



Delivery continuity and neonatal disposition to birthing parent in individuals with substance use disorder

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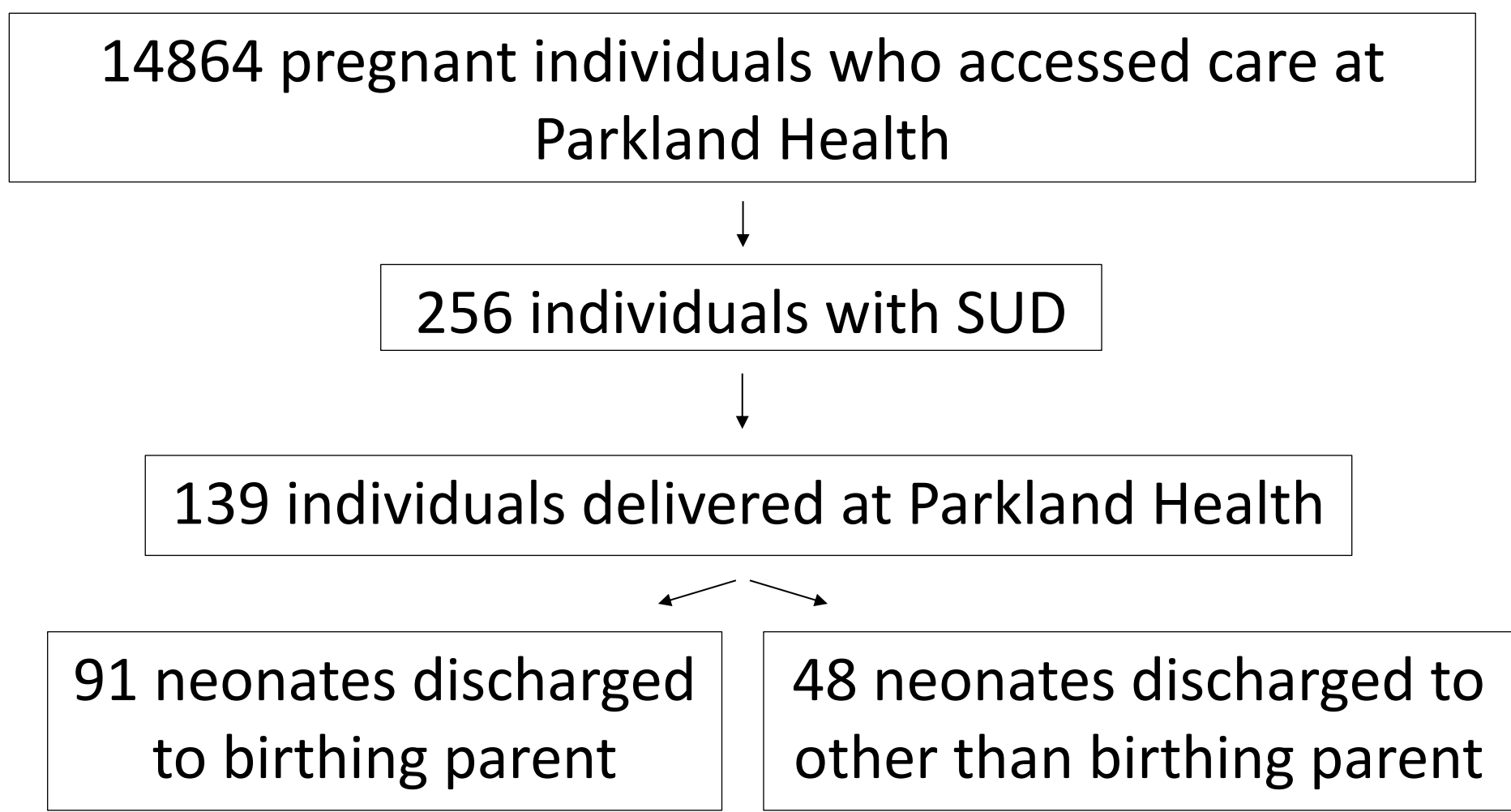
Background

- Substance use disorder (SUD) in pregnancy is associated with adverse obstetric and neonatal outcomes. Pregnant individuals are less likely to receive SUD care because of increased stigma and other barriers.
- Methadone and buprenorphine are accepted treatments for opioid use disorder in pregnancy.
- Studies have shown that integrated SUD treatment and prenatal care can improve outcomes.
- A multidisciplinary care team at Parkland Health provides integrated SUD treatment and prenatal/obstetric care in inpatient and outpatient settings.

Objectives

- To describe interactions between a multidisciplinary care team at Parkland Health and an SUD population in order to compare retention for delivery and neonatal outcomes

Materials and Methods

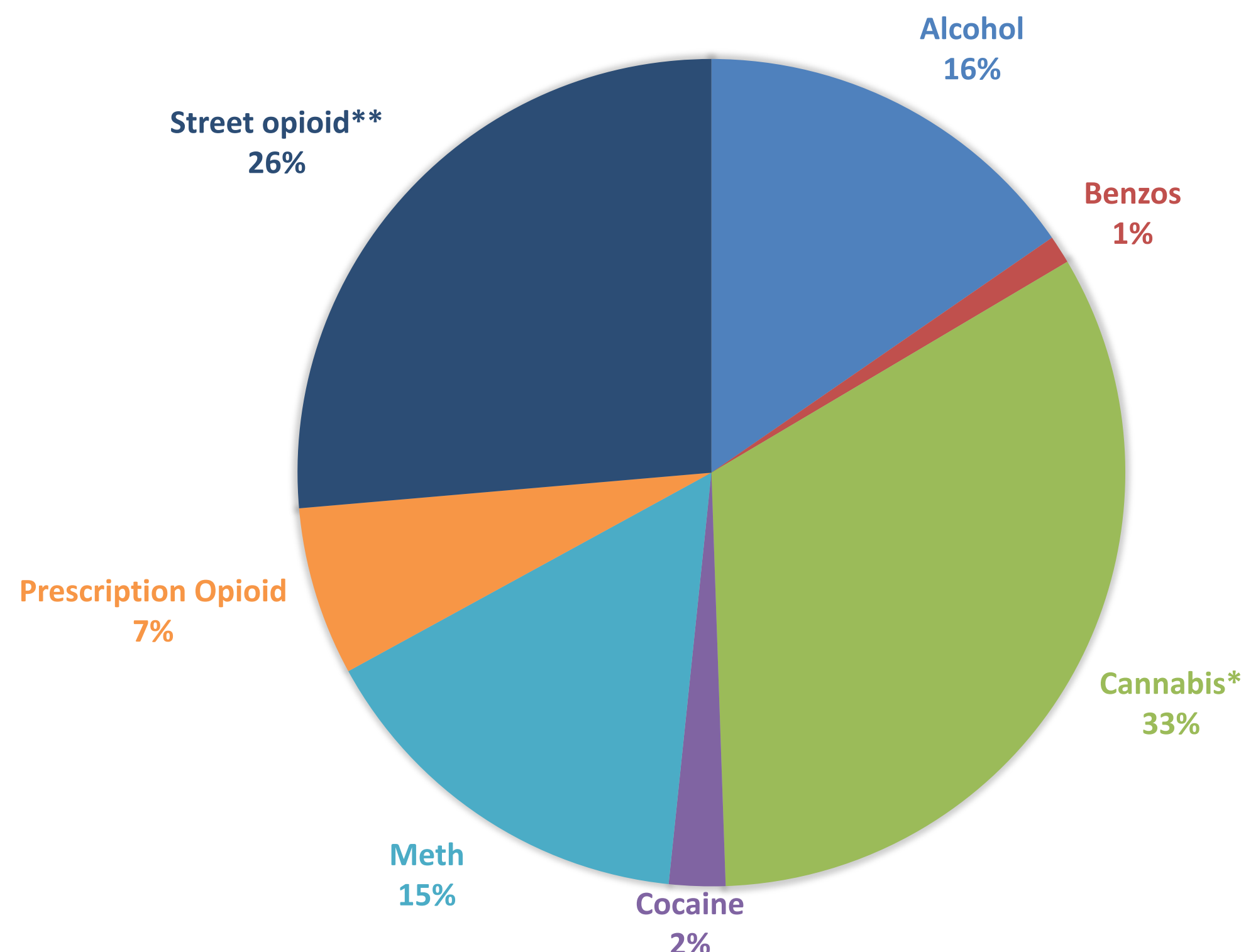


- Retrospective cohort study using medical record review to identify 256 patients with SUD during pregnancy
- Further chart review conducted to collect data including MCT interactions content, SUD treatment, and neonatal outcomes including neonatal disposition, Apgar score, and toxicology screens
- Data analyzed using t-test and Mann-Whitney U test for non-normalized data

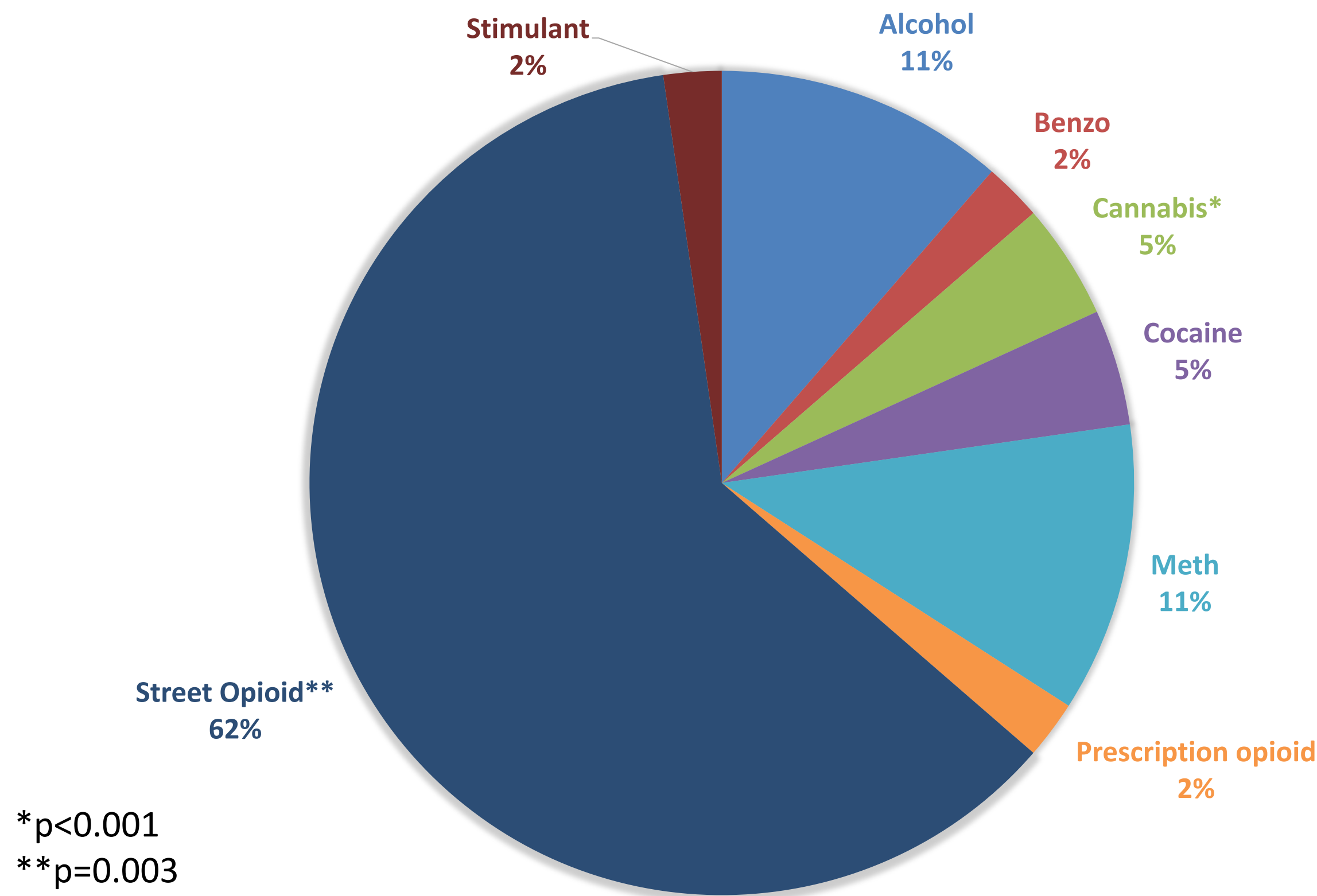
Results

- 144 patients with substance use disorder (SUD) received care by our multidisciplinary care team (MCT). Of these, 98 patients delivered at Parkland Health and 46 delivered elsewhere or were lost to follow-up. Patients who delivered at Parkland were more likely to have been seen by our MCT than those who delivered elsewhere (70% vs 40%, $p<0.001$).
- Of patients seen by our MCT, 99 (69%) were seen in ambulatory settings, and 96 (67%) were seen inpatient. 142 (99%) received behavioral health therapy. 127 (88%) patients were seen by an addiction provider and 119 (83%) patients were seen by a licensed chemical dependency counselor. 143 (99%) patients received individual counseling sessions and 29 (20%) patients participated in group therapy sessions.

DRUG OF CHOICE AMONG BIRTHING PARENTS DISCHARGED WITH NEONATE



DRUG OF CHOICE AMONG BIRTHING PARENTS DISCHARGED WITHOUT NEONATE



* $p<0.001$
** $p=0.003$

Results

Prenatal care among pregnant patients with substance use disorder by delivery location

	Delivery at study institution	Delivery elsewhere or lost to follow-up	p-value
n	139	117	
Interactions with multidisciplinary care team	98 (70%)	46 (40%)	<0.001
Total interactions*	5 [2, 15.75]	4 [1, 7]	<0.001
Therapy type			
Behavioral health therapy*	96 (98%)	46 (98%)	0.97
Medication-assisted therapy**	64 (88%)	23 (70%)	0.025

Data shown as n (%) or median [IQR]
*Denominator includes patients who were seen by MCT during pregnancy, n=98 among those who delivered at study institution and n=46 for those who did not.
**Denominator includes patients seen by MCT during pregnancy who were eligible for medication-assisted therapy, n=40 among those with neonatal disposition to birthing parent and n=34 among those with neonatal disposition elsewhere

Prenatal care, opioid use disorder, and neonatal characteristics among Parkland births in substance use disorder population by neonatal disposition

	Neonatal disposition		p-value
Characteristic	To birthing parent	Other than birthing parent	
n	91	48	
Number of prenatal care visits	9 [5, 11]	1 [0, 4]	<0.001
No prenatal care	3 (3%)	22 (46%)	<0.001
Interactions with multidisciplinary care team	60 (66%)	38 (79%)	0.10
Total interactions*	5 [1, 15]	6.5 [3, 16.75]	0.026
Patients with OUD	32	31	
Opioids only	11 (35%)	3 (10%)	0.015
Opioid PSM	20 (65%)	28 (90%)	0.015
Treatment for NAS	16 (52%)	20 (65%)	0.30
Neonatal Characteristics			
Positive meconium toxicology**	6 (7%)	36 (75%)	<0.001
Positive urine toxicology**	2 (2%)	32 (67%)	<0.001
5 min Apgar <4	0 (0%)	2 (4%)	0.04

Data shown as n (%) or median [IQR]. OUD, opioid use disorder; PSM, polysubstance misuse; NAS, neonatal abstinence syndrome
*Denominator includes patients who were seen by MCT during pregnancy, n=60 among those with disposition to birthing parent and n=38 for disposition elsewhere.
**Toxicology screen positive for unexpected substance, not including MAT, cannabis, or prescribed medication

Conclusions

- Patients who engage more with a multidisciplinary care team and receive medication-assisted therapy (MAT) from this team are better retained in a healthcare system and more likely to deliver within the same system. Increased prenatal care in patients with SUD is associated with neonatal discharge to birthing parent.
- There was a non-significant negative association between MCT engagement and retention of neonate. This is likely due to the high level of risk for patients seen by our team rather than factors related to the MCT interaction. Patients who saw our MCT were more likely to use opiates and less likely to use cannabis. This relationship suggests that the nature of complex SUDs continues to complicate the perinatal period, and significant resources are needed to better meet the needs of this high-risk population.
- Parkland’s neonatal toxicology screen includes both illicit substances and MAT, including methadone and buprenorphine. Screens positive for illicit substances trigger a referral to Child Protective Services for evaluation prior to discharge. Neonates who screened positive for an unexpected or non-prescribed substance were less likely to be discharged to the care of their birthing parent.
- Our MCT provides thorough and encompassing care to all patients who access Parkland Health regardless of setting and frequency of patient follow-up with improved neonatal outcomes. Multidisciplinary teams that integrate obstetric care with substance use disorder treatment and recovery services facilitate patient retention at delivery, and support for this level of care and continued long-term health outcome assessment is needed.

References

- Oni HT, Buultjens M, Mohamed A-L, Islam MM. Neonatal outcomes of infants born to pregnant women with substance use disorders: A multilevel analysis of Linked Data. *Substance Use & Misuse*. 2021;57(1):1-10. doi:10.1080/10826084.2021.1958851
- Suarez EA, Huybrechts KF, Straub L, et al. Buprenorphine versus methadone for opioid use disorder in pregnancy. *New England Journal of Medicine*. 2022;387(22):2033-2044. doi:10.1056/nejmoa2203318
- Sweeney PJ, Schwartz RM, Mattis NG, Vohr B. The effect of integrating substance abuse treatment with prenatal care on birth outcome. *Journal of Perinatology*. 2000;20(4):219-224. doi:10.1038/sj.jp.7200357