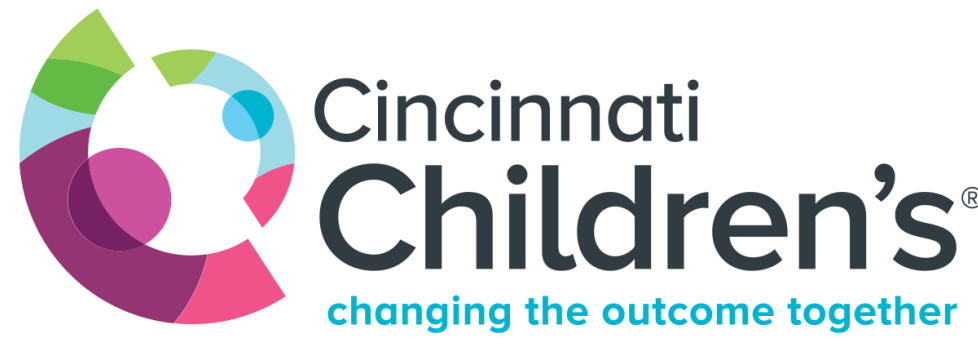


The Implementation of Reach Out and Read in a NICU Follow-Up Clinic: Increasing Word Exposure for High-Risk Children

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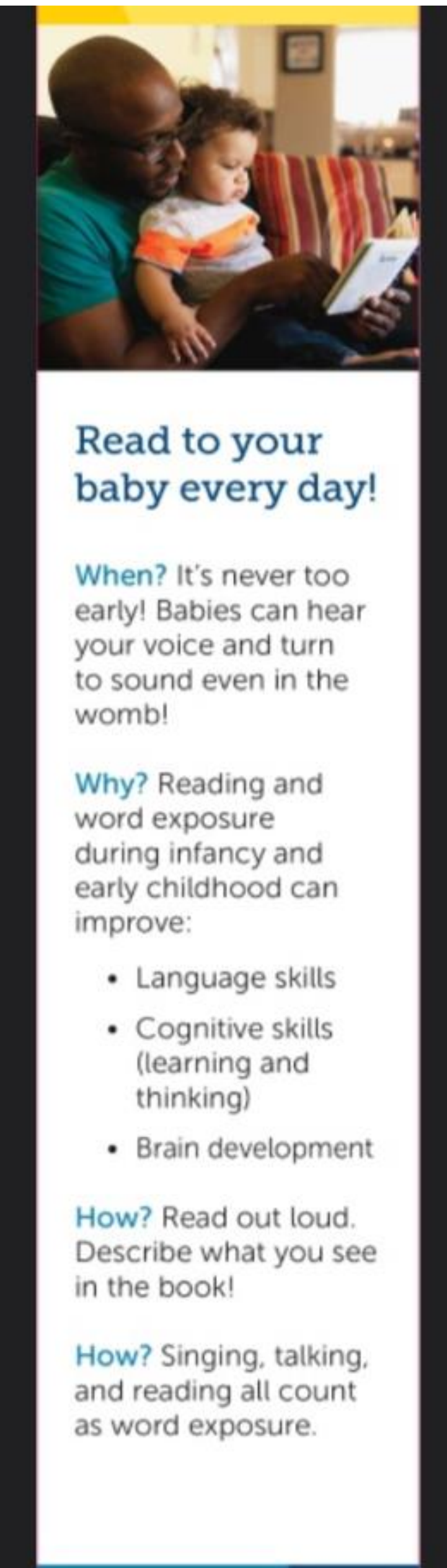


Background

- Reach Out and Read (ROR) aims to create literacy-rich environments, including provision of a developmentally appropriate book at each well child visit
- Participation in ROR is associated with more frequent reading aloud, improvements in the home literacy environment, and significant increases in expressive and receptive language in early childhood
- Increased word exposure during infancy and early childhood is correlated with improved neurodevelopment
- Early word exposure benefits high-risk populations, such as former preterm infants
- Little is known about the potential impact of a ROR program in a Neonatal Intensive Care Unit (NICU) Follow-up Clinic Population**

Our Population

- Our NICU Follow-up Clinic at Good Samaritan Hospital in Cincinnati, Ohio serves high-risk infants and toddlers, including former preterm infants born <33 weeks gestation and opioid exposed infants
- We established a ROR program for our NICU Follow-up Clinic in July 2022



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Objective

To establish a ROR program with the primary aim of increasing the percentage of families who read to their children, and secondary aims of increasing number of books in the home and BQSS post-intervention

Methods

- Providers underwent ROR training
- Books were provided starting at the first visit (at any age) and utilized to assess development, model reading, and provide education during visits
- Each family was provided a bookmark containing educational points about why and how to read to infants/toddler
- Reading practices were assessed via cross-sectional parental survey at two time points, before and one year after program implementation
- Anonymous, voluntary survey utilized a subset of the STIMQ2-Infant: the Bookreading Quantity Subdimension Score (BQSS; score 0-9) was calculated for each survey result
- Descriptive statistics were used to summarize survey result. Chi-square, Wilcoxon rank tests and multiple regression analysis were used for group differences

Results

- One hundred and sixty-three surveys were completed: 122 pre-implementation surveys and 41 post-implementation surveys were analyzed
- The percent of families reading to their children pre-implementation was already high (94%)
- There was no significant difference in the percentage of families who read to their children pre- and post-implementation (94% vs. 100%)
- There were no overall differences in reading practices among families of former preterm infants vs. opioid exposed infants
- In the former preterm infant cohort, the number of books in the home and the BQSS were significantly higher post-implementation
- Families with less books and lower BQSS were more likely to report that book donation would change their reading habits

Table 1: Reading Practices of Families of NICU Follow-up Clinic Patients						
	Preterm Infants			Opioid-exposed Infants		
	Pre-Implementation (N=83)	Post-Implementation (N=25)	P value*	Pre-Implementation (N=39)	Post-Implementation (N=16)	P value*
Gestational age at birth (weeks)	30.6 (29.5, 31.9) ^a	31.5 (30.5, 32.2)	0.0861	38.6 (36.3, 39.2)	38.9 (37.3, 39.6)	0.4411
Corrected age (months)	5.0 (1.0, 14.0)	15.0 (8.0, 18.0)	0.0003	3.0 (1.0, 7.0)	14.0 (7.5, 21.0)	0.0002
Currently reading to child	78 (95.1%)	25 (100%)	0.5710	36 (92.3%)	16 (100%)	0.5481
Age that parent started reading to child			0.1605			0.4913
While Pregnant	10 (13.2%)	0 (0%)		1 (2.9%)	0 (0%)	
Birth-3 months	57 (75.0%)	20 (80.0%)		29 (82.9%)	11 (68.8%)	
4-6 months	6 (7.9%)	3 (12.0%)		2 (5.7%)	3 (18.8%)	
7-12 months	1 (1.3%)	0 (0%)		1 (2.9%)	1 (6.3%)	
>12 months	2 (2.6%)	2 (8.0%)		2 (5.7%)	1 (6.3%)	
Number of books in the home	30.0 (16.0, 50.0)	40.0 (25.0, 80.0)	0.0419**	20.0 (15.0, 50.0)	30.0 (25.0, 50.0)	0.3507
Number of days per week parent reads	7.0 (4.0, 7.0)	7.0 (5.0, 7.0)	0.2816	6.5 (4.0, 7.0)	6.0 (4.0, 7.0)	0.7717
Bookreading quantity subdimension score (BQSS)	7.0 (6.0, 8.0)	8.0 (6.5, 8.0)	0.0445**	6.0 (5.0, 7.5)	7.0 (5.0, 8.0)	0.5100

^a=median (interquartile range)

*Wilcoxon rank sum test for continuous variables and Chi-square or Fisher's exact test for categorical variables.

**This group difference remained significant (p<0.05) in the regression analysis controlling for corrected age.

“What are the benefits of reading to a child?”

The most common family responses to this question were:



Thanks to our Reading Program in partnership with Reach Out and Read your child gets a new book at every clinic appointment!

<http://www.reachoutandread.org/>

You can also visit imaginationlibrary.com to start your child's free monthly book delivery.

Neonatal Follow-up Clinic

at Good Samaritan Hospital
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Limitations

- Small number of post-intervention survey results (data collection ongoing)
- Use of self-reported data may overestimate reading practices due to stigma or fear of judgment

Future Directions

Future efforts will evaluate the effect of enhanced modeling of reading on the language development of our high-risk population

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