Eat, Sleep, Console (ESC), Evidence Based Model of Care For NOWS

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Community Health Network

Disclosures

- I have no financial disclosures.

- The ESC Care Tool is used with permission from Boston Medical Center, Yale New Haven Children's Hospital, and Children's Hospital at Dartmouth-Hitchcock

Objectives

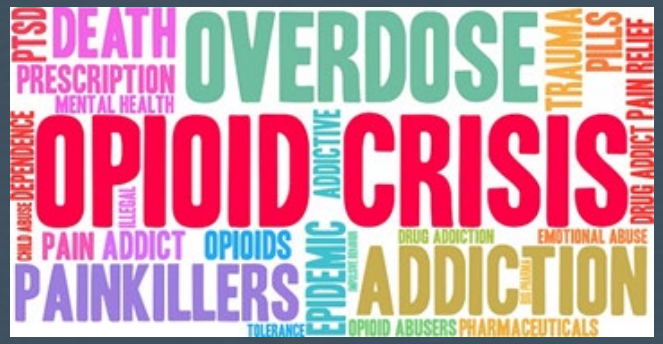
- Review Community Health Network's QI project to implement ESC
- Discuss toxicology screening/testing
- Define NAS/NOWS diagnostic criteria

Background

The opioid epidemic is a threat to public health

NAS rates ↑ 6-fold: 1.2 (2000) to 7.3 (2017) per 1000 live births

IN 2017 rate 10.4 per 1000 live births



Finnegan neonatal abstinence scoring system (FNASS) 1970's

- on-going training required to achieve inter-rater reliability
- cut-off for treatment never validated, used to assess how well medication was working

Provide better care of infants with NOWS/NAS

CHE started in 2015 CHOICE (Change, Hope, Overcome, Inspire, Compassion, Educate)

- response to increasing numbers of women with SUD in the community
- comprehensive care

2017 NANN conference: Dr. Grossman's presentation ESC

Early ESC Studies…WOW! RESULTS!

Out with the OLD and in with the NEW

Modified Finnegan (FNASS)

Feeding Mottling

Yawning Stuffiness

Sweating Excoriation Stools

Reflex Jerks

Nasal Flaring **Sleep** Tremors

Hyperthermia Convulsions

Cry Respiratory Rate

Sneezing Vomiting Sucking

Eat, Sleep, Console (ESC)

Eat

Sleep

Console

Project Aims

- Does the implementation of ESC:
  - Decrease the number of infants treated with medication
  - Decrease the length of post-natal medication treatment
  - Decrease the LOS/NICU LOS

Methods

QI project with IRB approval

Compared baseline data (2018) vs study period (9/16/19-9/12/20)

RNs: ESC education, Providing Compassionate Care to Pregnant Women with SUD, & Trauma-Informed Care=4 hours

Providers: ESC education

Subjects: Neonates ≥ 36 weeks GA

CHE: Maternity and NICU

CHN: NICU

Study Procedures

Infants were assessed if Mother's admission screening was positive

- Verbal admission to use
- + toxicology anytime during pregnancy
- + toxicology upon admission to L&D
- + Infant toxicology (UDS)
- Exposure to opioids and/or benzodiazepines

What is ESC?

Function-based model of care and assessment of infants with NOWS

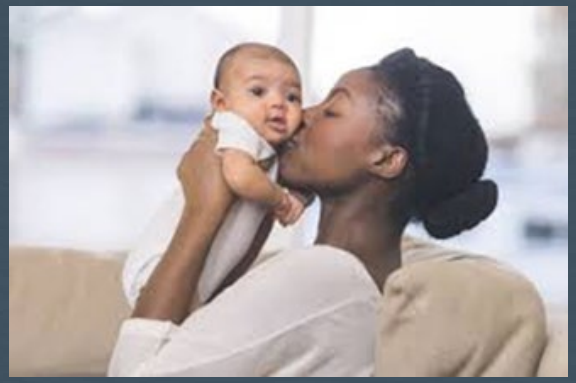
Optimizes the neonate's functioning by maximizing nonpharmacologic interventions

- rooming-in, skin-to-skin, breastfeeding, feeding with early cues, holding, safe swaddling, rhythmic movement, additional support person in room, clustering care, parent self-care, low-stimulation (noise and light), non-nutritive sucking

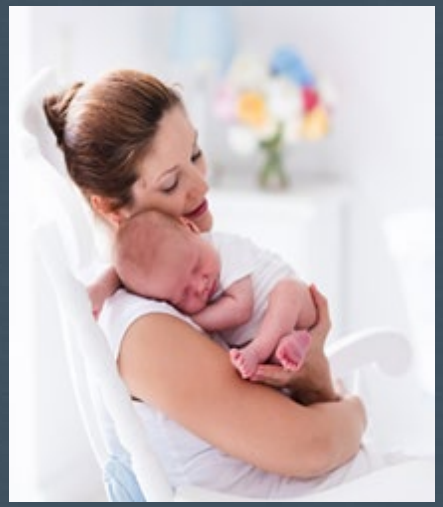
Reserve medication treatment ONLY of neonates who are unable to eat, sleep, console despite maximal nonpharmacologic care

Principles of ESC

- Mother and baby must be together



- Treat the baby like a baby



- Treat the mom with the same respect you would any other mom

ESC Assessment Instructions

- ≥ 35 weeks GA
- Opioid and/or benzodiazepine exposure
- Initial assessment within 4-6 hours of birth
- Ongoing assessments every 3-4 hours after feeding
- Optimize non-pharmacologic care
- Team huddle
- Full care team huddle
- Pharmacologic treatment

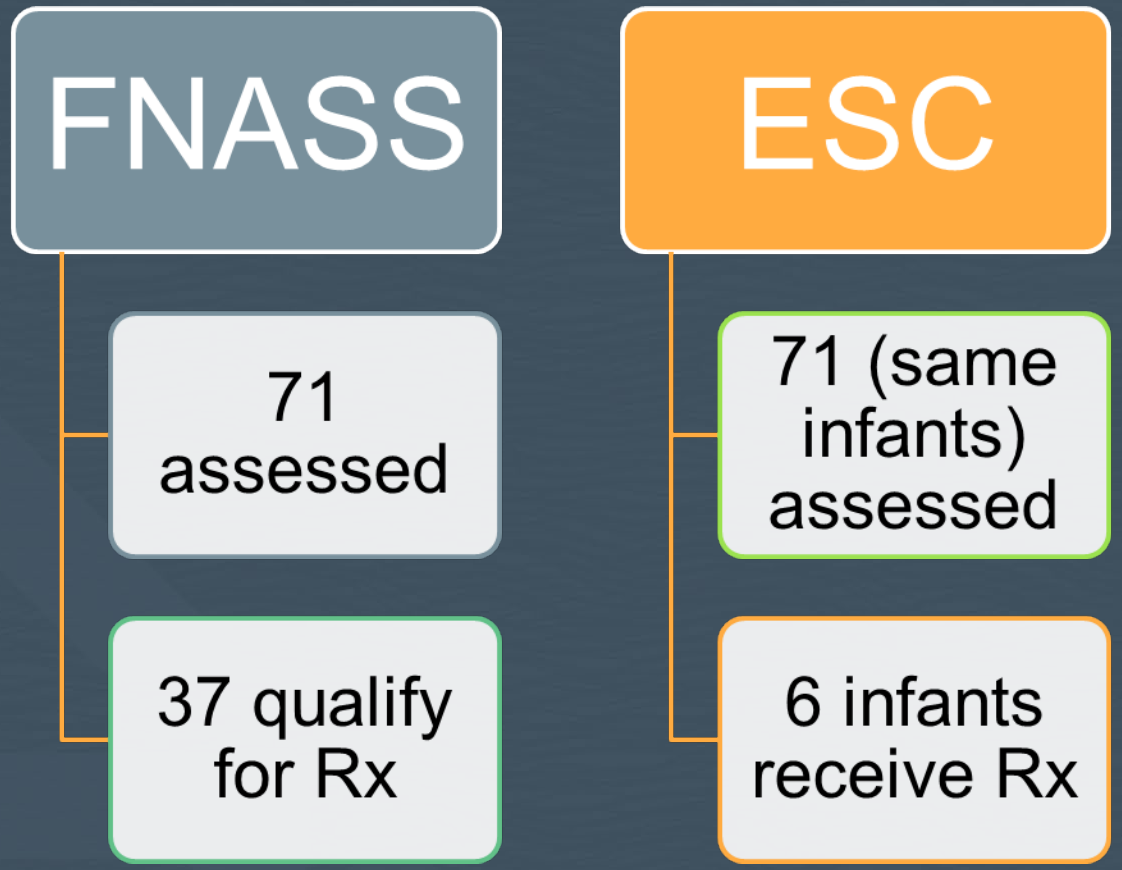
Results: Descriptive Statistics

	Baseline Period (n = 4,475)	Study Period (n = 4,544)
Infant: Gestational Age	39.0 weeks	38.9 weeks
Infant: Birth weight	3.3 kg	3.3 kg
Infant: Gender	48.9% female 51.1% male	48.8% female 51.2% male
Infant: Race	1.7% Asian 32.8% Black 1.6% Other 63.9% White	2.1% Asian 32.9% Black 4.2% Other 60.8% White
Infant: Polysubstance Exposure	0.7%	0.6%
Mother: MAT Program Participation	0.7%	1.2%

Results: Outcome Statistics

	Baseline Period (n = 4,475)	Study Period (n = 4,544)
Percentage of Infants Scored/Assessed for Withdrawal	16.4%	21.1%
	Baseline Period: Scored Infants (n = 735)	**Study Period: Assessed Infants** (n = 961)
Length of Stay	3.4 days	2.9 days
NICU Length of Stay	30.0 hours	20.5 hours
Percentage of Infants Requiring Pharmacological Intervention	4.6%	1.1%
	Baseline Period: Treated Infants (n = 33)	**Study Period: Treated Infants** (n = 11)
Total Pharmacological Hours	347.9 hours	276.5 hours

Results


FNASS
71 assessed
37 qualify for Rx
ESC
71 (same infants) assessed
6 infants receive Rx

Findings

- The implementation of ESC:
  - *sees a statistically lower number of opioid exposed infants treated with medication than the baseline data ($p < 0.0001$)
  - does not result in a statistically shorter length of post-natal opiate treatment than the baseline data ($p = 0.42$)
  - *sees a statistically lower length of stay ($p < 0.0001$) as well as a statistically lower NICU length of stay ($p = 0.04$) than the baseline data

Discussion

Our results support previous research findings

↓ LOS, ↓ neonates needing pharmacotherapy

Parental satisfaction and opportunities for education

Team approach

Balancing Metrics: seizures and 30-day readmits for NOWS

- 1 infant born at home with + meconium and encephalopathy
- No readmits into our network

Limitations

COVID: restrictions on visitors, no cuddlers

Retrospective review

Inability to track parental presence

Lesson Learned

Start the discussion early in pregnancy

How to assess when there is no parent providing care

Staffing issues vs. RN needing to provide nonpharmacologic care

Current State

- CHNw adopted ESC across all sites December 2021
- Education provided for Inpatient Neos, NNPs, Pediatricians, RNs
- Education provided for Outpatient Pediatricians/Family Medicine
- NAS diagnosed infants are scheduled with the Developmental Clinic
- CHOICE program follows their patients 12 months post delivery

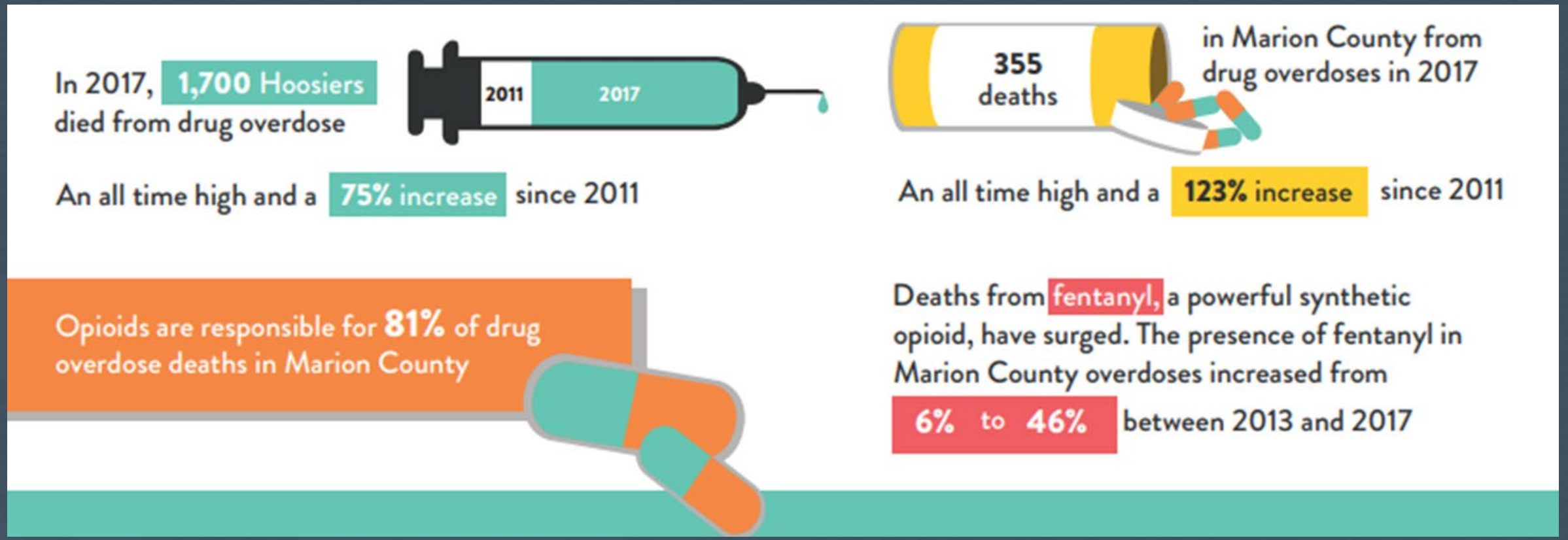
- Working on getting ESC information to OB offices

Screening and Testing

- Prenatal Screening for Substance Use
  - Initial prenatal visit >> Verbal Screen >> UDS
- Admission to Labor and Delivery
  - UDS on all patients-universal screening
  - Positive screening>>consult to Social Work/Case Manager and CHOICE provider (to evaluate readiness for recovery services)
- Infant screened: UDS and Cord
  - Mom + verbal screening and/or + UDS
  - Mom refuses UDS on admission
  - No/limited PNC
  - Exhibiting signs/symptoms of withdrawal

Per Community Health Network Nursing Policies (Maternal and Infant)

Addition of Fentanyl to UDS Profile



Indiana University Richard M. Fairbanks School of Public Health. The Changing Landscape of the Opioid Epidemic in Marion County and Evidence for Action. October 2018

NAS/NOWS Diagnostic Criteria

- An infant who is:
  - Symptomatic (tremor/jitteriness, difficult to console, poor feeding, or abnormal sleep)

    AND

  - Has one of the following:
    - A positive toxicology test OR
    - A maternal history with a positive verbal screen or toxicology test

IPQIC Perinatal Substance Use Practice Bundle
https://www.in.gov/health/ipqic/files/NAS-Diagnostic-Criteria.pdf

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