

# Common Ground: What Can Providers Do To Improve Care For Pregnant and Post- Pregnant People and Their Children

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# Disclosures

- I have no relevant disclosures of conflicts of interest related to this topic

# Neurobiology of Addiction

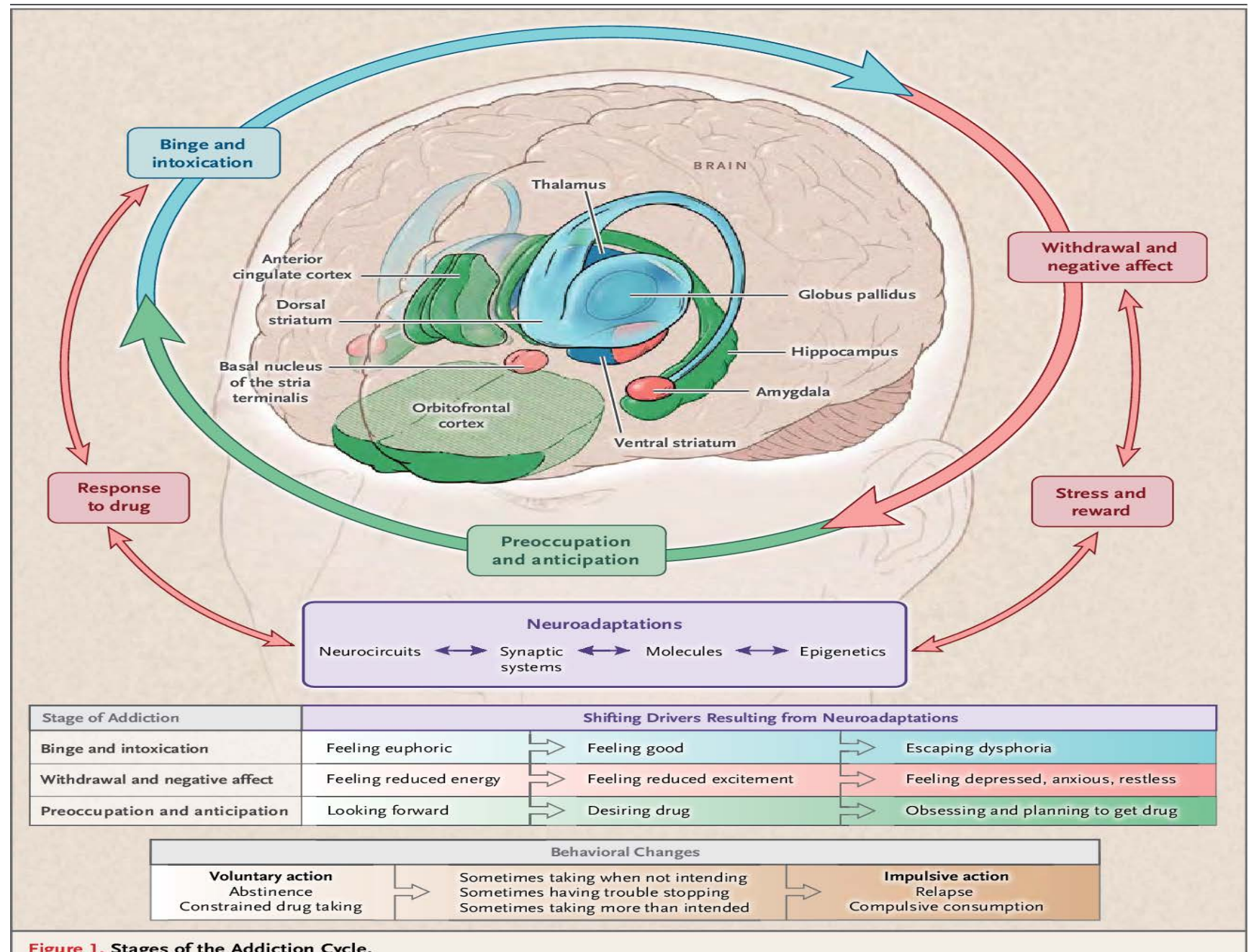
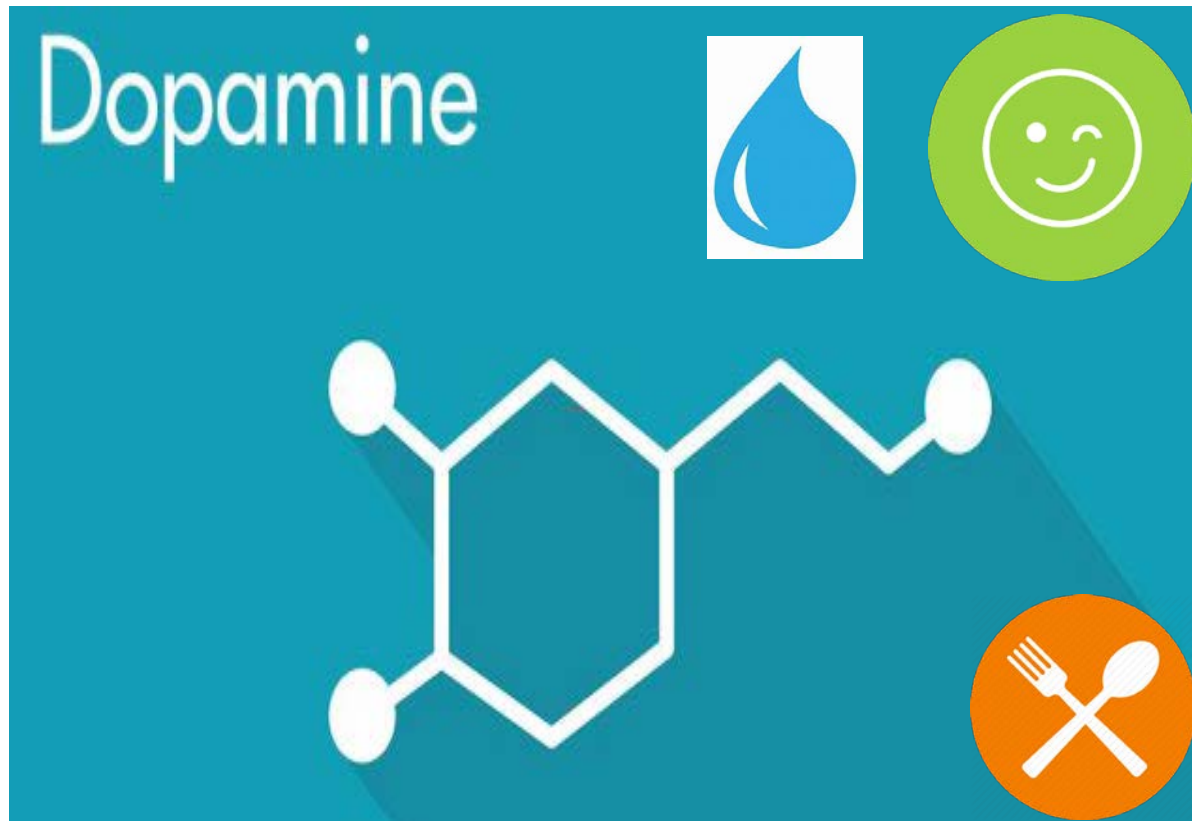


Figure 1. Stages of the Addiction Cycle.

# Why Addiction Matters



nanograms/deciliter

40

Worst Day

50

Average Day

100

Great Day!

500-1,100

Psychoactive  
Substances

# Dopamine Matters!

Repeated Substance Use  
nanograms/deciliter for drugs

**500-1,100**

600

500

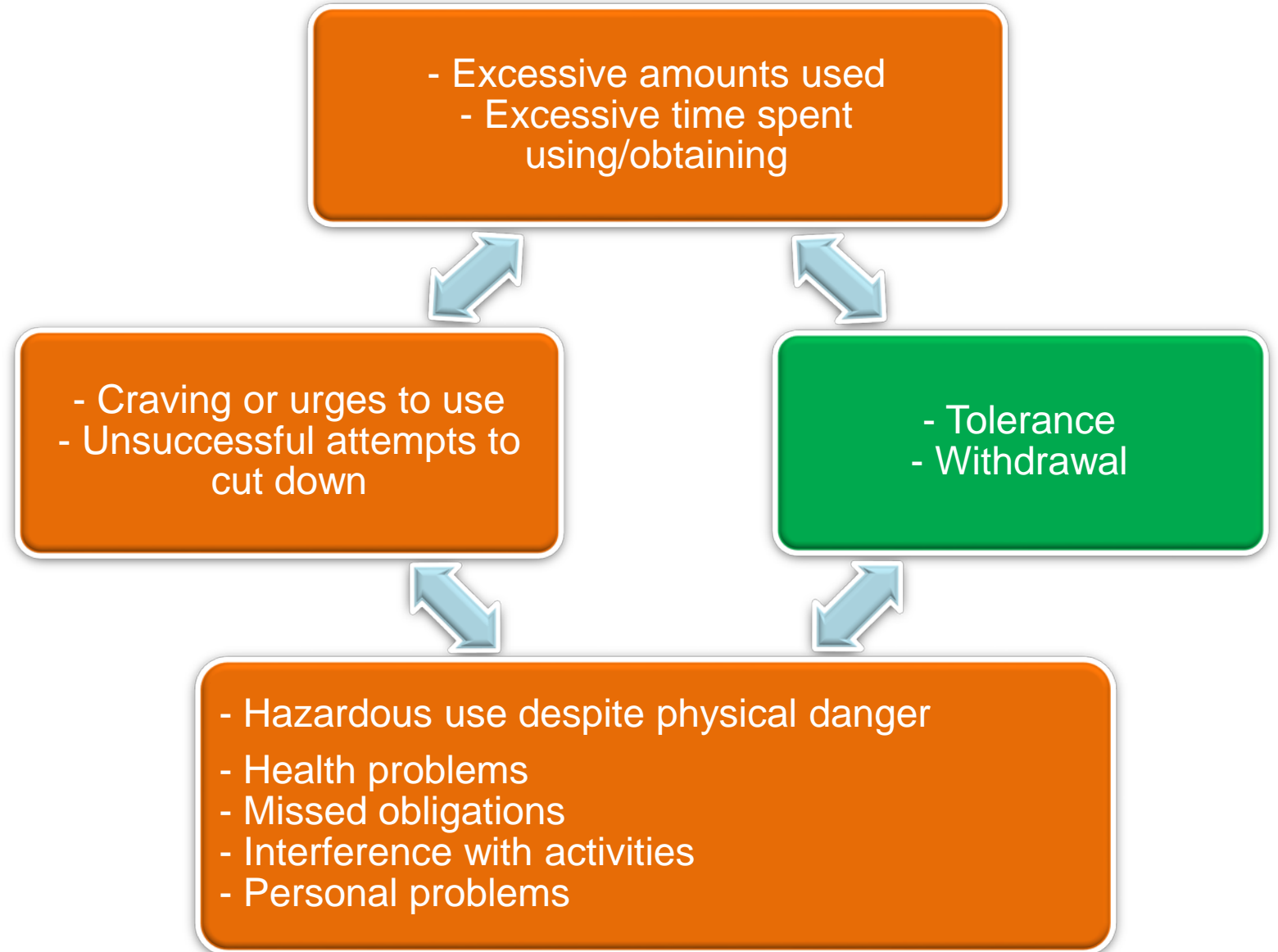
400

50

10 nanograms/deciliter every day



# 11 Signs of Substance Use Disorders



# Choice Matters: Retrospective Study of Detoxification

## Summary

Maternal benefits of maintenance:

- Longer retention in treatment
- More antenatal care
- Less illicit use at delivery

Neonatal benefits of maternal withdrawal:

- None apparent

Safe to detox during pregnancy:

- No acute events during detoxification

	3 or 7 day withdrawal (n=95)	3 or 7 day withdrawal then methadone maintenance (n=28)	Methadone Maintenance (n=52)
Maternal +UDS (%)	53	18	23
Maternal days in treatment	21	100	122
OB visits	2.3	8.3	
Birth weight (g)	2911	3020	2819
Preterm (%)	29	11	19
NICU admit (%)	32	3.6	46
NAS treatment (%)	28	18	27
LOS days	9.4	7	13



# Comparing Methadone and Buprenorphine Maintenance to Withdrawal: Maternal and Neonatal Outcomes

**Table 2** Frequencies (%) or means (standard errors) and *P* values for the two planned contrasts for the outcome measures in the three treatment groups (N = 25)

Outcome measure	Methadone-assisted withdrawal (n = 8)	Methadone (n = 12)	Buprenorphine (n = 5)	Methadone-assisted withdrawal vs	
				Methadone <i>P</i>	Buprenorphine <i>P</i>
<b>Neonatal outcomes</b>					
Treated for NAS [yes]	2 (25%)	8 (66.7%)	2 (40%)	0.079	0.571
NAS peak score	7.0 (1.4)	13.7 (1.2)	10.2 (1.8)	<b>0.002</b>	0.182
Total amount of morphine for NAS (mg)	0.2 (0.1)	82.8 (3.2)	8.2 (2.0)	< <b>0.001</b>	< <b>0.001</b>
Days of infant hospital stay	7.0 (3.4)	24.2 (5.1)	9.0 (4.8)	<b>0.019</b>	0.727
Head circumference (cm)	33.1 (0.7)	32.8 (0.6)	33.0 (0.9)	0.701	0.901
Days medicated for NAS	3.9 (1.4)	31.5 (2.0)	12.0 (2.4)	< <b>0.001</b>	<b>0.008</b>
Birth weight (gm)	3023.0 (220.9)	2849.6 (180.4)	2911.0 (279.4)	0.549	0.756
Infant length (cm)	48.7 (1.1)	48.0 (0.9)	48.8 (1.3)	0.633	0.948
Pre-term (<37 weeks) birth [yes]	3 (37.5%)	4 (25%)	1 (20%)	0.848	0.512
Gestational age at delivery (weeks)	38.1 (0.9)	37.2 (0.8)	39.0 (1.2)	0.414	0.575
Apgar score at 1 minute	8.4 (0.6)	7.2 (0.5)	7.6 (0.8)	0.127	0.445
Apgar score at 5 minutes	9.0 (0.4)	8.1 (0.3)	8.6 (0.5)	0.092	0.565
<b>Maternal outcomes</b>					
Cesarean section [yes]	1 (12.5%)	3 (25%)	1 (20%)	0.501	0.718
Maternal weight gain (kg)	5.5 (3.0)	7.4 (2.1)	10.7 (3.2)	0.606	0.248
Non-normal presentation [yes]	1 (12.5%)	1 (8.3%)	0 (0%)	0.762	0.947
Analgesia during delivery [yes]	6 (75%)	10 (83.3%)	3 (60%)	0.650	0.571
Drug screen at delivery [positive]	1 (14.3%)	2 (16.7%)	0 (0%)	0.891	0.958
Medical complications at delivery [yes]	4 (50%)	9 (75%)	1 (20%)	0.258	0.295
Number of prenatal obstetrical visits	10 (1.5)	10.1 (1.2)	10.2 (1.9)	0.966	0.935

**Notes:** Estimates in the table are *f* (%) or mean (SE). Means for total amount of morphine for NAS and days medicated for NAS were estimated only for those neonates treated for NAS, based on the use of a zero-inflated Poisson regression model (see text for details). One case from the methadone-assisted withdrawal group was missing a value for drug screen at delivery. Significant effects are noted with *P* values in bold.

**Abbreviation:** NAS, Neonatal Abstinence Syndrome.

- Methadone assisted withdrawal: N=8
- (51 eligible at entry; 43 excluded (39 desired maintenance; 4 no outcome data))
- 7 day inpatient withdrawal: (40, 30, 25, 20, 15, 10, 5 mg qd) the outpatient CAP f/u (Hopkins)
- Compared to women on maintenance (methadone =12; buprenorphine=5)

## Summary:

- A high proportion of women that consider medication assisted withdrawal choose medication assisted treatment
- Medication assisted withdrawal does not eliminate NAS
  - severity of NAS is reduced
  - the reduction of NAS symptoms and treatment associated with withdrawal is not as pronounced when compared to buprenorphine exposed infants



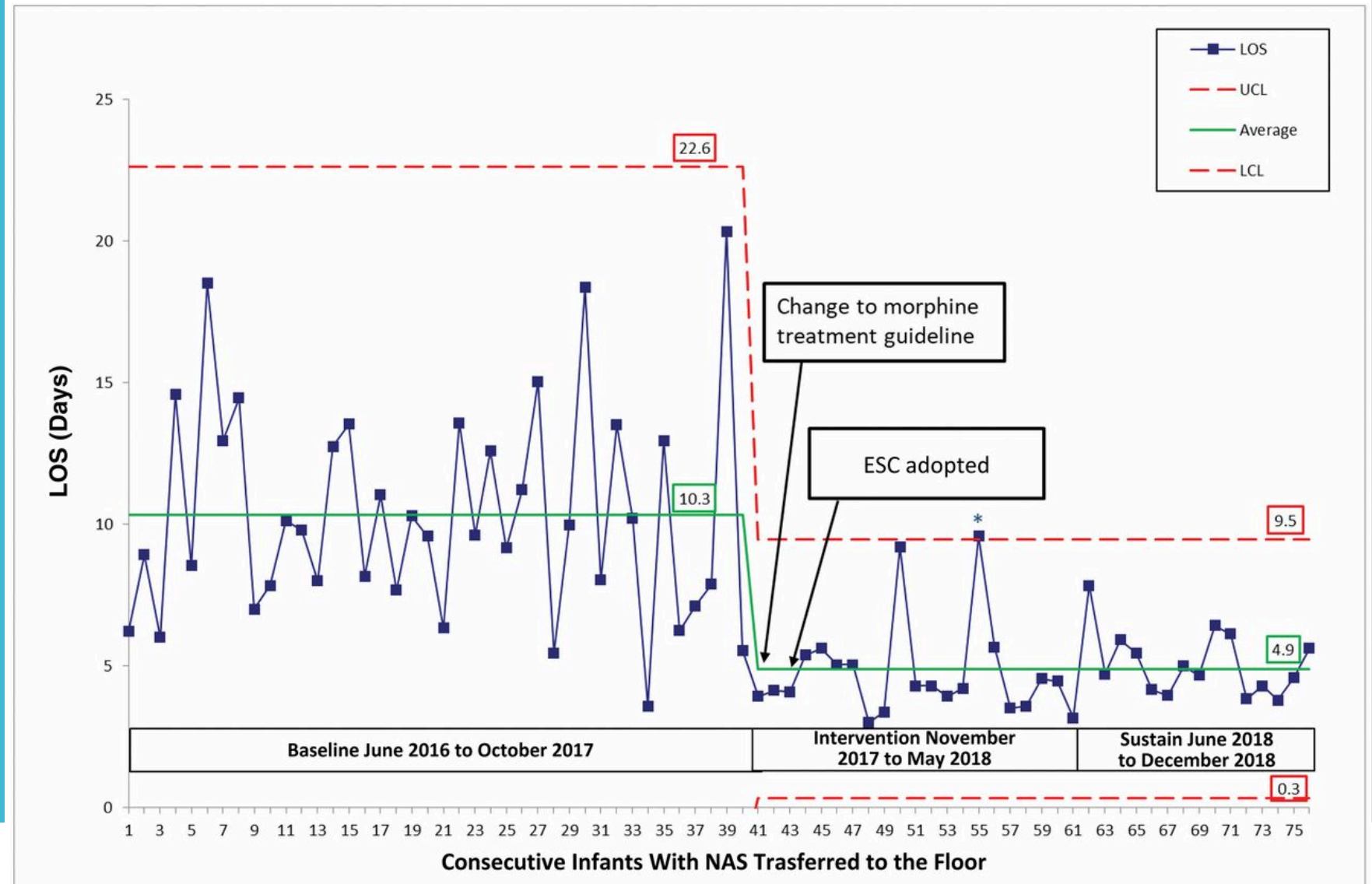
Summary of  
evidence  
of pregnancy  
outcome with  
detoxification:  
Remarkably  
consistent since  
1970

- Detoxification can be performed without significant risk of fetal demise or initiation of preterm labor
- Of those women requesting detoxification, many opted for maintenance during the detoxification process
- Relapse and/or loss to follow-up occur in at least half of women that attempt detoxification during pregnancy
- All studies of detoxification or medication assisted withdrawal were compromised by patients lost to follow-up
  - No study examined maternal health after delivery
  - It is plausible that those patients without follow-up had worse outcomes
- It is likely that women who successfully detoxify are different from those that choose maintenance

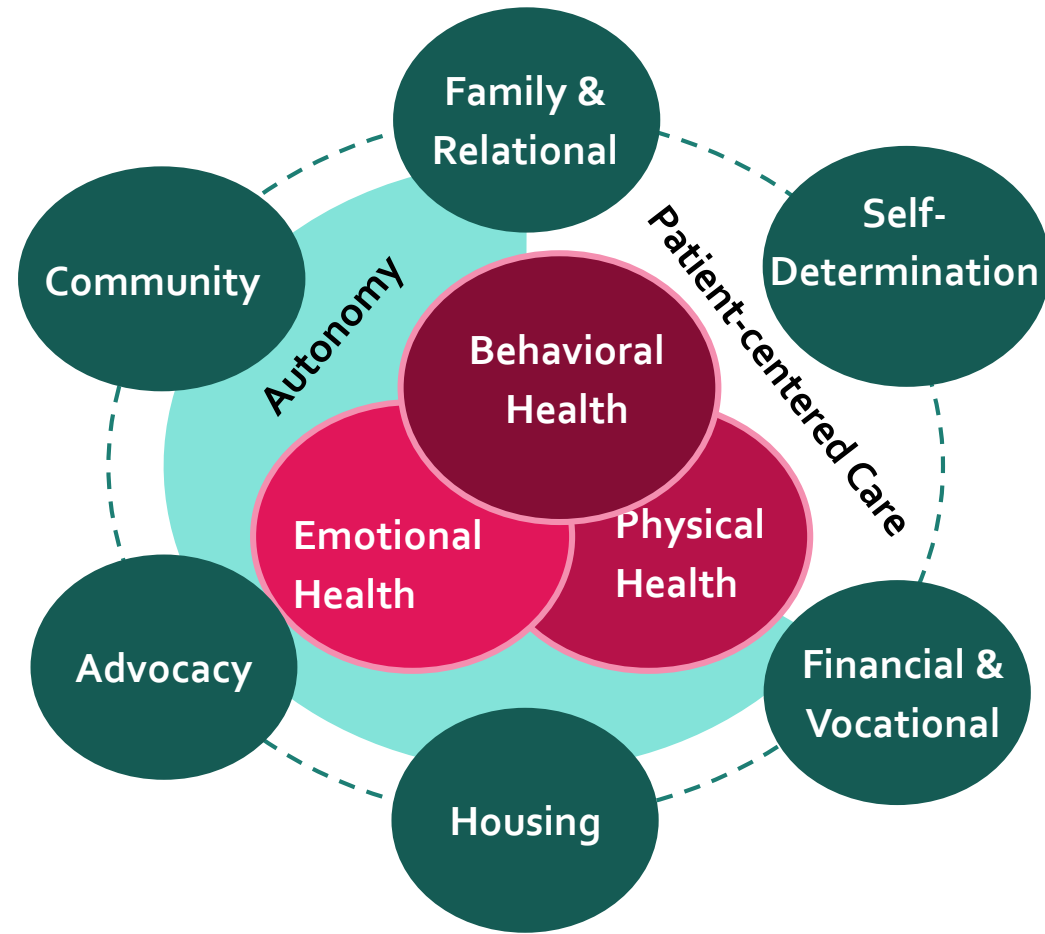
# Change From Finnegan to Eat, Sleep and Console Reduces Neonatal Abstinence Syndrome Outcomes

What Is The Problem We Are Attempting To Solve?

Is It To Avoid NAS?



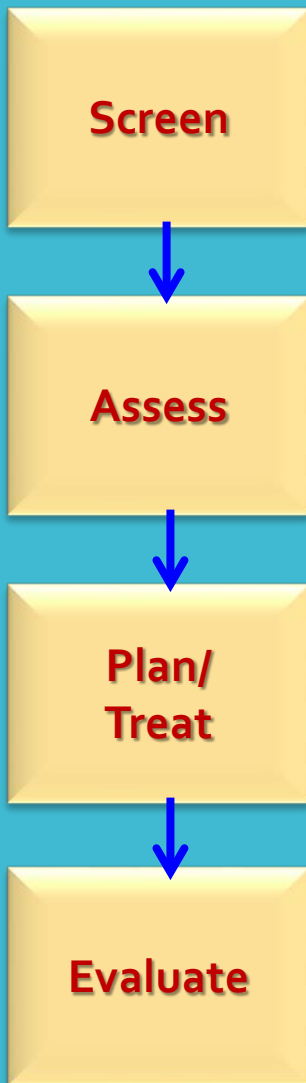
# Holistic Services



**Basic Problem:  
Detoxification Is  
An Acute Care  
Approach To A  
Chronic Medical  
Problem**

# Comprehensive Treatment of Substance Use

## Disorders during Pregnancy



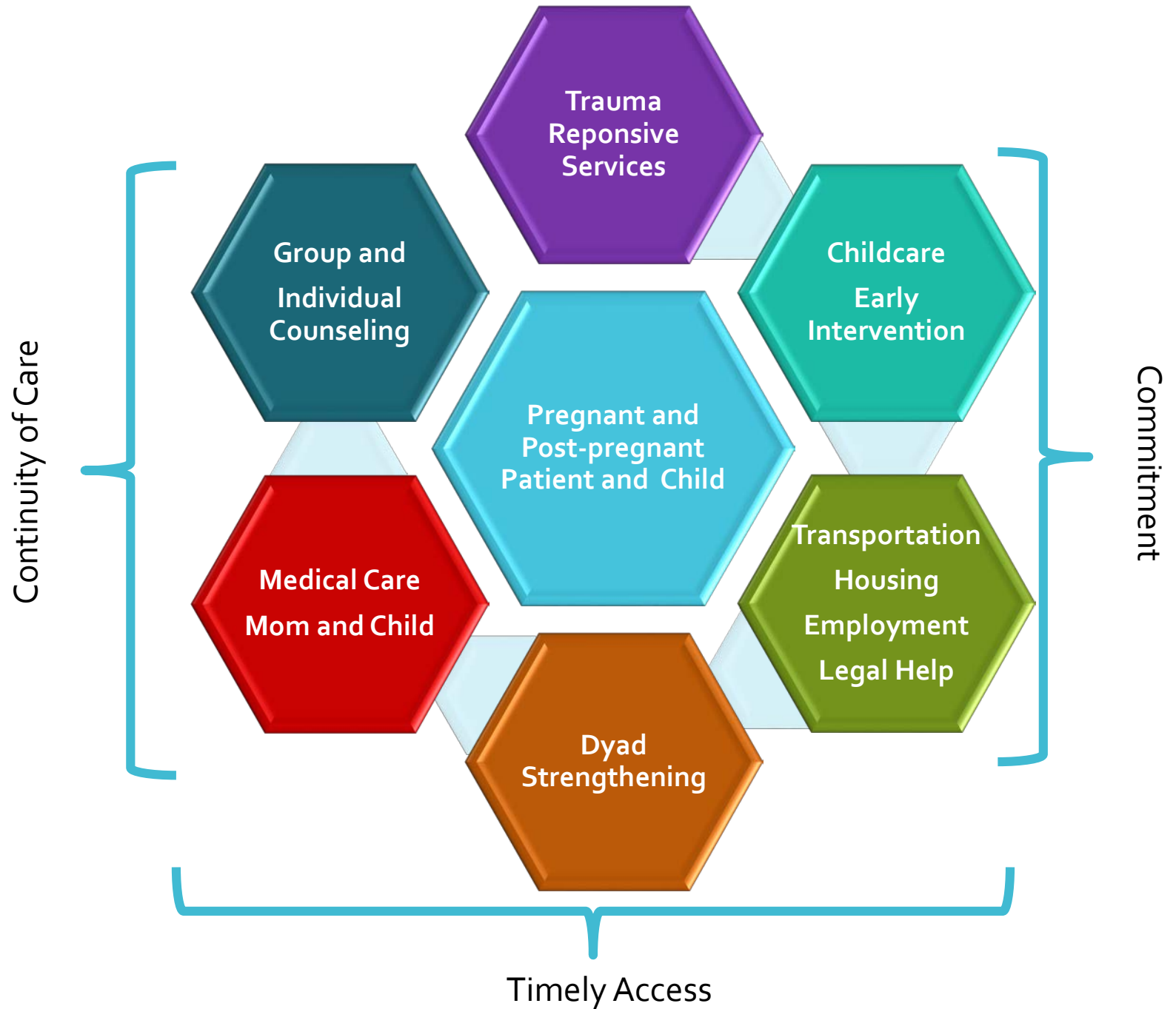
- Few medications are available to treat an substance use disorders, except for alcohol, tobacco and opioids
- Opioid medications such as methadone and buprenorphine can be successful components in treating opioid use disorder, both in the general population and in pregnant and post-pregnant patients
- Opioid medications and detoxification are best provided in the context of a comprehensive treatment plan that includes behavioral treatment like individual counseling
- A comprehensive treatment plan is developed following an assessment that determines which life areas have been affected by drug use and to what extent they have been affected
- The patient and provider then develop specific goals for improved life functioning in each life area and a plan for how and when the goals will be met
- Part of the plan may include wellness indicators of when patients can taper off medication

# Shared Decision Making: Extent of Use Of Medication to Treat Opioid Use Disorder

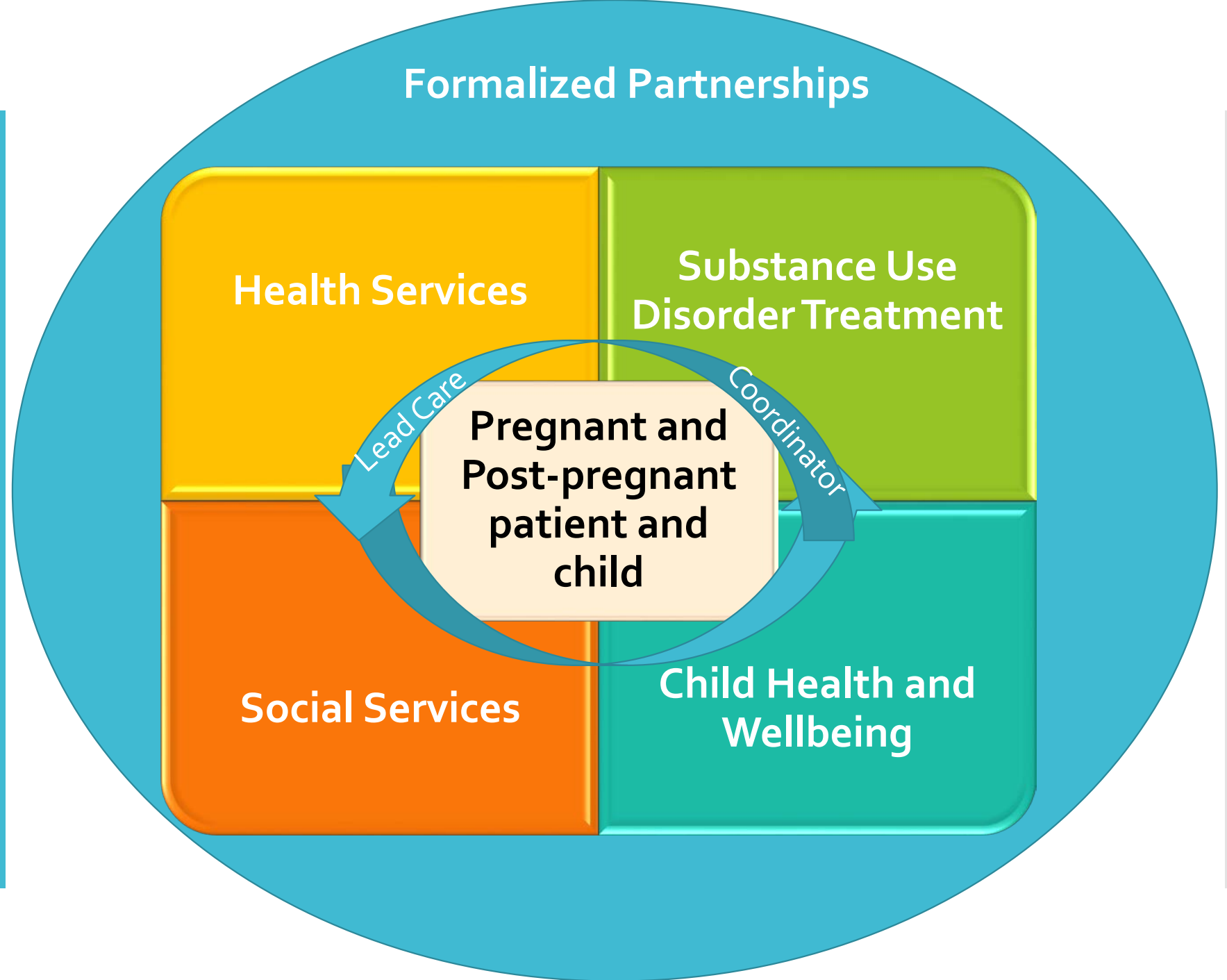
## Factors to consider in medication-assisted withdrawal:

- A complete medical and psychosocial assessment
- What is motivating the woman to discontinue her medication?
- Is she pregnant? Is there obstetrical/medical care? Is she post-partum?
- What positive relationships does she have in place in her life?
- What is the plan for her and her children if she relapses?
- What is the plan if she wants to stop the medication-assisted withdrawal?
- What about overdose risks, Hepatitis C, HIV and STI risks?

# Model of Care



# Quality Care Model





# Summary