

**Improving the Care of Infants with  
Neonatal Opioid Withdrawal Syndrome**  
**Jessica Scheller, MSN, RNC-NIC, ACCNS-N**

ECU Health Quality Improvement Symposium

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# Background/Introduction

- Opioid use disorder (OUD) in pregnancy is a growing epidemic impacting mothers and newborns
- Neonatal Abstinence Syndrome (NAS) is defined as the clinical signs of withdrawal in infants exposed to opioids and/or other substances in utero
  - Neonatal Opioid Withdrawal Syndrome (NOWS) is considered a subset of NAS and is defined as neonatal withdrawal from opioids
- In 2020, the rate of NAS in North Carolina was 8.3 cases per 1,000 hospital births
- Length of stay (LOS) for a normal newborn is 2 days compared to infants with NAS that average an 8 day LOS
  - Infants with NOWS in our hospital averaged a LOS of 11.3 days

# Collaborative Team Members

- Elaine Henry, Quality Nurse Specialist
- Ryan Moore, Neonatologist
- Ann Sanderson, Neonatal Nurse Practitioner
- Cindy Keel, Pediatric Nurse Practitioner
- Heather Davenport, Social Worker
- Angela Puuri, Social Worker
- Meredith Chanas, Neonatal Pharmacist
- Jaymi Mendoza, Child Life Specialist
- NICU and Mother/Baby Registered Nurses

## **Team Leader Key Contact Info:**

**Jessica Scheller, Neonatal Clinical Nurse Specialist**

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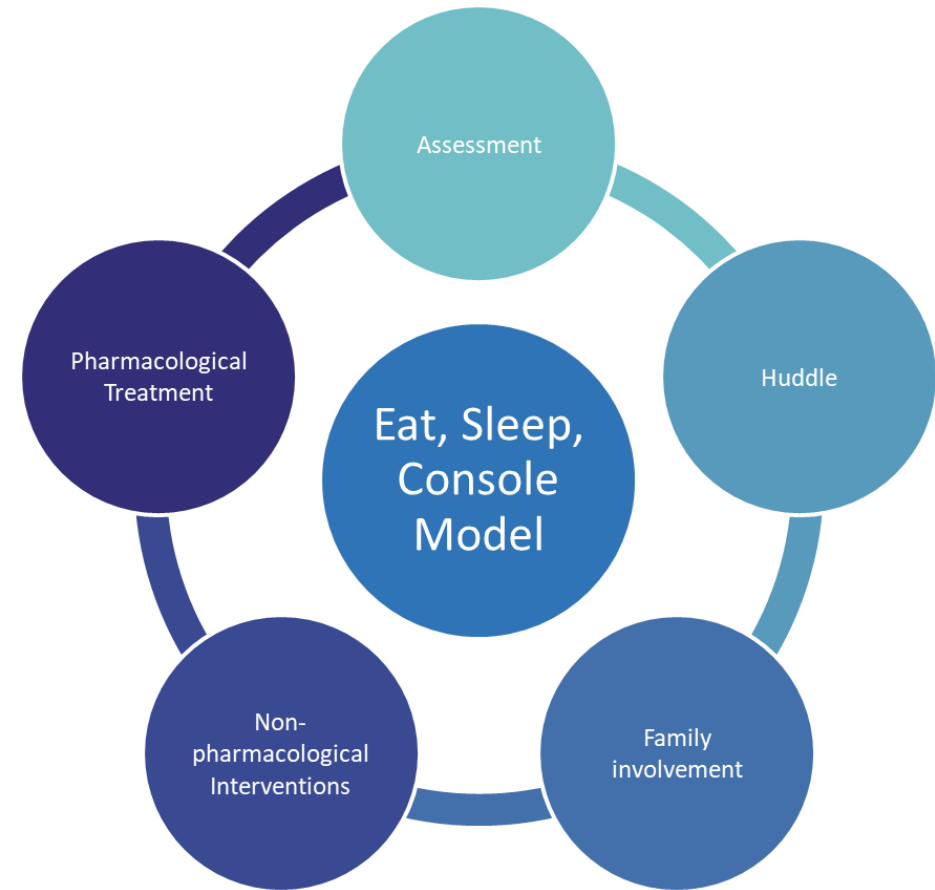
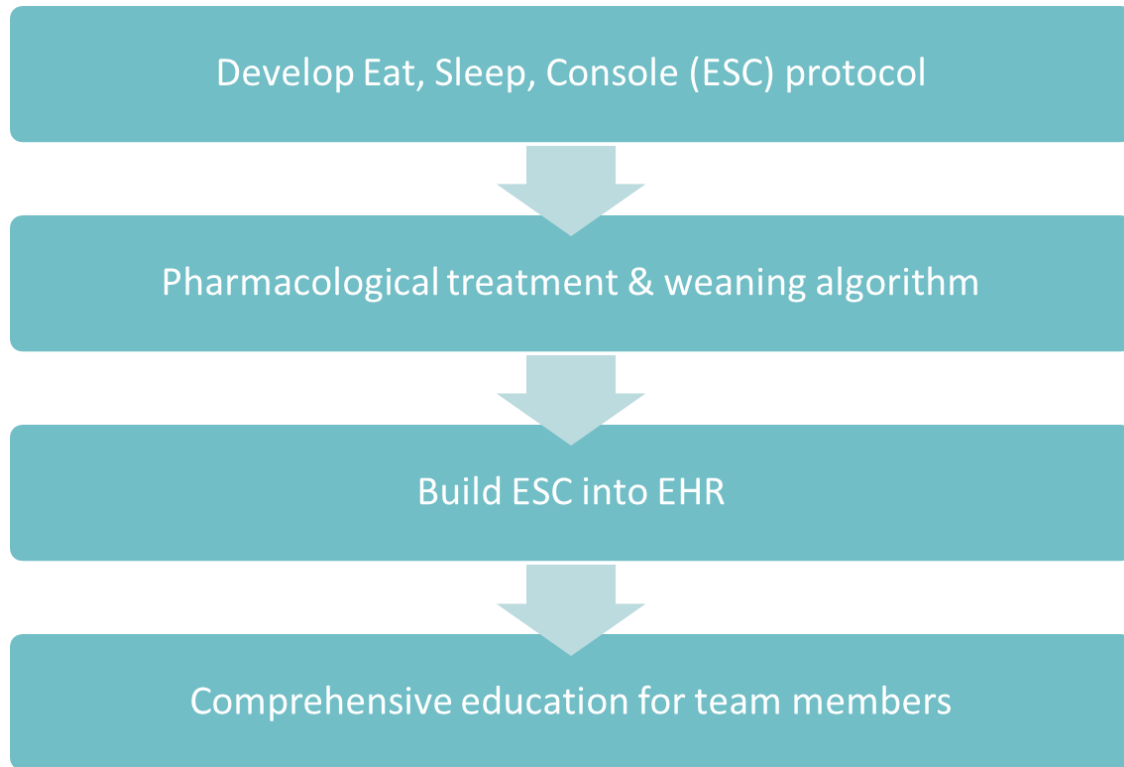
# Aim Statement

**To decrease length of stay by 20 percent, increase breastfeeding rates by 20 percent, and decrease percent of infants requiring scheduled morphine by 30 percent in opioid exposed infants within one year by implementing an evidence-based approach to the care of infants with or at risk for NOWS.**

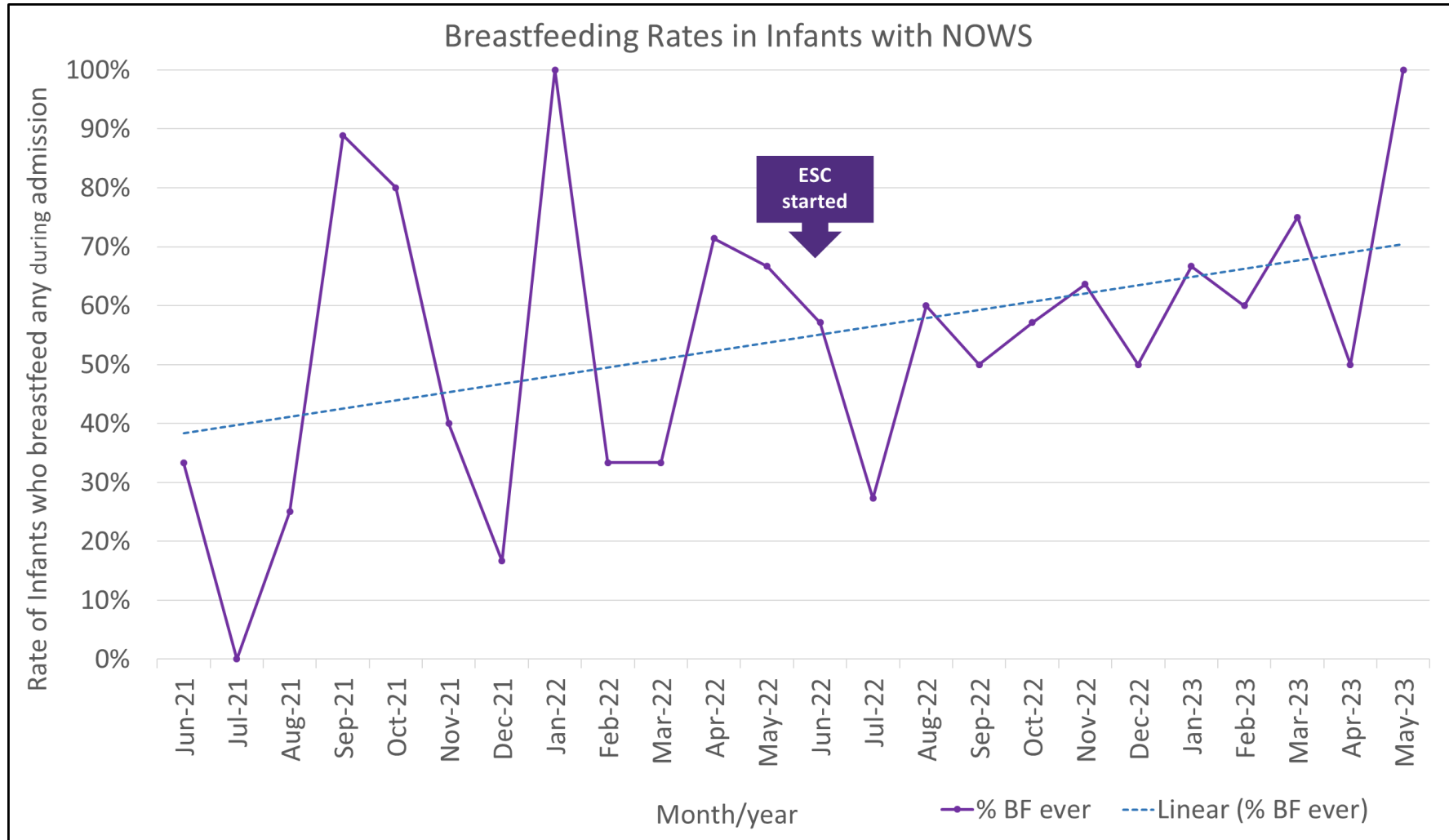
# Baseline Data

Baseline Pre-Data	June 2021- May 2022
Breastfeeding Rates in Infants with NOWS	49%
Percent of Infants with NOWS requiring Scheduled Medication	34%
Length of Stay for Infants with NOWS	11.3 days

# Improvement Strategies Employed

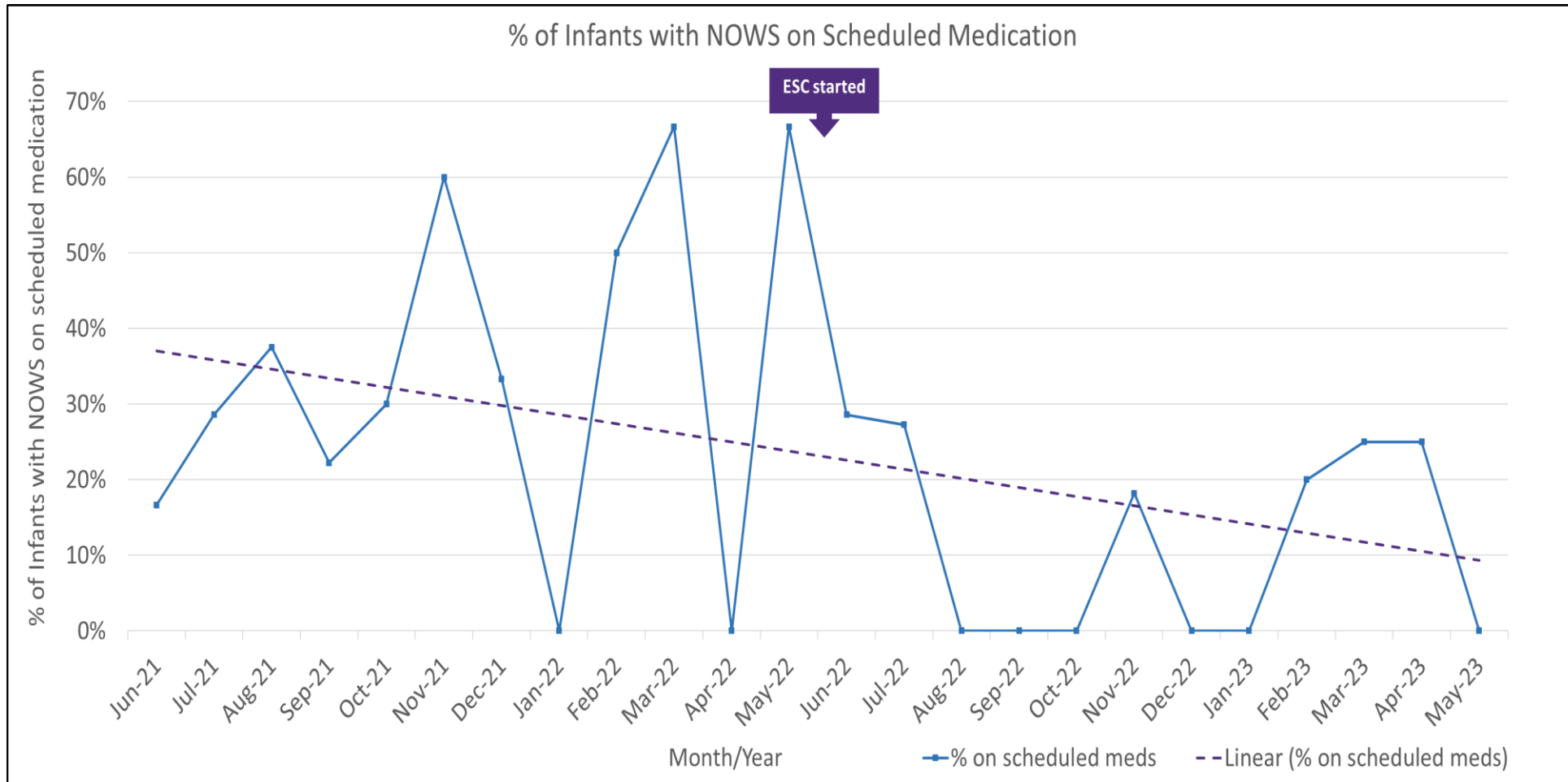


# Outcomes: Breastfeeding Rates



- Pre-ESC (June 2021-May 2022): **49%**
- Post-ESC (June 2022-May 2023): **60%**
- Breastfeeding rates increased by **22%**

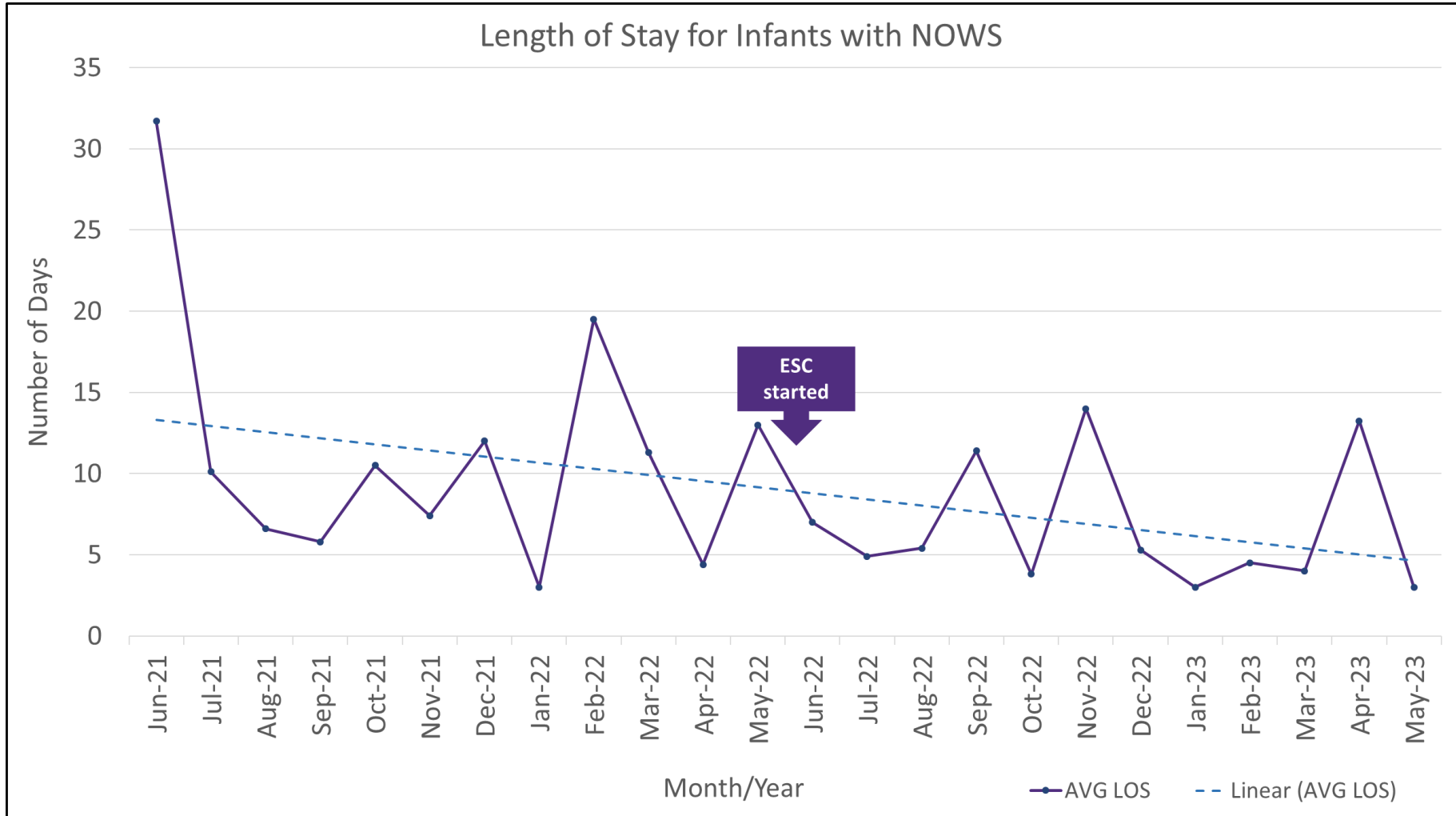
# Outcomes: Scheduled Medication



- Pre-ESC (June 2021- May 2022): **34%**
- Post-ESC (June 2022- May 2023): **12%**
- The percent of infants requiring scheduled medication dosing decreased by **65%**
- The percent of infants requiring any pharmacological treatment decreased by **42%**



# Outcomes: Length of Stay



- Pre-ESC (June 2021-May 2022): **11.3 days**
- Post-ESC (June 2022-May 2023): **6.6 days**
- Length of stay decreased by **42%** (4.7 days)

# Outcomes: Length of Stay

	Infants with Nows	Average LOS (days)	Cost of LOS per patient (\$3000/day)	Cost per 100 Nows discharges
Pre ESC June 2021- May 2022	79	11.3	\$33,900	\$3,390,000
Post ESC June 2022 - May 2023	74	6.6	\$19,800	\$1,980,000

A reduction in LOS by 4.7 days equates to a potential cost reduction of 41% per 100 Nows discharges, equivalent to \$1.4M.

# Challenges Encountered in QI Process

- Alignment of policy, EPIC enhancements, and education
- Environment – bright rooms, noisy unit, parent/guardian/caregiver not present
  - Black-out shades, sound machines, Mamaroo swings, use of hospital volunteers trained as cuddlers
- Stigma/bias
  - Interdisciplinary team member education on pathophysiology of substance use disorder
  - Interdisciplinary team member education on understanding and impact of stigma and bias related to substance use disorder

# Next Steps

- Review updated breastfeeding best practice recommendations for mothers with Substance Use Disorder
  - Develop and implement standardized approach to promotion/avoidance of breastfeeding for substance exposed infants
- Prenatal maternal education on NOWS

# Questions?

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