addiction, Social Science Research Institute

