

ROAR: Outcomes of a Two Year Journey for Literacy

Faiha Fareez, Newton Leong RN, Barbara Anderson RN, Laurie Green MD
St. Michael's Hospital Family Health Team

BACKGROUND

Low literacy skills have a negative impact on employment, income and health (CCL, 2008). It is predicted that by 2031, more than 15 million Canadian adults will have low literacy levels. There will be a 64% rise in low literacy in Toronto (32 million people). (CCL, 2010).

Children from low-income families are at an increased risk for delayed language development. It was found that at 3 years old, children in professional families heard about 2153 words per hour whereas children from low-income families only heard about 616 words per hour. (Hart & Risely, 1995). ROAR was implemented to address this health literacy inequality.

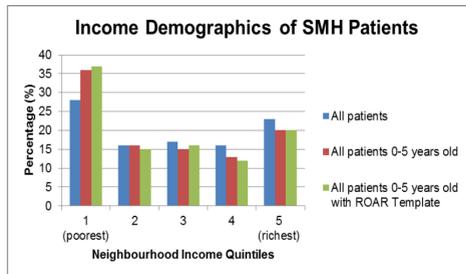
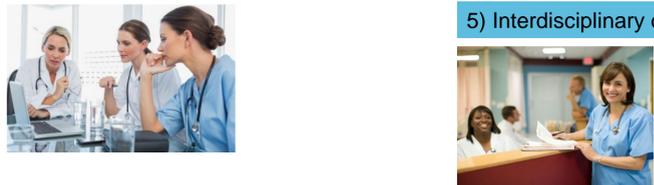


Figure 1: Income demographics
Income demographics of all FHT patients (N=4400), patients 0-5 years old (N=2885) and patients 0-5 years old with ROAR template (N=1662).

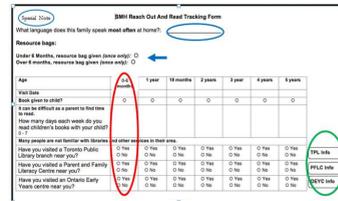
ROAR OVERVIEW

Reach out and Read (ROAR) is an interdisciplinary intervention that promotes early literacy at well-child visits between 0-5 years through:

- 1) Literacy-rich waiting rooms
- 2) Anticipatory literacy guidance
- 3) Book distribution
- 4) Online ROAR training through for providers
- 5) Interdisciplinary delivery



6) Electronic Medical Records (EMR) integration



7) Site Champions



COMMUNITY PARTNERS

ROAR is supported by key community partners including:

- 1) The Toronto Public Library (book selection, discounts & resource)
 - 2) The Children's Book Bank (funding for <6 month visit)
 - 3) First Book Canada (free and discounted books)
- Additional donors include The Cumba Foundation and One Hundred Women Who Care

ROAR was first implemented at SMH in January, 2015. It is currently administered by all six satellite clinics. Over the past two years there have been more than 2600 ROAR visits. Almost 500 children have had 2 ROAR visits and 100 patients have had 3 ROAR visits.

EFFECTIVENESS OF ROAR

Community-based literacy programs, including ROAR have demonstrated an increased likelihood of parents reading to their children, increased ownership of picture books and increased visits to the library (Needlman et al., 2005; Shah et al., 2016). A study of low-income families has shown that after an average of three ROAR visits, parents read to their children more frequently, and that this increased book reading was associated with higher scores on tests of expressive and receptive language (High et al., 2000).

Two studies conducted by Goldfeld et al. (2011; 2012) determined that literacy programs at well-child visits for children in disadvantaged areas did not improve literacy or language at 2 or 4 years of life. They attributed this to poor program intensity and reach. Other studies have found mixed support for the effectiveness of ROAR, attributable to demographics, differences in program implementation and fidelity (Fricke, Navasaria & Mahony, 2016).

ROAR PROGRAM FIDELITY

Thakur et al. (2016) noted that the fidelity of the ROAR program declined over two years with a significant drop in books handed out and a decrease in literacy advice. A drop in program fidelity can be attributed to clinic culture, busy office workflow, and inadequate time (Khandekar, 2011; King, 2009).

Table 1: Characteristics of Study Sample at First ROAR Visit (N=1862) ^Φ

Characteristics	Age						
	0-6 months n=700	12 months n=385	18 months n=150	2 years n=177	3 years n=137	4 years n=241	5 years n=72
How many days each week do you read with your child?							
0	21.60%	5.50%	7.30%	*	*	*	*
1-3	11.86%	9.87%	8.67%	*	10.95%	*	12.50%
4-6	6.43%	7.79%	4.67%	6.21%	*	9.13%	*
7	34.90%	48.30%	48.70%	51.98%	56.20%	54.77%	48.61%
No data	25.29%	28.57%	30.67%	28.25%	22.63%	22.41%	33.33%
Have you visited a TPL branch near you? (Yes)	45.14%	52.72%	56.67%	48.59%	59.85%	70.95%	59.72%
Have you visited a TPL branch near you? (No data)	18.57%	19.48%	19.33%	23.16%	14.60%	16.60%	22.22%
Have you visited a Parent and Family Literacy Centre near you? (Yes)	12.71%	16.36%	21.33%	20.34%	23.36%	22.00%	18.10%
Have you visited a Parent and Family Literacy Centre near you? (No data)	20.29%	22.60%	22.67%	26.00%	16.79%	19.50%	23.61%
Have you visited an Ontario Early Years centre near you? (Yes)	19.86%	23.38%	20.67%	25.42%	27.73%	26.56%	15.28%
Have you visited an Ontario Early Years centre near you? (No data)	21.00%	38.44%	34.00%	41.81%	26.28%	25.73%	38.89%

^Φ The total sample includes those that had a date recorded.

* Primary and complementary cell suppression implemented due to small sample sizes in certain cells

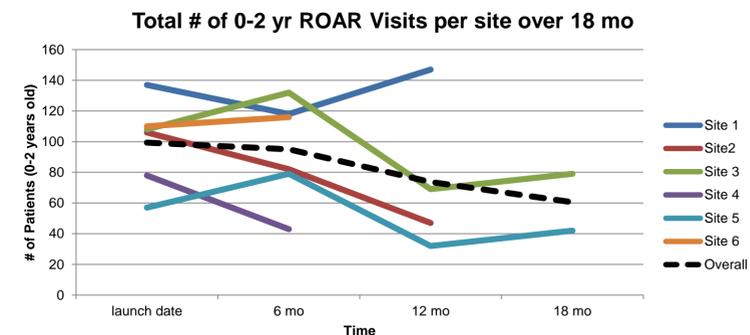


Figure 2: Program Fidelity

The number of ROAR visits for children 0-2 years old is plotted over the course of 18 months since the launch date per site.

Note: Each site started implementing ROAR at different times.

DISCUSSION

An examination of the baseline data of parental reading behaviour and use of community literacy resources in the Reach Out and Read program in this family health team was limited by incomplete data. Completed first visit data suggest that parents read most regularly to their 3-4 year old children and least to their infants, as predicted. It also suggests, across all age groups, low levels of access to Parent and Family Literacy Centres and Ontario Early Years Centres, while Toronto Public Libraries use is reported by approximately 50% of families at baseline. While more complete data is needed, this suggests that encouraging parental reading/language and literacy centre use in the first years of life is an important goal of the program. Data on daycare attendance was not collected which may explain why a greater percentage of children had not visited literacy centres. Going forward, data on age of entry to daycare will be collected.

After eighteen months of the program, there has been an overall decline in the number of ROAR visits. Four of the six sites have a marked decline since the start of the program, while the remaining two sites have a slight increase in ROAR visits. These findings can be attributed to many factors including provider engagement and site champions upholding program sustainability. Clinics started implementing ROAR at different time periods which may be linked to program interest wavering over time. Furthermore, in every field of Table 1, there was no data for 20-40% of the sample population. Therefore, staff engagement will be an area of focus to increase ROAR visits as this has been shown to enhance program fidelity (Thakur et al., 2016).

RECOMMENDATIONS/ NEXT STEPS

- 1) Engage site champions to uphold program sustainability & interest
- 2) Refresher sessions to re-engage providers & address program concerns
- 3) Track attendance to daycare
- 4) Expand ROAR program to all children visits
- 5) Utilize successes from one clinic to support other clinics with best practices and standardization
- 6) Engage stakeholders and leverage local community partnerships to obtain additional funding and donations to support ROAR
- 7) Provide regular feedback to individual providers on their successful completion rates of ROAR at well child visits

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