



Implementing Eat, Sleep, Console in NICU, Mother Baby, and Pediatric Units



Northeast Georgia Health System

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Background

Neonatal abstinence syndrome (NAS) is a diagnosis of substance withdrawal in a neonate as a result of maternal chemical dependency⁷. Incidence of NAS in the United States 7 cases per 1,000 newborn hospitalizations². Between 2020-2022, Northeast Georgia Medical Center's incidence was 4.2 per 1,000 live births. Finnegan Neonatal Abstinence Scoring Tool (FNAST) was utilized throughout the health system prior to implementing Eat, Sleep, Console (ESC). FNAST contains 21-scoring categories to determine treatment of infant with NAS⁵. FNAST is proven to have a low inter-rater reliability³. ESC contains 3 scoring categories based off infant's physiologic function capabilities and focuses on non-pharmacologic comfort measures⁹.

	FNAST	ESC
Year established in Literature ⁶	1970s	2017
Scoring categories ⁸	21 –signs and symptom based	3 –physiologic function based
Licensed Personnel Needed ⁶	2 to verify score	1 to score
Diagnosing NAS ⁴	94.8% sensitivity	99.4% sensitivity
Treatment Threshold ⁴	60.3% specificity	40.2% specificity
Pharmacologic Management ⁸	When threshold is met, around the clock opioid is started	When a 'No' is scored, non-pharmacologic measures are maximized, then PRN dose of opioid is given
Reliability	Low inter-rater reliability even with extensive education ¹⁰	High inter-rater reliability – simple ⁹

Aim

To provide further evidence that implementing ESC can improve patient care by decreasing length of stay (LOS), number of morphine doses administered, and total hospital costs without increasing 30-day readmissions due to NAS.

Measurable Outcomes

- LOS
- Number of morphine doses
- Total hospital costs
- 30-day readmission rate of NAS infants

Methods

Type

- Retrospective Review; Institutional Review Board exempt

Sampling

- Convenience; March 1, 2019-March 21, 2022
- Infants born >35 weeks gestation with a NAS diagnosis and maternal drug screen positive for opioids or polysubstance

Exclusions

- Diagnosis that would extend LOS beyond NAS treatment
- Marijuana or amphetamines alone

Population: 2 hospital campuses.

- Campus 1: 35-bed level III NICU, 30-bed Mother-baby unit, and 18-bed Pediatric Unit.
- Campus 2: 8-bed level II NICU, and a 20-bed Mother-Baby Unit.

Tools and Instruments

- FNAST
- ESC Method

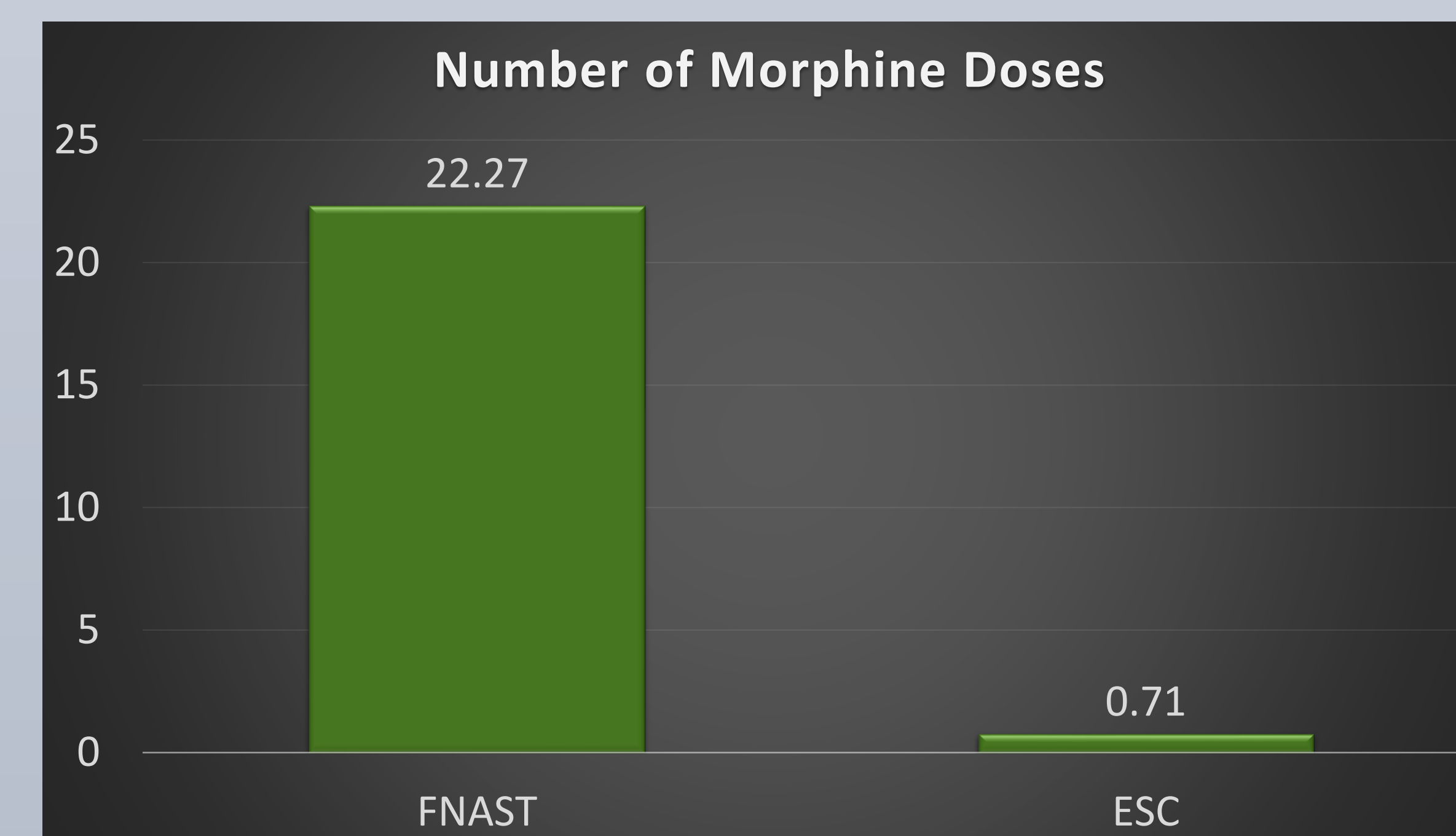
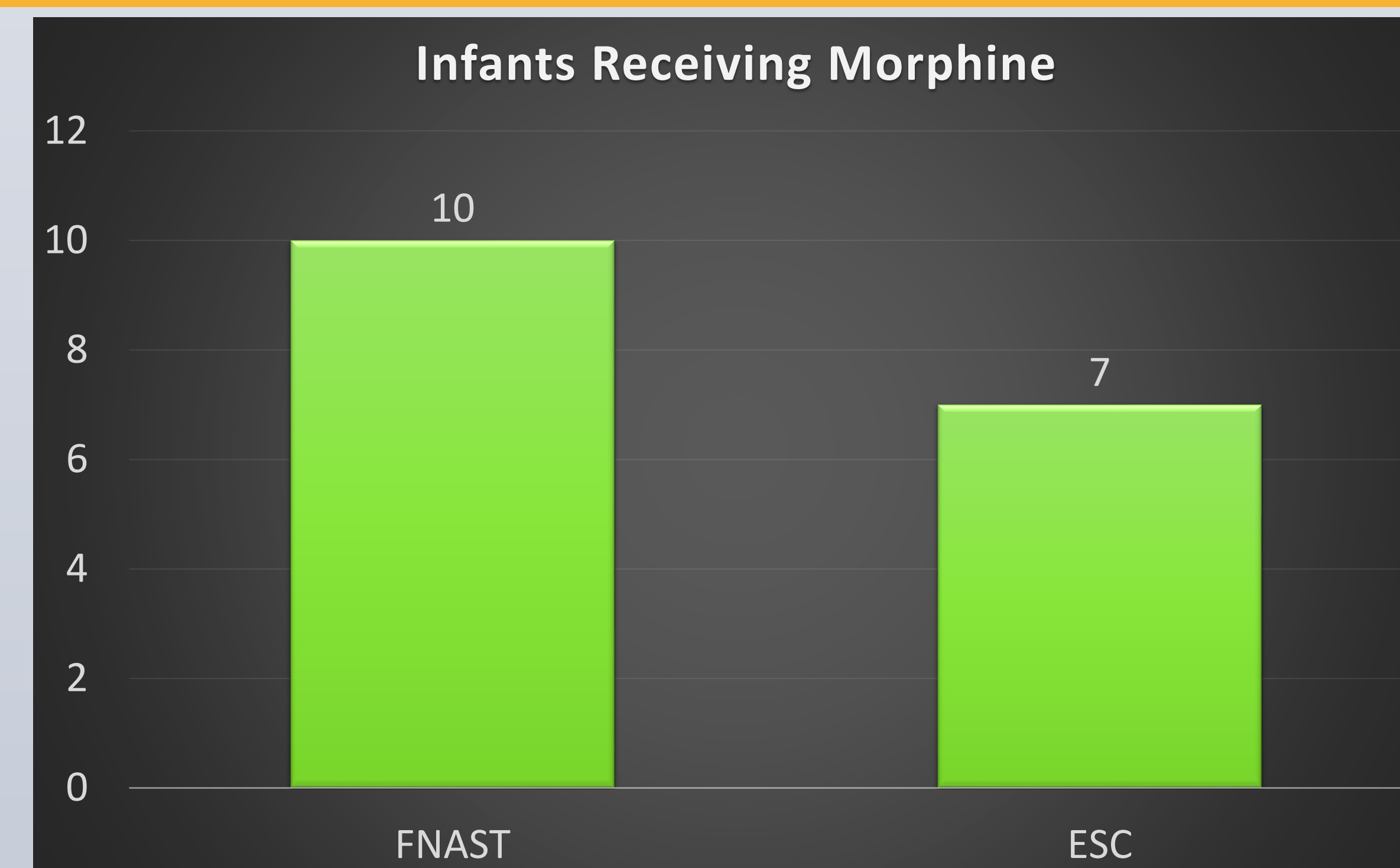
Intervention

- Evaluating outcomes, care delivery, and associated costs based on use of FNAST vs ESC implementation.

Demographics

Maternal and Infant Characteristics	n	%	M	SD
Maternal Age (years)	93	100	29.66	5.24
Infant Gestational Age (weeks)	93	100	38.6	9.59
Infant birth weight (kg)	93	100	3.1	0.51
Infant discharge weight (kg)	93	100	2.99	0.51
White	83	89.2	–	–
Black	9	9.7	–	–
Hispanic/Latino	2	2.2	–	–
Asian/Pacific Islander	0	0	–	–
Other	1	1.1	–	–
Married	27	29	–	–
Single	52	55	–	–
Other (Significant Other, legally separated, divorced, widowed)	14	15	–	–
Opioid Use	54	–	–	–
Polysubstance Use or Other	22	23	–	–
Medication Assisted Therapy	40	43	–	–

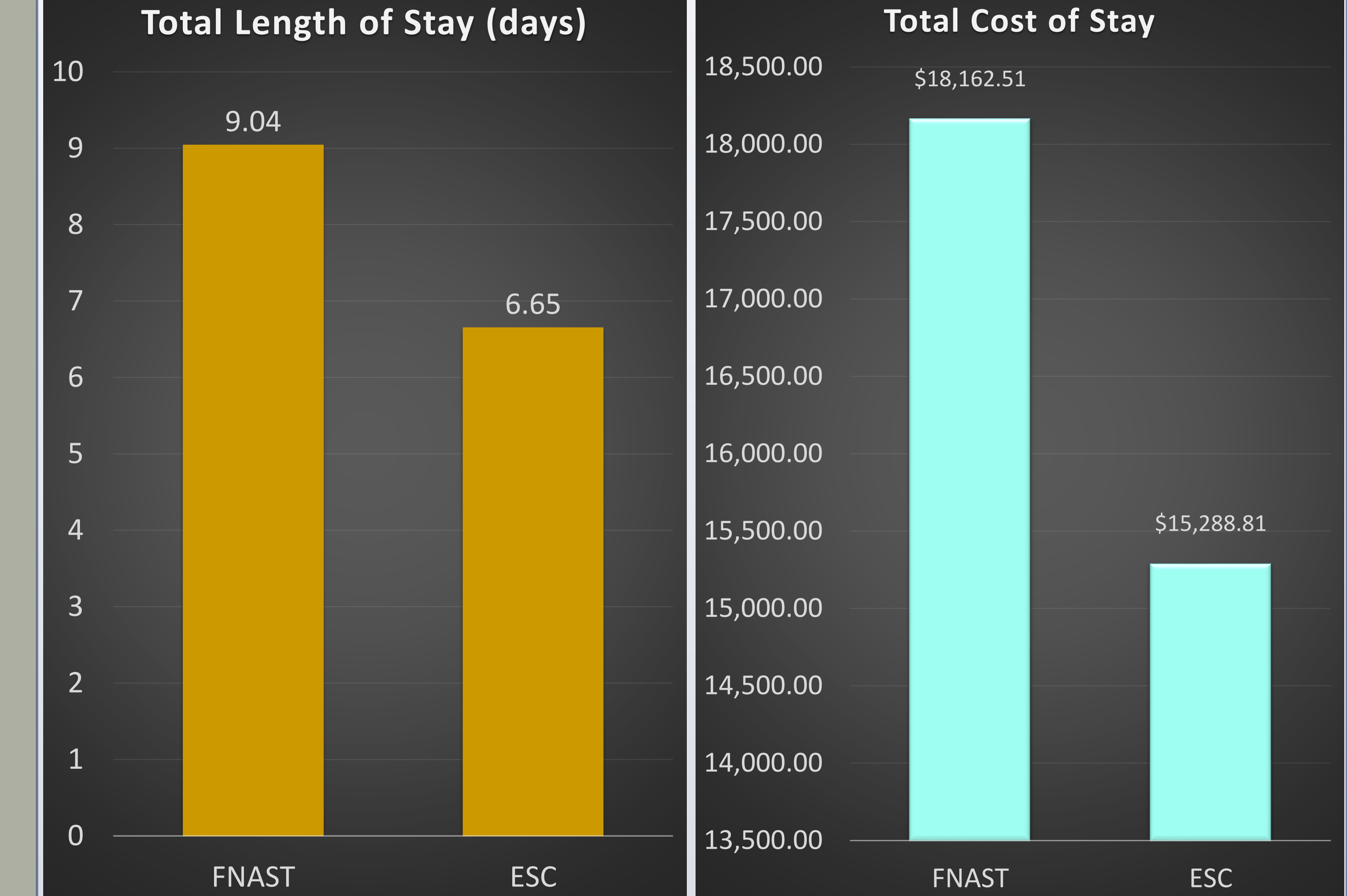
Outcomes



Readmission rate for NAS

FNAST: 0
ESC: 0

Outcomes (continued)



Limitations

- Not able to obtain true Pre-ESC implementation data due to discussions of ESC occurring one year prior to full education roll-out (to obtain physician and mid-level buy-in)
- Practice changes occurred prior to data collection period

Conclusion and Implications

- Implementing ESC is an effective method for assessing NAS
- ESC changes the culture of the unit to include parents and caregivers, and the focus is on non-pharmacologic comfort measures
- Implementing ESC decreased LOS, hospital costs, and amount of morphine administered without increasing readmission rates.
- The LOS and cost of stay did not decrease as much as initially thought. This could be due to not separating LOS for each unit and having discussions of ESC implementation a year prior to education and go-live.
- Nursing implications:
 - Switching and sustaining the transition from FNAST to ESC requires full support from medical and nursing leadership
- Future studies to include:
 - More data prior to the start of ESC discussions and after ESC implementation to have larger sample size that includes data prior to ESC discussions

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