Treating Substance Use During Pregnancy:

Applying principles of co-design and co-production to improve outcomes

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Disclosures and Acknowledgments

The speakers have no financial disclosures

Acknowledgements

- Blattman Scholars Fund
- Collaboratory for Implementation Science at Dartmouth
- D-H Population Health
- New Hampshire Charitable Foundation
- New Hampshire Delivery System Reform Incentive Program
- New Hampshire DHHS/21st Century Cures Act
- NIDA Clinical Trials Network Northeast Node
- Dierdre Martinez-Meehan, MPH
- Our patients

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Agenda

- Briefly explore the consequences of the current opioid crisis for women and their infants in New Hampshire
- Identify barriers to treatment for pregnant women
- Describe the development of Dartmouth-Hitchcock's Moms in Recovery program in Lebanon
- Explain mechanisms through which patient needs and experiences can shape the delivery of substance use treatment services

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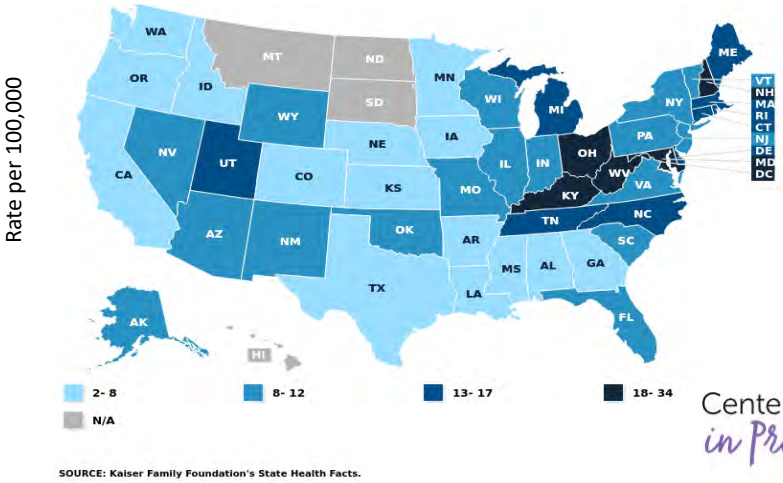
Opioid Overdose Death Among Women in the United States (2017)



SOURCE: Kaiser Family Foundation's State Health Facts.

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Causes of Maternal Mortality in New Hampshire (2016- 2017)

During this time period, **12** maternal deaths occurred during pregnancy or within the postpartum year

- **11**/12 deaths occurred postpartum
- **8**/12 were covered by Medicaid
- **11**/12 had a documented mental health diagnoses

The leading cause of death was accidental drug overdose

- **6**/12 deaths were caused by opioid overdose
- An additional **3** women died of other causes related to substance abuse
- **Every one of these deaths was preventable**

Department of Health and Human Services. 2019. Annual Report on Maternal Mortality to New Hampshire Health and Human Services Oversight Committee Calendar Year 2016-2017.

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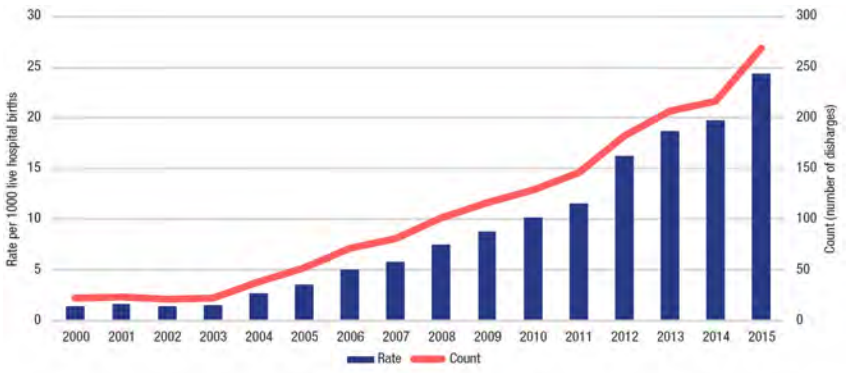
Rising Rates of Neonatal Opioid Withdrawal (NAS) in New Hampshire



Smith, K. *University of New Hampshire Carsey Research* 2017

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Understanding Opioid Use Disorder

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*"**Addiction*** is a primary, chronic disease of brain reward, motivation, memory and related circuitry. ... Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death."

(American Society of Addiction Medicine, 2011)

- Over time, a person's brain accommodates to the presence of opioids
- **Dependence** occurs when the central brain no longer functions normally without opioids
- **A Use Disorder** develops when a change occurs in the way the brain's reward pathway works

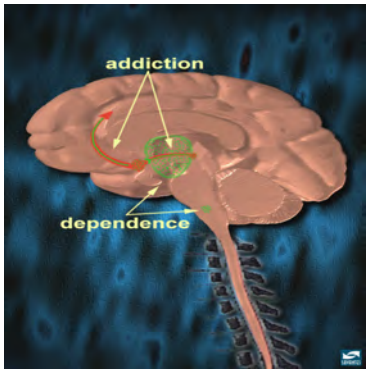

Image: National Institute on Drug Abuse

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Criteria for Opioid Use Disorder (DSM-5)

A maladaptive pattern of opioid use for >12 months meeting *at least two* criteria

- More use than intended
- Unsuccessful efforts to quit

- Significant time spent in procurement, use, recovery
- Activities (occupational, social etc.) given up
- Continued use in the face of adverse health effects
- Recurrent interpersonal problems from use

- Use under dangerous conditions
- Craving
- Failure to live up to obligations

- Tolerance (not relevant if taken for pain control or with medical supervision)
- Withdrawal

Physiological dependence is not the same as having a substance use disorder

(American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* [DSM-5], 2013)

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Consequences (from the Medical Perspective)

Medical/Obstetric

- Infectious disease
  - STIs
  - HCV & HBV, occasionally HIV
- Abscess
- Endocarditis
- Deep vein thrombosis
- Stroke
- Bleeding/Abruption
- Fetal loss
- Overdose

Psychiatric

- Anxiety
- PTSD
- Depression
- Substance-related psychosis
- Stimulant use disorder
- Tobacco use disorder

Neonatal

- IUGR/LBW
- Prematurity
- NAS/NOWS

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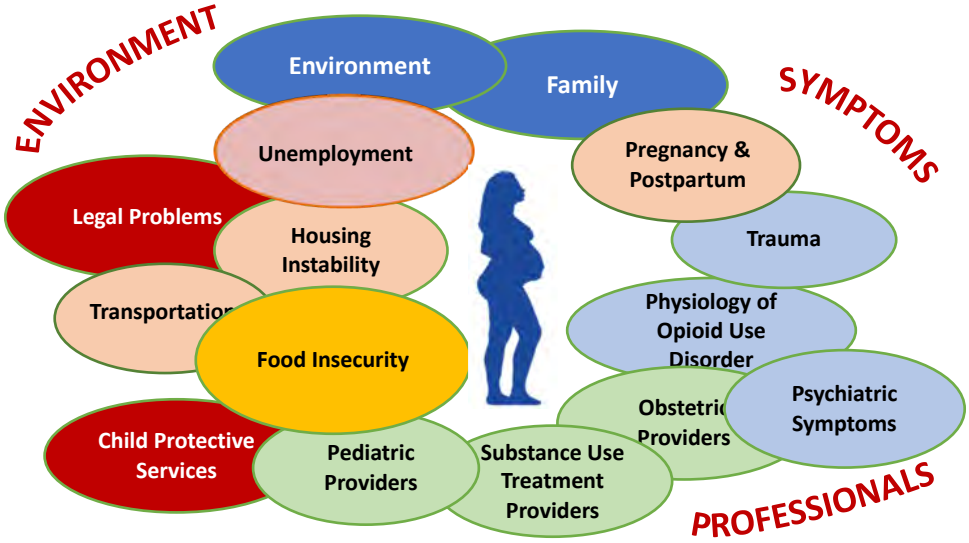

Consequences (from the Treatment Perspective)

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How we perceive a human condition changes how we respond to it, and in turn, changes the outcome

When we perceive addiction to be a choice or a moral failing, people who struggle with addiction are seen as bad people who should be punished.

When we perceive addiction to be a disease, people who struggle with addiction are understood to be people who can be treated and recover.

Stigma

A mark of disgrace associated with a particular circumstance, quality or person

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Destigmatize

To remove associations of shame or disgrace

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William White reminds us that language can:

- Humanize OR objectify
- Empower OR dis-empower
- Engender compassion OR fear and hatred
- Motivate OR deflate
- Comfort OR wound
- Unite OR create enmity

Reference: Connecticut Community for Addiction Recovery Pg. 14

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Which Kind of Care Do We Want to Provide?

Glass half empty | Glass half full

Deficit-based Language	*Strength/ Recovery Oriented*
Substance abuser	Person with an addiction to substances
Suffering from	Working to recover from
Acting out	Ineffective communication
Non compliant with medications/treatment	Prefers alternative coping strategies
Frequent Flyer	Takes advantage of services/supports as necessary Seeks medical care when needed
Helpless and hopeless	Unaware of capabilities/ unaware of opportunities

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More examples….

Deficit-based Language	*Strength/Recovery Oriented*
Addict, junkie	Person with a substance use disorder
Clean, dirty (for person)	Using substance or abstinent from substance
Clean, dirty (for urine drug screen)	Positive or negative for a substance
Clean, dirty (syringe)	New or used
Abuse (of substance)	Harm use, risky use, misuse
Narcotic	Opioid
Replacement or substitution therapy	Medication for OUD: a tool for recovery
Habit or drug habit	Substance use disorder

https://www.samhsa.gov/capt/tools-learning-resources/sud-stigma-tool

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Treatment = *A Helping Hand*

- Ask with compassion
- Listen with empathy
- Build trust and rapport
- Support each other
- Connect to additional resources
- Continuity of care when possible

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We don't always know the facts on initially meeting our families….
How we approach and deliver care impacts how patients accept and use care

Destigmatizing care means removing associations of shame or disgrace

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Treating OUD During Pregnancy

"She [the baby] changed everything..."

-Research Participant
(Goodman, Saunders, Wolff, manuscript under review)

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"Services for pregnant and breastfeeding women with substance use disorders ***should have a level of comprehensiveness that matches the complexity and multifaceted nature of substance use disorders and their antecedents."***

(World Health Organization, 2014)

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What is Known about Treating OUD in Pregnancy?

- Research favors treatment with buprenorphine or methadone
  - Reduces risk of morbidity and mortality
  - Lower rate of relapse compared to detox
  - Methadone and buprenorphine both safe and effective
    - NAS/NOWS less severe than with illicit use
    - Buprenorphine associated with shorter duration and less severe withdrawal for infants (NOWS)
- Withdrawal from opioids is less effective
  - Low rates of completion
  - High rates of relapse (based on circumstances: 0-100%)
  - Frequent loss to follow up

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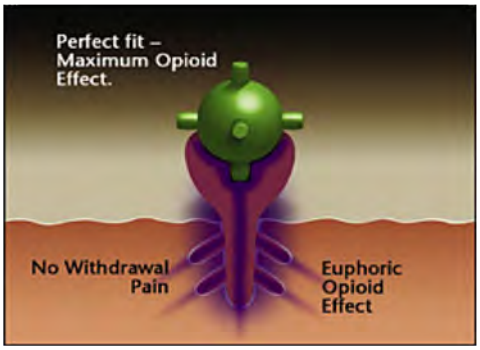
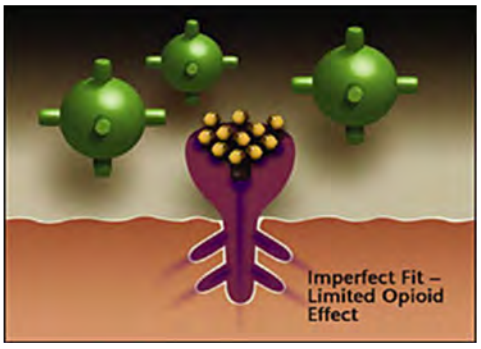
Terplan, M, et al. Obstetrics and Gynecology 2018; 0;0:1-12; Mcarthy, J, Leamon, M, Finnega, L, Fassbender, C. *AJOG* 2017

Pharmacotherapy: Full vs Partial Agonists



Methadone

Buprenorphine



(Images: National Institute on Drug Abuse)

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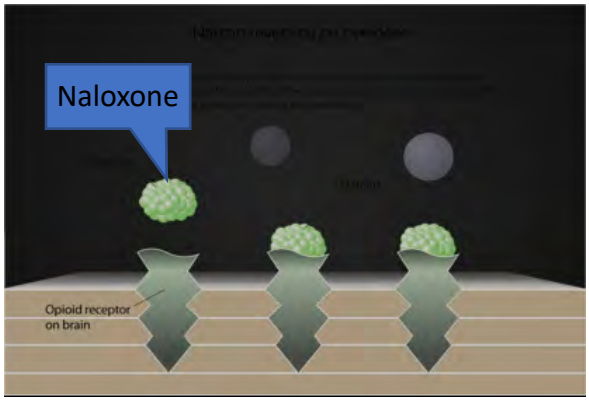
Pharmacotherapy: Opioid Antagonists



(Image: National Institute on Drug Abuse)

Naloxone
Overdose reversal
- Intranasal
- Auto-injector

Naltrexone
Treatment
- Oral
- Long acting injectable
- Not recommended during pregnancy or lactation

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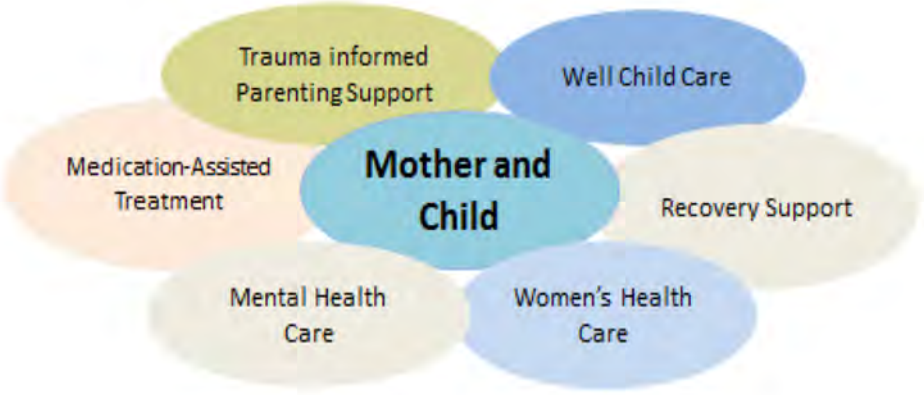
More than Medication



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Opportunity

"I mean, just finding out that I was pregnant did give me hope. And once he [partner] found out as well that I was pregnant, he really, he got quiet. …Because this is not the way we can live. We're living very, very harmfully."

(Goodman, Saunders, Wolff, manuscript under review)

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Integrated Treatment for Pregnant and Parenting Women: *Increasing Access and Continuity*

- Women are highly motivated by pregnancy
- Integrated care facilitates timely treatment
- Decreases stigma since treatment is associated with prenatal care program
- Facilitates care for medical and psychiatric comorbidities
- Enhanced opportunity for case management

Milligan,ANiccols A, Sword W, et al. *Subst Abuse Treat Prev Policy.* 2010; 5; 21; Lefebvre, L, Midmer, A, Boyd, S. et al.. *JOGNN.* 2010; Ordean A, Kahan M, Graves L, et al. *Can Fam Physician.* 2013;59(10)

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Access is Critical

"When I made my [first] appointment, I said 'I'm pregnant, I'm an addict, will you take me?' It was actually a huge relief"

-Research Participant

(Goodman, Saunders, Wolff, manuscript under review)

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Dartmouth-Hitchcock Moms in Recovery

- Affiliated network cares for over 30% of pregnancies in NH at the medical Center and 4 community-based practices
- The rate of opioid-affected pregnancy ranges from 5-8% across the D-H service line

- Collaborative program launched by Psychiatry and Ob/Gyn
- Prior to 2013, no maternity-focused outpatient substance use treatment existed in the D-H service area
- The program has served close to 150 pregnant and parenting women since then

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Harm Reduction Strategies

"From my prenatal care and my people on the street I heard about Suboxone...I switched myself onto it until I could get into a program. I thought it would be better because even though they are both prescriptions, one is prescribed for a woman who is pregnant and the other is not advised for a woman who is pregnant, so I kind of played my own doctor"

(Goodman, Saunders, Wolff, manuscript under review)

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Moms in Recovery Program History

2013
- First 5 patients enrolled in women's group substance use treatment

2014
- Midwifery care introduced at Moms program

2015
- Parenting Program starts

2016
- Food shelf opens
- "Playtime" opens at treatment program

2017
- Pediatric visits start
- Nutrition and Health Education begins
- Naloxone distribution

2018
- Women's Intensive Outpatient Program launched
- Circle of Security program
- Dental program starts

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Program Goals

- Increase access to substance use treatment and comprehensive behavioral health care for pregnant and parenting women
- Increase the number of parenting women in sustained recovery by providing needed services, including early childhood intervention, access to housing, and other supports
- Improve outcomes for women with substance use disorders and their children
- **Work with our patients and across disciplines to develop a new model of care for pregnant and parenting women with SUD**

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Clinical Services

- Three levels of care, all centered around group therapy
  - Intensive Outpatient (3 hours per day, 3 days per week)
  - Outpatient (1-2 hours per day, 1-2 days per week)
  - Maintenance (1-2 hours per day, 1-2 days per month)
- Recovery Coach Support
- Medication for OUD with buprenorphine/naloxone
- Perinatal psychiatric evaluation and treatment for co-occurring disorders
- Prenatal, postpartum and well-woman care
- Pediatric care
- <u>All services are offered concurrently in a single location</u>

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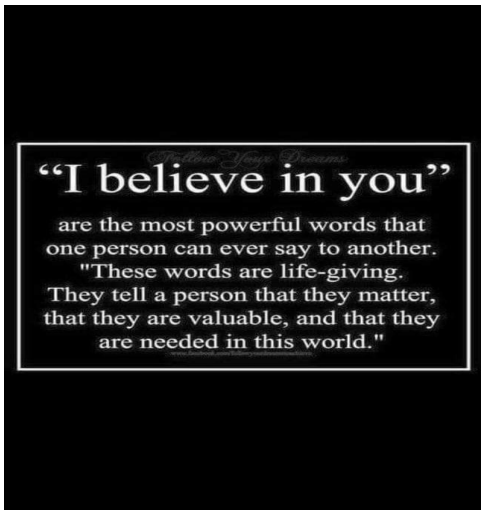
Central Role of the Recovery Coach at Moms in Recovery



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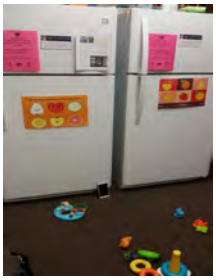
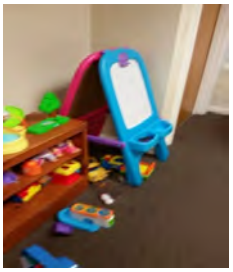
Other Services at *Moms in Recovery*

- Case management
- Health education
- Dental program
- Food pantry
- Healthy snacks
- Nutrition education

- Children's program
- Diaper bank





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Program Outcomes (2013-2018)

- Women received an average of 14.9 prenatal care visits
- Average pregnancy weight gain: 24 lbs
- Average length of gestation 38.6 weeks (full term!)

- Average length of stay for newborns 6 days
- 13.6% of newborns required medication for treatment for NOWS
- 73% of newborn drug tests were negative for non-prescribed substances [primary substance detected = cannabis]

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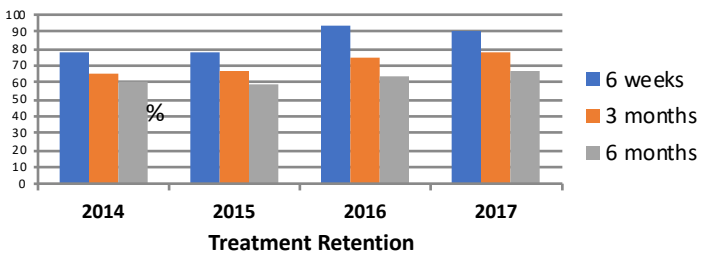
Positive Outcomes for Mothers

- Moms in Recovery has served 135 pregnant women since 2013
- Average gestational age at delivery > 38 weeks
- High rate of continued engagement postpartum
  - 93% in treatment at 6 weeks postpartum
  - 74% at 3 months postpartum
  - 63% at 6 months postpartum



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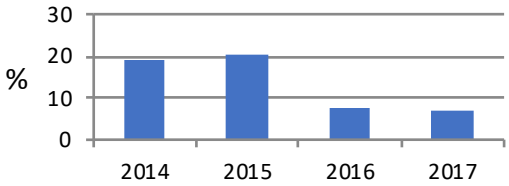
Positive Outcomes for Babies

- Average birth weight > 3,000g
- > 70% initiate breastfeeding
- Mothers "room-in" with newborns and supported as primary caregivers
- 3 day reduction in length of stay when treatment for neonatal withdrawal is required
- Reduced need for NAS treatment



NAS Treatment Rate

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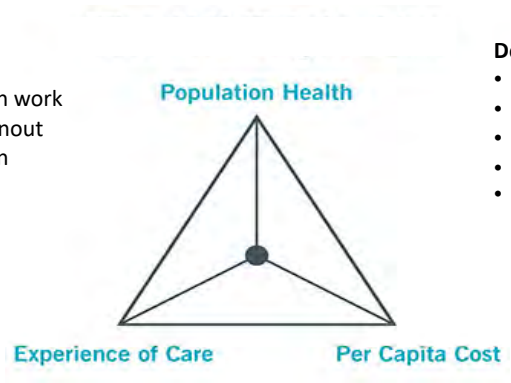
Triple Aim Goals for Treating Perinatal Substance Use

The Fourth Aim
- Increase joy in work
- Decrease burnout
- Co-production



Decrease morbidity and mortality
- Preterm birth
- Infectious disease
- Neonatal withdrawal
- ACES
- Overdose

Improve Quality
- Co-designing prenatal care and substance use treatment
- Reducing stigma
- Increasing trust in healthcare and healthcare providers

Reduce the cost of care
- NICU admissions
- Emergency Department visits
- Injection-related morbidity
- NAS treatment duration

40

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An Example of Co-production in Action:
Developing Nutritional Support at Moms in Recovery

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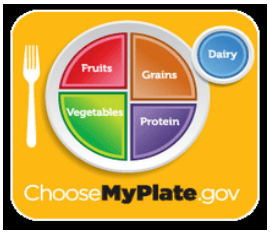
Co-planning

- Nutrition is critically important during pregnancy to support healthy fetal development
- People who use drugs often suffer from nutritional deficiencies, particularly vitamins and iron
- Nausea and constipation are common side effects of treatment medications



USDA Recommendations for Pregnant Women

- **We invited women to a focus group to discuss barriers to eating healthy foods**
  - Not knowing what is healthy
  - Not knowing how to cook
  - Confusion about which foods are covered under WIC
  - No money for food and no place to cook it

https://www.choosemyplate.gov/nutritional-needs-during-pregnancy

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Co-Design: A Self-Care Cookbook

- Participants identified a **cookbook** as their preferred way to learn about nutrition
- The *Self-Care Cookbook* was co-designed by two Moms in Recovery participants, working with a student from The Dartmouth Institute
- Feedback about content was elicited from the larger group
- The cookbook uses ingredients available from the food shelf at the Moms program and options that were easy to cook or didn't require cooking

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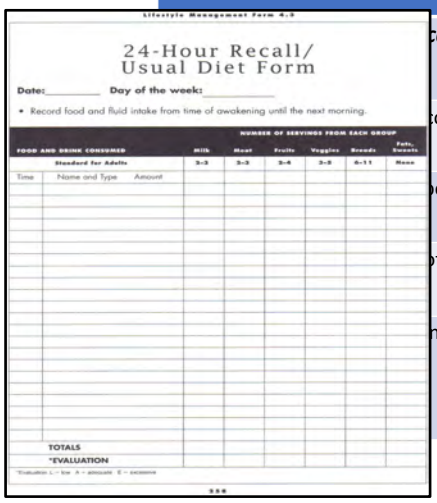
Measures

- Nutrition self-efficacy Scale
- 24-hour diet recall

Distribution of Daily Intake by Food Group for Focus Group Participants

Nutrition Self-Efficacy Scale
1= definitely not 4=Exactly true

can manage to	
ook?	2.83
es?	2.67
t of	2.67
nt or buying	2.67



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Coproducing Nutrition Education at Moms in Recovery

Monthly "cooking class"

- Led by staff of local homeless shelter
- Recipes requested by Moms
- Reading nutrition labels
- Food prep demonstration
- Focus on mobile cooking skills:
  - ➢ One-dish meals to cook anywhere
  - ➢ Healthy eating with a microwave
  - ➢ Staying hydrated vs energy drinks
  - ➢ Finding nutritious food at a gas station

Items to bring home

- ➢ Crock pot
- ➢ Cutting board
- ➢ Grater
- ➢ New recipes

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Lessons Learned

- ➢ Women want to engage in treatment and prenatal care
- ➢ Women lack basic resources for themselves and their children
- ➢ A multidisciplinary, team-based approach facilitates access to treatment, positive outcomes, and long term retention
- ➢ The more services we provide on-site, the better

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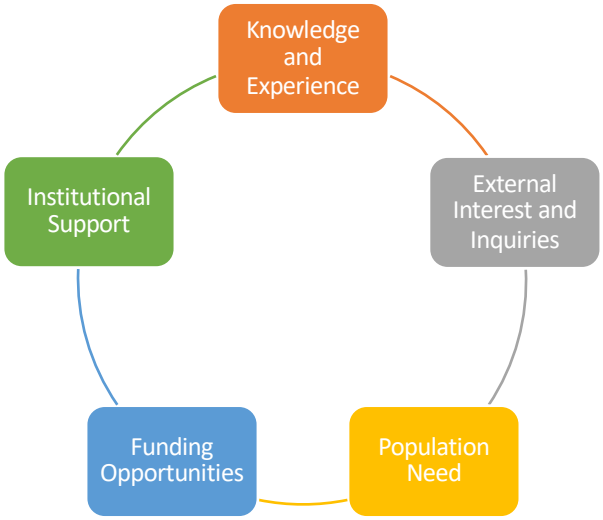
Expanding our Work



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CLINICAL SERVICES	RESEARCH	DISSEMINATION & IMPLEMENTATION	ADVOCACY & POLICY	EDUCATION
Integrated treatment	Implementation science	Quality improvement learning collaboratives	State and federal policy	Health professionals and students
Opioid exposed newborn care	Improvement science	Evidence based practice guidelines	Professional organizations	Patients and families
Recovery friendly medical care	Community engaged research	System redesign	Payment reform	Community partners
Provider consultation		Community partnerships		

Dartmouth-Hitchcock

Summary

- Pregnancy represents a unique opportunity to transform outcomes for families
- Many factors complicate treatment of perinatal substance use- listening to our patients and codesigning care is essential!
- Moms in Recovery is a patient-centered model which strives to meet the complex needs of women and families
- Program outcomes demonstrate the value added by enhanced services that are patient-driven and relevant
- Health policy should focus on maximizing treatment access and case management at the point of care

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"When problems are very complex, ill-defined, require sourcing knowledge from multiple disciplines or locations, and require different levels of expertise, groups can outperform individuals."

http://www.ahrq.gov/research/findings/final-reports/learningcollab/learning3.html#fig2

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Dartmouth-Hitchcock Moms in Recovery

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