Responding to Substance Use Disorder – Pregnant and Parenting Women

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Objectives

- Describe eligibility for Soft Landing Program participation
- Identify services offered through the Soft Landing Program
- Describe care across the continuum for the pregnant patient
- Describe Medication Assisted Treatment (MAT) for the pregnant patient
- Describe Neonatal Opioid Withdrawal Syndrome and treatment for NOWS

Soft Landing Program

Jami Geist, MEd, BA

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Soft Landing Program

Center for Opioid Excellence (COE) and Women's Health Center (WHC)

- Started in 2021
- Staff from the Women's Health Center and the Opioid Use Disorder Center of Excellence knew that extra help was needed for pregnant & postpartum patients.
- When grant funding became available through Department of Drug and Alcohol Programs (DDAP), they applied and were approved.
- Now funded by the Council on Chemical Abuse (COCA)

Soft Landing Program

Eligibility

- Pregnant/postpartum with Substance Use
- Can be recent/current use or past use
- Includes people on Medication Assisted Treatment (MAT)
- Can include prescription medications (Adderall, Oxycodone, etc.) on a case-by-case basis
- Up to youngest child's 3rd birthday

Soft Landing Program

"Extra Help"

- Compassion
- Care Coordination
- Therapy
- Recovery Coaching
- Assistance with Plans of Safe Care
- Home visitors
- Transportation
- Childcare
- Contingency Management

Soft Landing Program

Care coordination

- Connection
- Help people get into treatment
- Refer for services
- Reminders
- Support in the Children and Youth process
- THERAPY

Soft Landing Program

Contingency Management

- Participants earn tickets by attending appointments
- Tickets are redeemed for supplies from the incentive closet

Soft Landing Program

Potential impact of substance use

Alcohol	Cannabis	Stimulants
• Fetal Alcohol Spectrum Disorders	• May affect brain development • Lower birth weight • Higher chance of stillbirth • Preterm delivery	• Preterm delivery • Pre-eclampsia • Placental abruption • Intrauterine Growth Restriction (IUGR) • Maternal cardiac problems/pulmonary edema

Soft Landing Program

Maternal Mortality

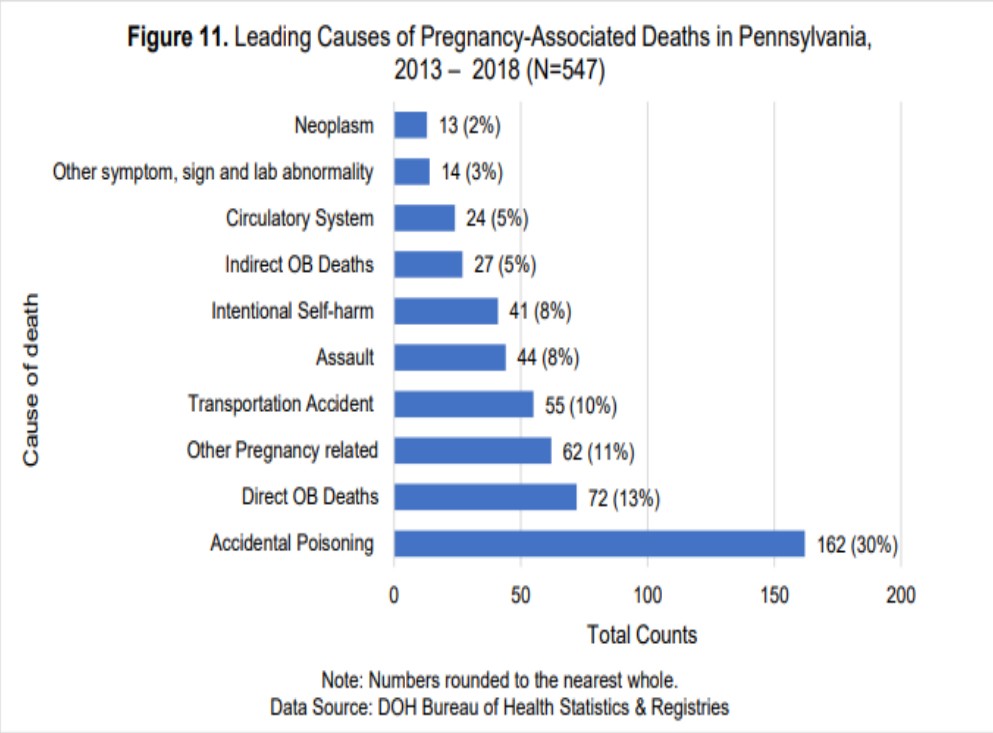

Table 1: Categories of Leading Causes of Death for 2020 Pregnancy-Associated Deaths (n=107)

Category	n(%)
Mental health condition	48 (45%)
Injury	32 (29%)
Cardiac and coronary condition	7 (6%)
Embolism	5 (5%)
Pulmonary condition	4 (4%)
Hemorrhage	4 (4%)
Undetermined	3 (3%)
Metabolic/endocrine condition	1 (1%)
Cancer	1 (1%)
Cerebrovascular accident	1 (1%)
Infection	1 (1%)

Soft Landing Program

- 149 program participants from Berks, Chester, Montgomery, and Lancaster counties
- 150 referrals provided with program information
- Of 113 babies born, 85% went home with their mother

Care for Pregnant Moms with Substance Use

Dr. Holly Metzgar, DO, FACOG, MSCP

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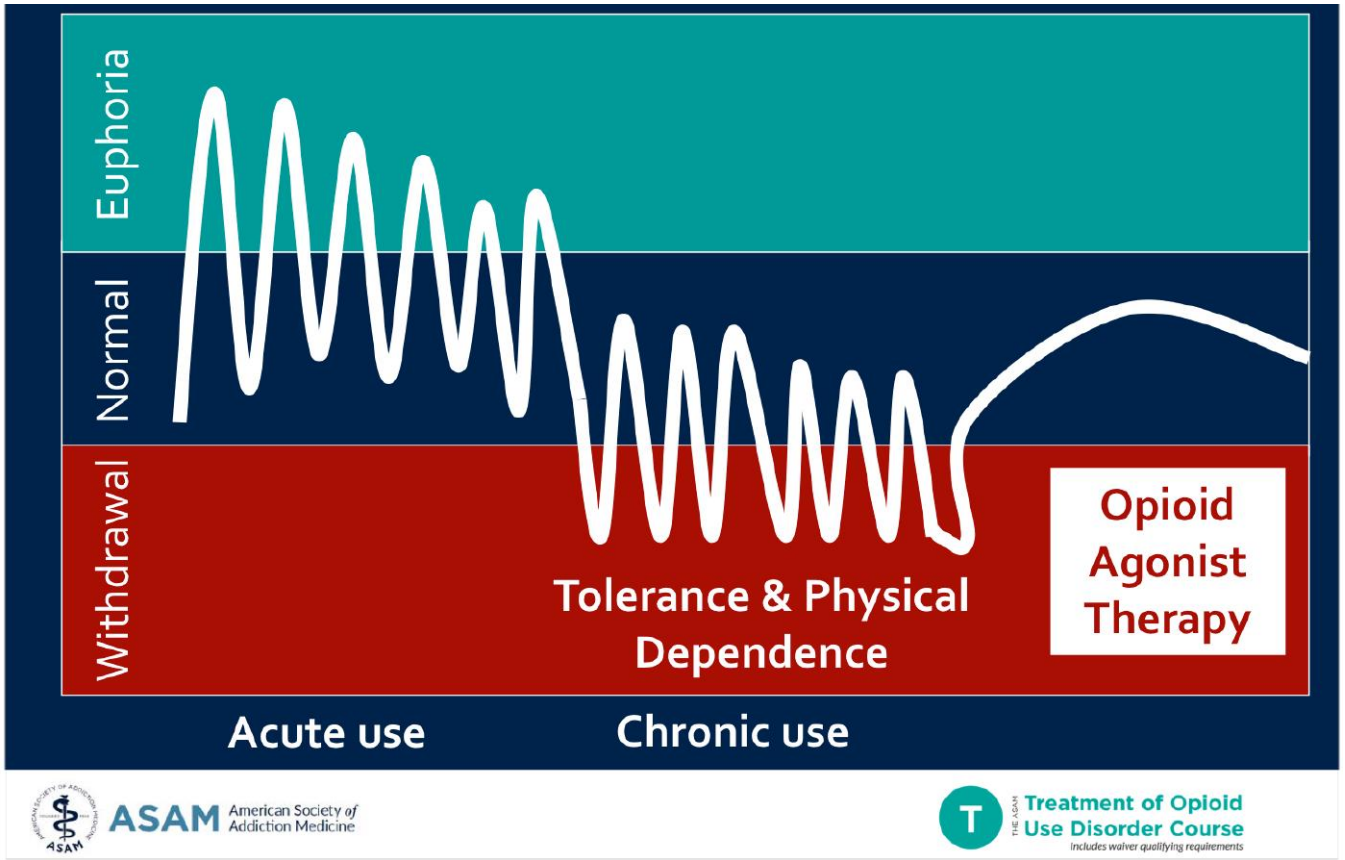
Screening for Substance Use in Pregnancy

- First prenatal visit
- Universal screening
  - **Substance use affects all racial, ethnic and socioeconomic groups**
- Ask about alcohol and drug use
  - **Prescription opioid use**
  - **Medications used for non-medical reasons**
- Caring and nonjudgmental approach
- Screen patient alone

Prenatal Care

- Testing for infectious agents
- Screening for depression
- Screening for tobacco use
- Multi-disciplinary team: anesthesia, addiction medicine, maternal fetal medicine, behavior health, social services, pediatrics
- Encourage breastfeeding if clinically appropriate
- Consider prenatal neonatal consultation to discuss postdelivery care of infant

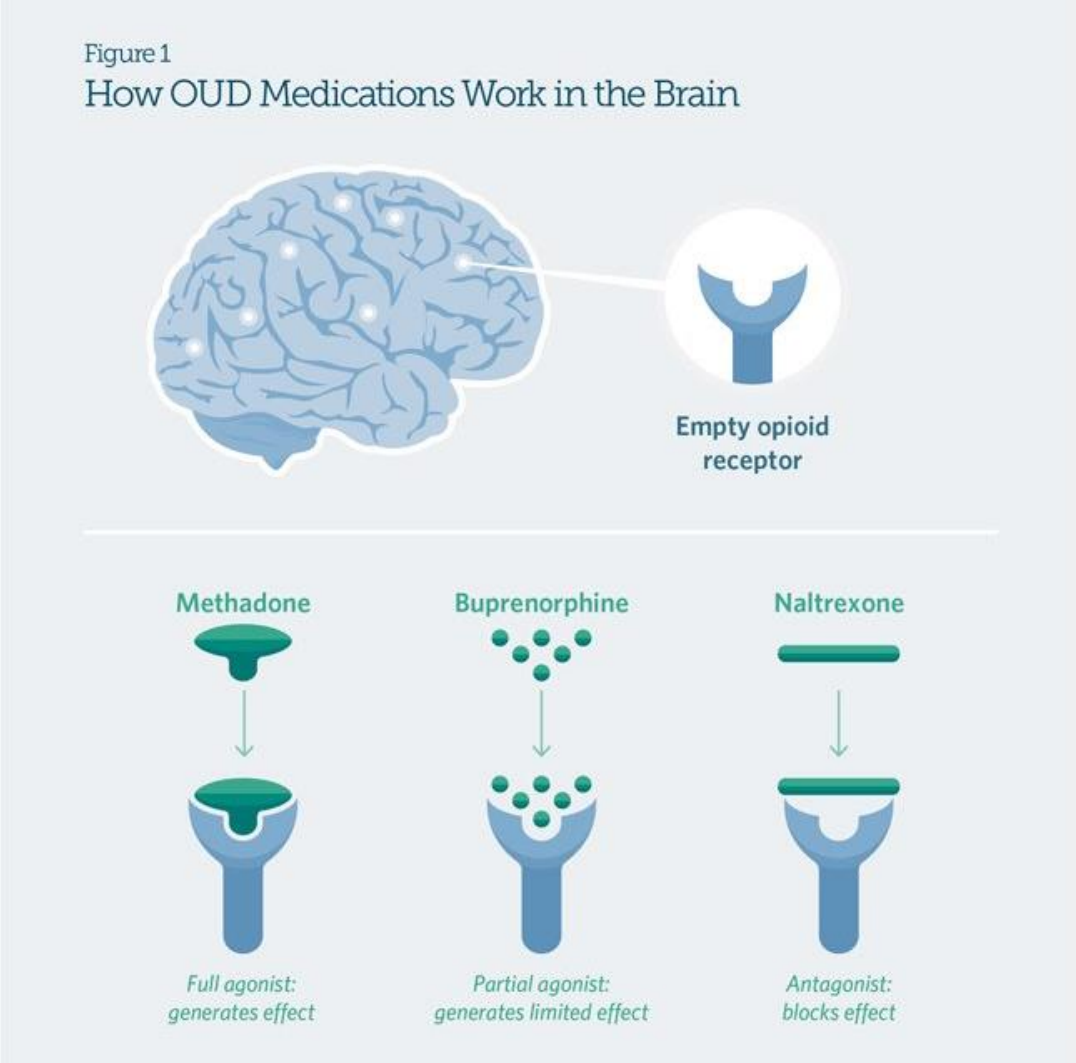
Physiology of Opioid Use



Medication Assisted Therapy (MAT)

Dopamine Receptor

- Full agonist
- Partial agonist
- Antagonist



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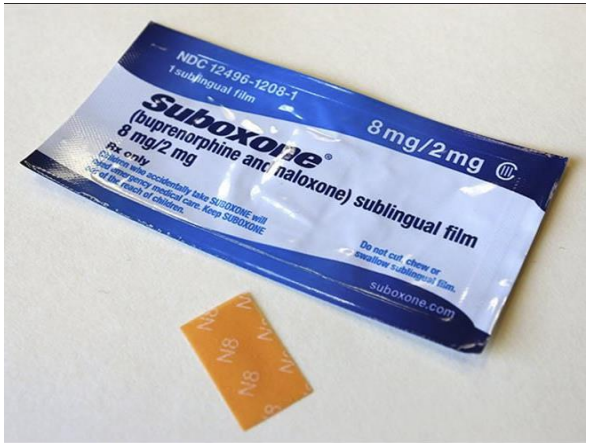
Buprenorphine/Naloxone (Suboxone)

- Combination of buprenorphine (partial agonist) and naloxone (antagonist)
- Sublingual film or pills: daily
- Lowers risk of diversion
  - Severe withdrawal precipitated by injection
  - Naloxone is not orally active



Naloxone (Narcan)

- Short acting opioid antagonist
- Rapidly reverses effects of opioids
- Life-saving in opioid overdose setting
- Formulations: intravenous (IV), subcutaneous, auto-injector, nasal spray

Treatment in Labor

- Continue maintenance opioid agonist dose
- Offer neuraxial analgesia when appropriate for management of pain
- Avoid opioid agonist-antagonist medications due to risk of precipitating acute withdrawal
- Patients will require higher doses of opioids to achieve analgesia due to tolerance
- Optimize multimodal pain control

Treatment Postpartum

- Breastfeeding is beneficial
- Significant dose reductions postpartum not done routinely
- Risk of relapse highest postpartum
- Discussion of full range of contraceptive options
  - **Unintended pregnancy rates approximately 80%**

Neonatal Opioid Withdrawal Syndrome

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The Impact in Pennsylvania

- 2018: Neonatal Abstinence Syndrome (NAS), now known as Neonatal Opioid Withdrawal Syndrome (NOWS), was first reported under the Opioid Emergency Declaration in Pennsylvania
- Calendar year 2018; first year of NAS reporting under the Opioid Emergency Declaration; 2,140 cases meeting NOWS definition
- 2020: 82 of 90 birthing centers in the state participated in reporting NOWS
  - 1825 cases met NOWS definition
  - Incidence 14 per live 1000 births (Bureau of Family Health and Bureau of Epidemiology, 2022)

Neonatal Opioid Withdrawal Syndrome

- NOWS
  - Constellation of symptoms associate with opioid withdrawal
    - Neurologic
    - Gastrointestinal
    - Musculoskeletal
  - Timing varies

NOWS: History

- 1872: Germany
- 1892: United States (US)
- 1912: “congenital morphinism”
- Mortality: > 33% treated, > 90% nontreated
  - Treatments
    - Mother blow opium smoke in infants face
    - Mother continues opium, nurses baby
- 1964: Infant addiction/congenital neonatal addiction
  - Methadone treatment becomes widely available
- 1975
  - Neonatal Abstinence Syndrome (NAS) defined
  - Finnegan Scoring created
  - Weight-based treatment schedule
    - Paregoric (opioid) or phenobarbital

Finnegan Scoring

- Limitations
  - Needs considerable training to preserve sensitivity/specificity
  - Interscorer variability
  - Highly Subjective
  - Different weighting not validated
  - Little data about internal consistency, reliability, sensitivity, specificity
  - Ability to apply to older babies
  - Excoriation less common
  - Requires disturbing infant (unswaddling, etc.)

NOWS

- Protecting Our Infants Act of 2015 (Piccotti et al., 2019)
- Clinical signs and symptoms of Maternal Opioid Use Disorder (MOUD)
- Neonatal consequences of MOUD
- Long term outcomes for neonates

Treatment of NOWS

- American Academy of Pediatrics (AAP) recommends protocols for treatment
- Recommended observation time three to seven days prior to discharge
  - Five full days is standard
- Patients with NOWS diagnosis are 2.5 times more likely to be readmitted

Historical Treatment at Reading Hospital

- Prior to March of 2020 all patients with an NOWS diagnosis were admitted to the NICU
- Confirmation by urine toxicology screen
- Increased lengths of stay (LOS) and treatment (LOT)

Neonatal Intensive Care Unit

Changes to Improve Care

- 2014: collaboration with Neonatal Intensive Care Unit (NICU) staff and social worker in the Women's Health Center (WHC)
  - Prenatal education sessions occurred 1:1
  - 60-minute sessions altered to every other month in a group setting with support system present
  - Include multidisciplinary personnel:
    - Nursing
    - Physical Therapy (PT)
    - Early Intervention
    - Children and Youth Services
    - Social Services

Reading Hospital

- Evidence Based Practice (EBP) project completed in 2016 to determine where is best to care for newborns with NOWS
- Prenatal meetings and education sessions with expectant parents and support systems
- In March of 2020, care was transitioned to Eat, Sleep, Console (ESC) on the post partum and pediatric floors

Caring for a Baby with NOWS

Yale-New Haven Study

Hospital Pediatrics

AN OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

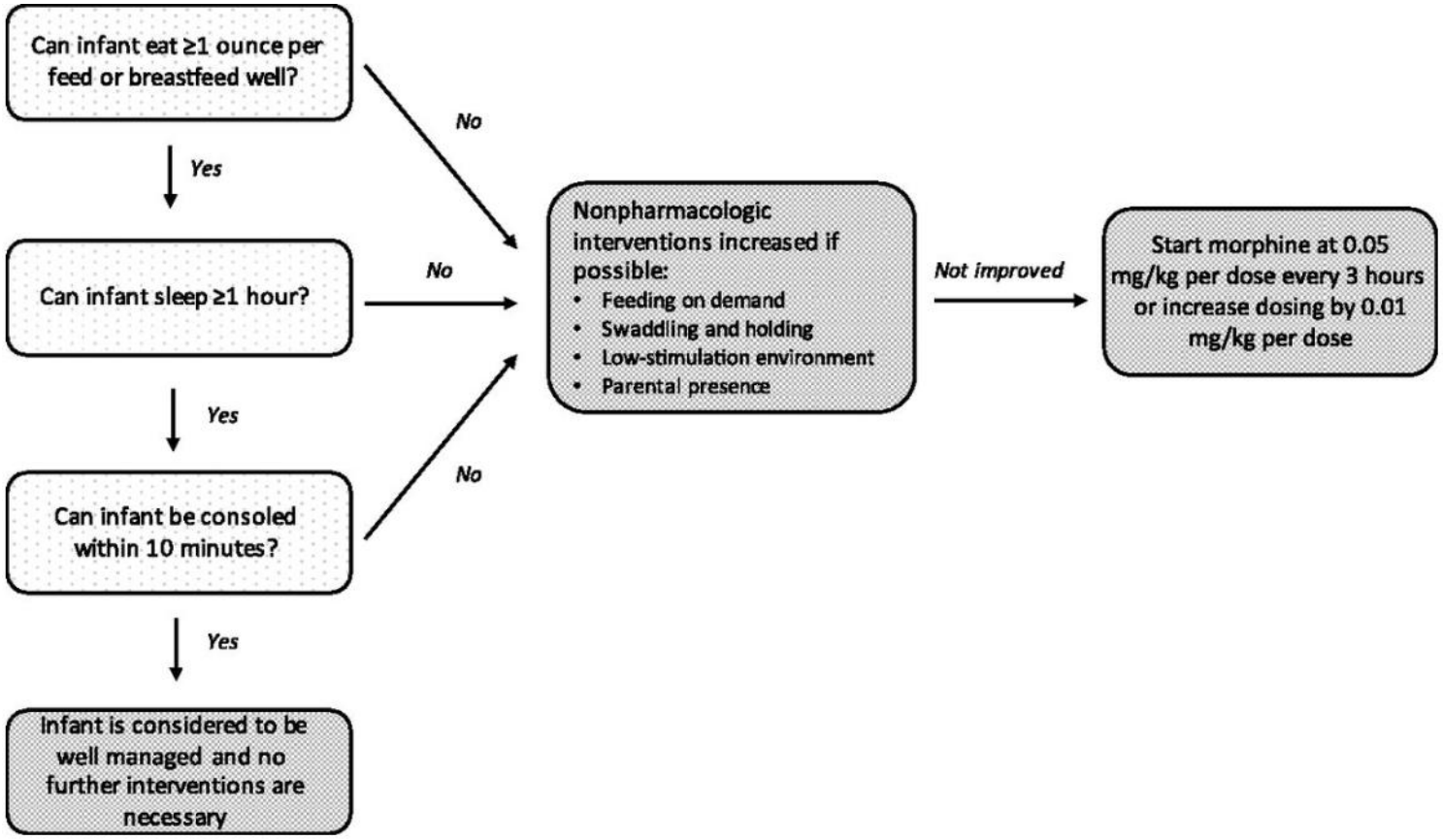
Research Articles

A Novel Approach to Assessing Infants With Neonatal Abstinence Syndrome

Matthew R. Grossman, Matthew J. Lipshaw, Rachel R. Osborn and Adam K. Berkwitt

Hospital Pediatrics January 2018, 8 (1) 1-6; DOI: https://doi.org/10.1542/hpeds.2017-0128

Eat, Sleep, Console



Grossman 2018

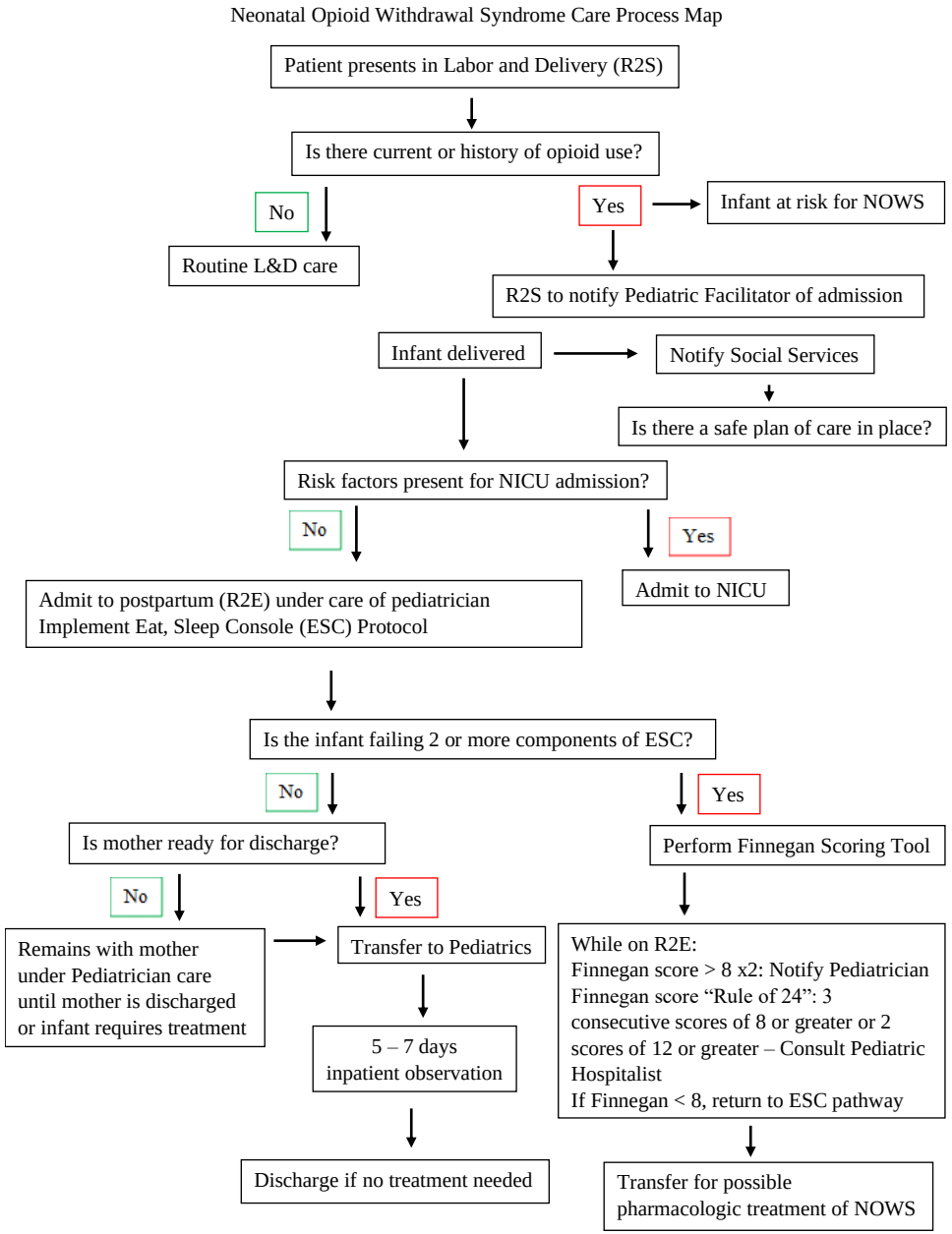
Eat, Sleep, Console

- Parent or support person
  - Rooming in
- Low stimulation environment
  - Private Room
- Consistent support
- Bonding
- Breast Feeding
- Ancillary services
  - Music therapy
  - PT/Massage

Eat, Sleep, Console

- Benefits
  - Significantly decreases length of stay
  - Decreases need for pharmacological treatment
  - Family involvement is encouraged
  - Focus is on infant functionality
  - Breastfeeding rates are increased
    - A 10% decrease in length of stay was noted for breastfed infants
- Challenges
  - No long-term data on neurodevelopmental outcomes or growth and development of infants affected by NOWS

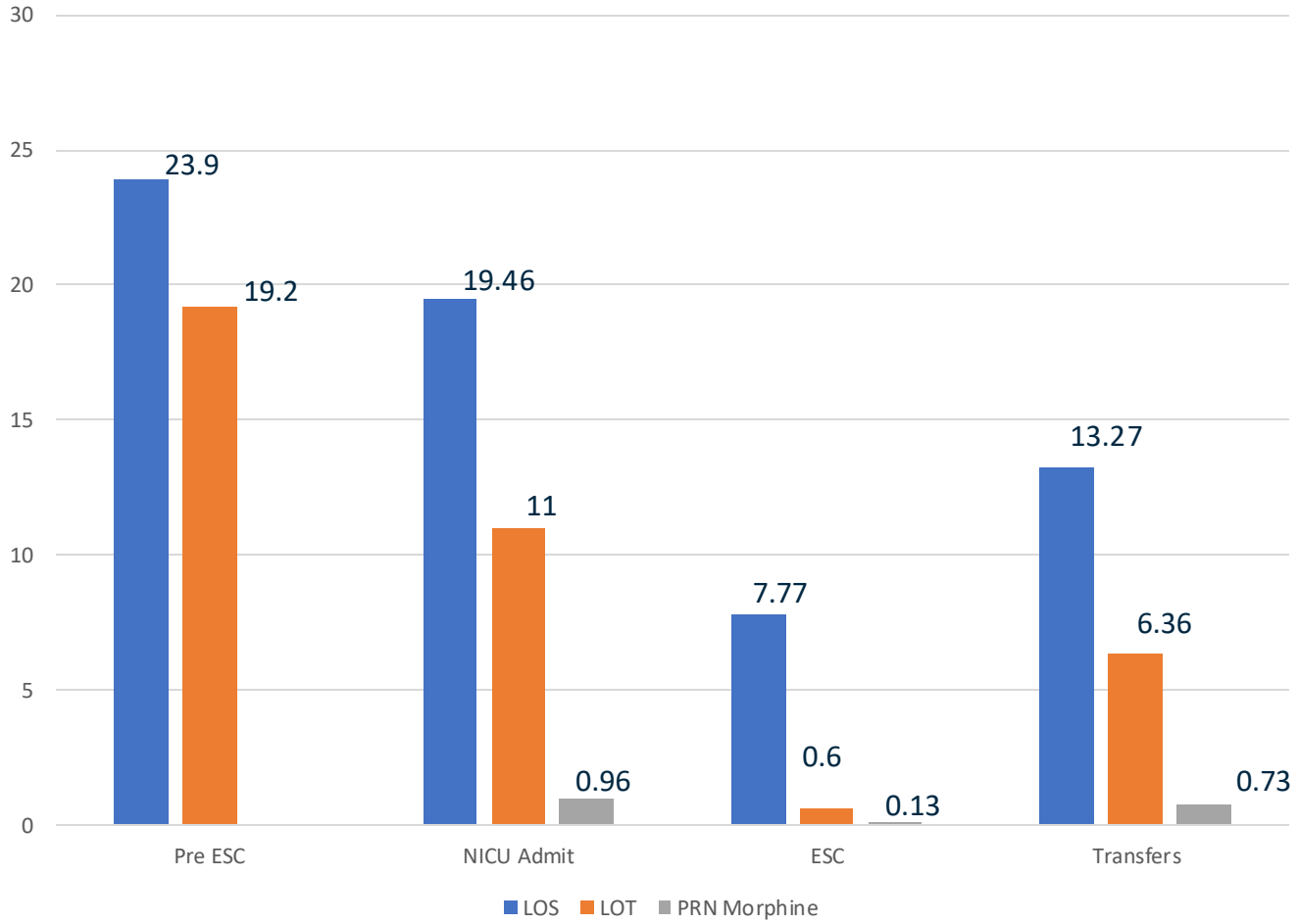
Postpartum and Pediatric Management of Neonatal Abstinence Syndrome



How Does the ESC Process Work?

- Infant remains with mother on post partum until:
  - Mother is discharged from the hospital
  - Infant needs to be started on medication
- Once mother is discharged or infant requires medication, the infant will be transferred to the Pediatrics Inpatient Unit for treatment, under services of Pediatric Hospitalists, and potentially cardio-respiratory (CR) monitoring
- Infant must remain inpatient for 5 full days for observation prior to discharge if no medication is required
  - Discharge will occur on day of life 6
  - If medication is initiated, length of stay will be prolonged
- Discharge may be delayed beyond day of life 6 pending medical stability

Neonatal Opioid Withdrawal Syndrome Treatment 2016 to Present



Pre-ESC: N = 154
Post ESC: N = 142

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Continued Interventions

- Involvement in the Pennsylvania Perinatal Quality Collaborative (PaPQC) Substance Exposed Newborn (SEN) initiative
  - Bronze status in 2023
- Ongoing evaluation of challenges and improvements
  - Nutrition therapy
  - Follow up
- Transfers from Phoenixville for ESC

Sharing Our Success

CLINICAL PRACTICE

Implementation of the Eat, Sleep, and Console Model of Care: A Quality Improvement Project

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ABSTRACT

A Southeastern, 741-bed acute care, Magnet designated teaching hospital and level III B NICU identified assessment and treatment concerns for Neonatal Opioid Withdrawal Syndrome (NOWS). In March 2020, a quality improvement project led to a multidisciplinary team formation to determine the effectiveness of the Eat, Sleep, Console (ESC) model of care in reducing the length of treatment (LOT) and length of stay (LOS) for neonates experiencing NOWS rather than use of the Finnegan Neonatal Abstinence Syndrome Scoring tool. The results concluded a decrease in the average LOT from 19.2 to 2.5 days and the average LOS from 23.9 to 9.3 days for those admitted directly into the ESC model of care on postpartum vs previous direct admission to the NICU. A group samples *t*-test showed there was a statistically significant decrease in LOS for ESC patients ($p < .001$) and LOT for ESC patients ($p < .001$).

Keywords: eat; sleep; console; maternal opioid use disorder; neonatal opioid withdrawal; non-pharmacological treatment; pharmacological treatment; withdrawal

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