

# Impact of NAS Clinical Practices Guideline Implementation on the Outcomes for infants Undergoing NAS Treatment at a Level III NICU: A QI initiative



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## BACKGROUND

- Over the last decade there has been a surge in the number of infants receiving treatment for Neonatal Abstinence Syndrome (NAS) nationwide
- Recent study by Patrick et al (JAMA 2012) not only provided an estimate of this number but also reported an estimate of the associated increase in the health care costs
- There are wide variations in clinical practices with regards to overall care provision to families in both the perinatal and postnatal treatment for NAS
- Our NICU had recently completed the RCT assessing the comparative efficacy of Clonidine to Phenobarbital as an adjunct to Neonatal Morphine Sulfate
- Based on these results, a new clinical care guideline was developed for the treatment of NAS

## PROJECT AIM

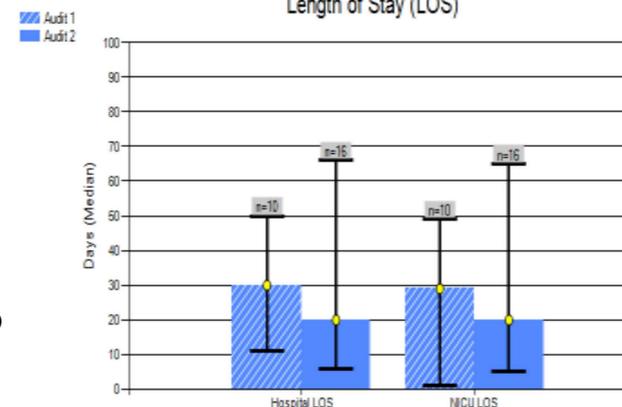
To assess the impact of clinical practice changes on the outcomes of infants receiving inpatient therapy for NAS

## METHODS

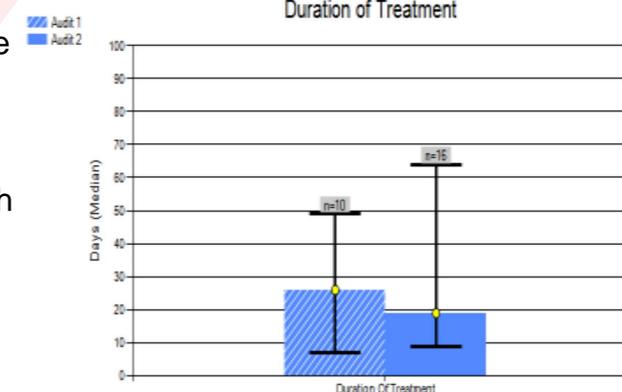
- In an effort to provide consistent care, the NICU team implemented new clinical care guidelines as well as additional clinical measures in November 2012
- These guidelines provided details regarding appropriate medication selection tailored to each individual infant's in-utero medication exposure
- The clinical care for the infants was transitioned over to the neonatology team
- A quieter environment in a single NICU pod was provided by cohorting the infants rather than scattering them throughout the NICU
- Identification of core nursing team members to provide care for this subset of families
- Encouraging parental involvement in care giving, starting with prenatal consults to enhance their understanding of NAS and expectations after the infant is born
- Involving Lactation services to promote breastfeeding
- Enrolling additional volunteer members to our pre-existing cuddler program to provide non-pharmacological support
- Additionally, the social services team members worked with Department of Children and Families to ensure that the social issues were addressed by the time the medical therapy was completed, facilitating a safe and timely discharge
- As a member of the iNICQ NAS Core group, we utilized the two audits conducted for the three months preceding and following a six month period of intervention
- We looked at our Early Intervention (EI) referral rates for the two time periods
- Parental surveys were administered to get feedback

## RESULTS

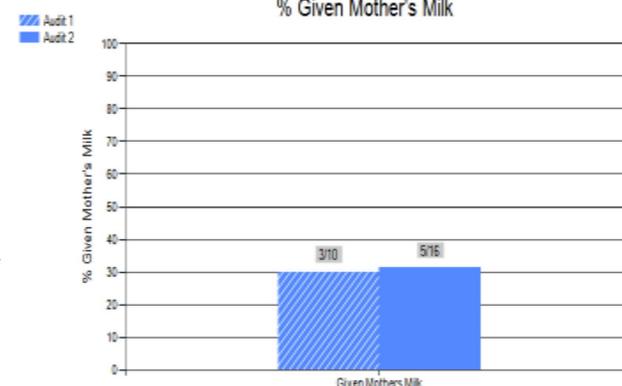
**Figure 1**  
Length of Stay (LOS)



**Figure 2**  
Duration of Treatment



**Figure 3**  
% Given Mother's Milk



- There were 10 infants in Audit 1 and 16 infants in Audit 2
- Figures 1-3 show the results during the two audit periods
  - The median Length of Stay (LOS) was decreased by 10 days
  - The median Duration of Treatment was decreased by 7 days
  - There was no difference noted for percent of infants given mother's milk
- **Additionally**, for both audit periods 100% of infants were referred to EI at the time of discharge
- In the feedback surveys, parents consistently reported an appreciation for the
  - Prenatal consult
  - NICU tour
  - Opportunity to breast feed
  - Opportunity to stay with their baby
- **Comments from parents for "What worked best for you in the NICU?"** –
  - "to have meals provided as a breastfeeding mother and support if needed"
  - "staff was very patient and explained many skills to calm baby and care for her. Very impressed"

## DISCUSSION

- The NICU team at Baystate was already focusing on improving the care for infants undergoing NAS therapy
- It was very opportune that VON started their iNICQ NAS initiative at the same time
- This helped our team learn from the other centers through listserv postings and discussions
- It also helped us analyze our data going forward
- We were able to see a positive change in our LOS and duration of treatment as well as identify areas with potential for improvement

## FUTURE AIMS

- To identify and implement additional practice changes aimed at increasing breastfeeding rates for infants exposed to maternal opioids
- To convert our 100% Early Intervention referral rates to >80% follow-up rates post discharge

## ACKNOWLEDGEMENTS

The exceptional NICU ancillary staff including nursing, social services, therapists, cuddlers and discharge planners.

Also a big thanks to parents who spent days away from home to be with their infants in the NICU.