**Books for Babies: Implementing Reach Out and Read in the UNC NCCC**

**Charter**

***Problem Statement and Importance:***

Premature and critically ill infants cared for in the NICU setting are at risk for developmental delays, including language delay. In addition to the risk of developmental delays, families of NICU babies are under significant stress related to their infant’s illness and prolonged hospitalization. Parent-infant bonding is often compromised, particularly in the early stages of their infant’s admission.

***Importance:***

The NICU environment, riddled with noise but devoid of rich language exposure, coupled with loss of the third trimester language exposure, are thought to lead to language delays among preterm infants. Studies have shown that greater language exposure in the NICU leads to improved neurodevelopmental outcomes at 18-22 months of age. Additionally, preterm infants are disproportionately born into low-income families, an additional known risk factor for language delay. Only 34% of children from families with incomes below the poverty line were read to on a daily basis according to the National Survey of Children’s Health in 2011-2012. Only 60% of children whose family’s income was 400% above the poverty line were read to daily, indicating the need for intervention for children of all socioeconomic groups. Language delay and poor reading skills are associated with decreased school readiness and school performance which portends risks for adverse health and social outcomes in childhood, adolescence, and adulthood.

With respect to impaired parent-infant bonding, parental reading aloud in the NICU setting has been associated in several studies with an improved sense of normalcy and closeness with their baby. Many parents involved in NICU reading programs continue reading to their infant after hospital discharge and report reading aloud as an activity enjoyed by both the parent and child. Reading aloud is known to foster healthy parent-infant interaction and may play a role in mediating toxic stress.

***Background:***

*Reach Out and Read* is a national organization which serves to incorporate the giving of books and age-appropriate anticipatory guidance about reading aloud into pediatric medicine in the primary care setting. Traditionally, books have been provided at well child visits starting at the age of 6 months through 5 years of age. *Reach Out and Read* and the American Academy of Pediatrics recognize the importance of reading aloud starting at birth, as significant brain growth and development occur in first several months of age. Research has shown that language proficiency is advanced by 3-6 months among children exposed to the *Reach Out and Read* program compared to those who are not participants. Similarly, families exposed to *Reach Out and Read* are more than twice as likely to read to their children.

***Mission:*** Partner with Reach Out and Read of the Carolinas to create a culture of early literacy and language exposure in the NCCC and promote bonding and parental involvement in care through reading aloud.

***Aims:***

1.) Increase the percentage of NICU inpatient days an infant is read to by anyone to 75% of inpatient days within 12 months.

2.) Increase the percentage of visit days and infant is read to by a parent/caregiver to 75% of visit days within 12 months. Visit days denotes the days on which a parent/caregiver visits the infant in the NCCC.

***Scope:*** All infants admitted to the NCCC will be included in the intervention. We will collect data related to the infants at highest risk for delays, as defined by the same criteria used to determine which infants require follow up in our high-risk clinic, the Special Infant Care Clinic (SICC). We plan to ultimately expand the intervention to the SICC, pending funding.

***Measurement Strategy:***

*Outcome Measures:*

1. Number and percent of inpatient days each infant is read to by anyone while admitted to the NCCC.
2. Number and percent of days the infant’s parent or caregiver reads to the infant while admitted to the NCCC.

*Process Measures:*

1. Percent of providers who have completed the ROR online training by roll-out date (required = 75%, goal = 90%).
2. Percent of nurses who have completed the NICU-specific training by roll-out (voluntary, goal = 50%)
3. The number of books distributed to infants in the NCCC compared to number of infants admitted and average length of stay (i.e. actual books distributed compared to expected number of books to have been distributed).
4. Number and percentage of infants receiving a minimum of two books during NCCC admission (chart review, dependent on correct charting).
5. Number of infants admitted to NCCC with diagnosis of “Risk of impaired parent-infant bonding” in their problem list (diagnosis code: Z91.89) – initially will audit weekly, after adequate uptake will audit monthly (to correspond with resident switch weeks to allow for timely feedback for new team members).
6. Number of infants with visual cues/reading reminders at bedside (monthly audit)

*Balancing Measures:*

1. Parental discomfort or inability to read to their baby.
2. Parental guilt about inability to visit often enough.
3. Staff/RN/provider dissatisfaction with the amount of time needed to address this intervention (periodic surveys or check-ins by project lead).

***Risks and Barriers:***

1. Staff and providers entrenched in current culture, poor uptake of intervention.
2. Difficulties establishing accurate data collection/data collection and organization excessively onerous.
3. Difficulty sustaining the culture/program once established.
4. Limited funding, inability to secure long-term funding to maintain the program.

***Schedule:***

Project planning: March – July 2018

Kick-off Book Party: August 16, 2018 (tentative)

Project roll-out in NCCC: August 20, 2018 (tentative)

Remainder of schedule TBD.

***Project Team:***

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| Erin Orth, Neonatal Perinatal Fellow | Project Lead, ROR Medical Consultant |
| Erin Tucker, CNIV | Team Member, nursing leadership liaison |
| Amy Clifton, Family Advisory Board, Teacher | Team Member, former NCCC parent, Family Advisory Board Liaison |
| Audrey Baker, NCCC RN | Nursing Liaison, Developmental Committee Member |
| Alana Painter, Pediatric Resident | Team Member, residency program liaison |
| Laura Lemley, Pediatric Resident | Team Member, residency program liaison |
| Jenny Bowles, NNP | Team Member, Nurse Practitioner champion |
| Sarah Croop, NNP | Team Member, Nurse Practitioner champion |
| Janice Wereszczak, PNP | Team Member, Nurse Practitioner champion (SICC) |
| Jennifer Stone-Christensen, SLP, PhD candidate | Team Member, expertise in early child literacy and qualitative research strategies |
| Emily VanderSchaaf, General Pediatrician, former NCCC parent | Project sponsor/mentor |
| Mike O’Shea, Division Chief, Neonatal-Perinatal Medicine | Project sponsor |

Still to add: current NCCC parents