



Teaching and Learning in Medicine

An International Journal

ISSN: 1040-1334 (Print) 1532-8015 (Online) Journal homepage: <https://www.tandfonline.com/loi/htlm20>

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To cite this article: Joanna Elizabeth Kinney, Manuel E. Jimenez, Lesley Mandel Morrow & Shilpa Pai (2019): Training Pediatric Residents in Literacy Promotion: Residency Directors' Perspectives, Teaching and Learning in Medicine, DOI: [10.1080/10401334.2019.1598866](https://doi.org/10.1080/10401334.2019.1598866)

To link to this article: <https://doi.org/10.1080/10401334.2019.1598866>



Published online: 19 Apr 2019.



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GROUNDWORK



Training Pediatric Residents in Literacy Promotion: Residency Directors' Perspectives

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ABSTRACT

Phenomenon: The American Academy of Pediatrics and Canadian Pediatric Society recommend that pediatricians incorporate literacy promotion during well child care, but literacy promotion education during pediatric training remains understudied. We sought to understand how literacy promotion training is currently implemented in pediatric residency programs from the perspective of program directors. *Approach:* We conducted semistructured interviews with all 9 residency program directors in 1 state. We analyzed data iteratively coding transcripts using an immersion/crystallization approach to identify themes. *Findings:* We achieved saturation after 9 interviews with 11 participants. We identified 3 major themes: (a) Residency programs rely on an existing primary-care-based literacy promotion intervention (Reach Out and Read) and the resident continuity clinic for literacy promotion training; (b) program directors encourage early and repeated exposure to facilitate literacy promotion education; and (c) service obligations, content specifications, and pressure on faculty create competing time demands that function as key barriers to literacy promotion training. *Insights:* Residency program directors used an existing, widely used intervention and the infrastructure provided by continuity clinics to facilitate training on literacy promotion, a relatively new pediatric care standard. Additional work is needed to overcome the barriers identified by program directors.

KEYWORDS

early childhood development; literacy; pediatric residency; residency education; Reach Out and Read

Introduction

Shared reading between parents and young children promotes language and emergent literacy skills during critical years of brain development.¹ Emergent literacy skills, those acquired prior to conventional reading education such as vocabulary and understanding of narrative, are an indicator of cognitive school preparedness and future academic achievement.² Although efforts and programs exist in other settings to improve emergent literacy skills, there are several reasons why primary care is uniquely positioned to promote these skills. First, primary care has near universal and frequent access to young children prior to school entry.³ Second, pediatricians are a trusted source of information for parents.⁴ Third, parents are interested in receiving information on school readiness from their pediatricians.⁵

Given the benefits of shared reading and the opportunity to promote literacy development in primary care, organizations including the American

Academy of Pediatrics (AAP), the Canadian Pediatric Society, and the American Academy of Family Physicians encourage healthcare professionals to promote shared reading.^{1,6-8} More specifically, the AAP recommends literacy promotion during well visits through *Bright Futures Guidelines*⁷ and more recently its 2014 policy statement on literacy promotion, which included an evidence review of literacy promotion in pediatric settings.¹ The AAP Policy Statement also recommends that “literacy promotion and training related to language and literacy development [be incorporated] into pediatric resident education.”¹ This statement highlights several gaps in the literature, particularly as it pertains to training on literacy. For example, it is unclear to what extent residency programs are implementing education on literacy development and promotion and to what degree training programs are aware of best practices in literacy instruction.

The Reach Out and Read (ROR) program is the most widely disseminated model of pediatric literacy

promotion.¹ Founded in 1989, ROR is an evidence-based literacy promotion program that includes literacy-rich waiting rooms, pediatric professionals providing anticipatory guidance on shared reading with modeling, and book distribution.⁶ ROR has been adopted in nearly 6,000 clinics⁹ across the United States.⁶ As part of the ROR program, participating healthcare professionals take the ROR Core Training Course that includes information on ROR, practical guidance on implementation (e.g., book choices), and video examples.¹⁰ Additional resources are also available from the ROR website to educate clinic staff.

Many pediatric residency programs participate in ROR, with about 330 ROR sites affiliated with pediatric residency programs across the country (B. Gallagher, personal communication, January 17, 2019). Pediatric residents training in the United States would likely be exposed to ROR during their outpatient continuity clinic experience. The Accreditation Council for Graduate Medical Education, which is responsible for accrediting graduate medical education programs in the United States, mandates that residents participate in a longitudinal general pediatric outpatient experience during their training.¹¹ These sessions must occur in 36 half-day sessions over at least 26 weeks per year.¹¹ Although there is some variation across programs, many residents meet these requirements by attending the same continuity clinic one half day per week for their entire three years of residency. This experience has a varied mix of well-child visits and sick appointments, often scheduled for 15 to 60 minutes. Although not always feasible, a key goal of this experience is to establish continuity with patients and families. Even though adherence to the ROR model in a resident continuity clinic site includes the aforementioned training obligation and corresponding materials, there is considerable leeway in how residency programs deploy those materials and the extent to which pediatric residents participate in the online training course.

Few studies have described the education or preparedness of physicians to discuss literacy and shared reading with their patients. In one state, one third of pediatricians surveyed did not feel adequately trained to promote literacy among their patients.¹² Another study showed that an even smaller number of Canadian pediatricians (9%) had undergone literacy-related training.¹³ These findings suggest that there is an opportunity to strengthen literacy promotion training among pediatric healthcare providers. With regards to residency training, one study described quality improvement efforts that successfully used

educational conferences, preceptorship, and ROR to increase participation and confidence regarding literacy promotion activities among family medicine residents.¹⁴ Two other published studies specifically considered resident-focused educational interventions and have likewise demonstrated a need for quality improvement efforts in provider training.^{15,16} In these resident-specific studies, physicians who underwent training showed an increased frequency in reading milestone assessment¹⁵ and discussions about reading,^{15,16} along with an improved rate of book distribution.¹⁶ Parents in this practice were more likely to report reading with their child more than 4 days per week.¹⁶ Another study sought to improve literacy-related anticipatory guidance and book distribution via adherence to ROR among pediatric primary care physicians.¹⁷ This study showed that physicians who underwent a voluntary reading-related didactic program were more likely to distribute books to parents and felt more confident in their literacy-related anticipatory guidance skills.¹⁷

In the present study, we sought to gain insight into the current state of literacy promotion education in pediatric residency programs and the barriers faced in educating pediatric residents from the perspective of residency program directors. As the topic of literacy promotion training in pediatric residencies is understudied, we used qualitative semistructured interviews to address our research question.¹⁸

Methods

Study approach and team

We conducted a qualitative study using semistructured interviews.^{18,19} Our interdisciplinary research team brought diverse perspectives with both methods and content. Our team included a developmental pediatrician (MJ) with training and experience in qualitative research methods, a primary care pediatrician (SP), an expert in literacy education (LM), and a medical student (JK).

Interview guide development

First, we reviewed the existing literature on literacy promotion training among physicians including, but not limited to, residents, family medicine practitioners, and pediatricians. From this search, we then identified key topical areas, such as training surrounding early childhood development, to be investigated with the study participants that would help understand each residency program's general educational

Box 1. Interview Guide.

1. Would you describe for me how your program balances priorities in educating pediatric residents?
2. Would you take me through how your program incorporates training on child development?
3. The AAP releases several policy statements and clinical guidelines regarding child development. What role do these policy statements play in resident education?
 - a. For example, the February 2015 policy “Screening for Behavioral and Emotional Problems” and the December 2015 statement regarding the Individuals with Disabilities Education Act (IDEA).
4. Would you describe for me how your residency program trains residents with regards to literacy promotion?
5. From your experience, would you tell me about the barriers faced in educating residents about literacy promotion?
6. From your experience, what are successful ways to implement training on literacy promotion into a residency program?
7. Is there anything else you would like to add?

scheme and training activities surrounding literacy promotion. We used these topics and engaged in a process of self-reflection to develop an interview guide in the form of open-ended questions with planned probes (Box 1).

Data collection

We recruited all nine pediatric residency program directors in New Jersey with a goal of achieving thematic saturation, when no new data are identified during interviews.^{19,20} Based on our past work and the existing literature, we anticipated that we could achieve saturation after eight to 12 interviews.^{19–23} As such, we distributed e-mail invitations to all of the program directors in New Jersey, and all program directors accepted the invitation. We scheduled interviews based on program director availability with at least 1 week between interviews to allow adequate time for transcription, analysis and one team meeting in between interviews. One member of the research team (JK) reviewed a study information sheet, provided an opportunity for questions about the study, and conducted all of the interviews in each program director’s respective office. During the interview process, two program directors requested that an additional representative of the residency program participate in the interview to provide additional information. In both cases the program director was the primary participant. During each interview, the interviewer followed the Interview Guide (Box 1) and then probed with neutral follow-up prompts (e.g., “Tell me more about that”) and/or planned probes to generate further information regarding each answer. Interviews were digitally recorded (range = 22–41 minutes) and transcribed verbatim.

Data analysis

We analyzed each interview iteratively as it was completed to identify themes and to confirm thematic saturation. At least two members of the research team met weekly to review interview transcripts, field notes, self-reflection, and coding between interviews. We also discussed adaptations to the interview guide to explore emerging themes. We followed the qualitative interpretive analysis process recommended by Crabtree and Miller.¹⁸ First, we used an immersion/crystallization approach, which consists of repeatedly listening to interview audio and reading transcripts, reviewing field notes, having a team discussion, and engaging in reflection.²⁴ Next we coded each interview identifying responses relevant to literacy promotion education. We identified codes in the data rather than impose an a priori framework. Using these codes, we created an organizing scheme for analysis to identify themes. Once sorted, we again used an immersion/crystallization approach in which we reread each transcript to identify additional themes within the data that we may have initially missed. We looked for disconfirming evidence in existing data and sought data to confirm or refute our understanding from the initial phases of the analysis through additional interviews until we confirmed thematic saturation. Themes regarding residency program director’s beliefs regarding implementation and barriers to literacy promotion education and representative quotes are presented next.

The Rutgers Biomedical Health Sciences Institutional Review Board determined that this study was exempt from review (Study ID: Pro20160000708).

Results

We achieved saturation after nine interviews. One program director was accompanied by a senior pediatric resident during the interview, and another was accompanied by an associate program director. In both of these interviews, the program director was the primary participant. Most (67%) of the residency program directors interviewed were male. Of the nine program directors interviewed, the mean time since completing their residency training was 23 years. A few participants completed fellowship training. The majority of program directors in our sample taught residents in an outpatient primary care setting. On average, program directors had served in their position for 9 years. The average size of the programs represented was 10 residents per year. Program director demographic information is summarized in Table 1.

Table 1. Program director demographic information.

Gender	
Male % (n)	67% (6)
Female % (n)	33% (3)
Time Since Completed Residency in Years, M (Range)	23 (8–43)
Completed Fellowship in Subspecialty % (n)	
Yes	33 % (3)
No	67 % (6)
Practices in Outpatient Primary Care % (n)	
Yes	67% (6)
No	33% (3)
Time served as Program Director in Years, M (Range)	9 (2–18)
Program's Size in Residents/Year, M (Range)	10 (5–12)

Seven of nine directors within our sample were able to describe literacy promotion training in their residency programs. Two of the nine directors were unable to describe resident training activities specific to literacy promotion. We identified three major themes: (a) residency programs rely on ROR and the resident continuity clinic for literacy promotion training; (b) program directors encourage early and repeated exposure to facilitate literacy promotion training; and (c) service obligations, content specifications, and productivity pressures create competing time demands that function as key barriers to literacy promotion training.

Residency programs rely on ROR and the resident continuity clinic for literacy promotion training

Program directors reported that ROR was crucial in training residents with regards to literacy promotion. A mentioned benefit of ROR was that it provided a tangible means of teaching residents how to promote literacy to patients and their families.

Having ROR, having the books available obviously makes a lot easier when you have that resource there in the clinic versus if you didn't have that. So I think that idea of having that program allows them to be involved at least in giving them books and making sure [parents are] reading to their patients. (Program Director, Interview 4)

Participants also cited the advantage of involving residents in ROR, because residents were able to directly observe the benefits of literacy promotion in clinic.

You're seeing the response with the patient and then, you know, in continuity clinic in the setting where they'll be coming back in 2, 3, 6 months, a year and you'll get to follow up, do it again and, see how that worked. (Program Director, Interview 2)

Program directors endorsed ROR as a model for ensuring that residents are participating in literacy promotion.

We use the ROR program in the clinic. So it's always brought up. We always talk about literacy, reading ... to the patients. And every one of our patients are walking out of the clinic with a book ... to promote reading. So in every ... well child encounter, it's discussed. (Associate Program Director, Interview 5)

Those interviewed often discussed the primary care clinic as the principal setting for literacy promotion exposure and education for residents. In the clinic, the 1st-year residents learned about literacy promotion through ROR.

When the residents start in their continuity clinic ... the continuity clinic preceptor explains the ROR program to them. Talks a little bit about literacy and ... has them go in the room. They go in the room together ... and explain how you can do a prescription to read for the family and discuss reading and giving out a book. (Program Director, Interview 2)

Residency program directors who did not work directly with residents in the primary care continuity clinic were less aware of the extent or content of this literacy promotion training: "They have their general pediatrics attendings there. ... Since I'm not there, I really can't tell you how much of [literacy promotion] is done every week" (Program Director, Interview 6).

Program directors encourage early and repeated exposure to facilitate literacy promotion education

Several program directors discussed that they found importance in teaching residents about literacy promotion early during residency. These programs scheduled time to provide an overview of literacy promotion activities during the initial orientations to clinic sites, or as part of an introduction lecture for the well-child visit.

This is one of the initial month's talk[s]. ... So we sort of introduce them to everything. ... We do give books and the story behind how the ROR was started. ... This way, they also have some connection with it. (Program Director, Interview 7)

Included in that first round of how to do a well-child, we have the literacy talk as well. That's about a good 10, 15 minutes of the first couple of hours when they do their outpatient orientation. (Program Director, Interview 9)

Training residents about literacy promotion sometimes occurred as part of a predetermined checklist for well-child appointments.

I think continuing to recommend giving books out at well visits helps to reinforce that this is as important

as vaccines or things that are, you know, part of their well visit. So the idea that reading is an important part of each level of milestones in their development is enforced by the fact that we incorporate it into their ... well visit checklist. (Program Director, Interview 4)

In addition, having a supply of books facilitated the ability for residents to routinely advocate to patients about literacy.

It becomes part of your nature and you have like a checklist in your head of how to do a well-child so you're not always looking and that comes from doing it over and over and over. ... That book becomes part of that. And the distribution of the book and the speaking about literacy promotion, it becomes part of that routine. (Program Director, Interview 9)

Service obligations, content specifications, and pressure on faculty create competing time demands that function as key barriers to literacy promotion training

The program directors commonly reported that demanding clinical and education schedules hindered residents' participation in literacy promotion.

The balancing of education versus service ... will vary depending on how busy you are and how busy that the attending is. So there are times when there will be a lot of time to talk about what you're doing and the patients that you're seeing. There will be times when there's much less time. That's dictated by the service needs. (Program Director, Interview 6)

You have a certain amount of time allocated to an appointment and to get through all the anticipatory guidance and answering the family's questions. ... When you're new it's like having two left feet. So it's still a very mechanical process in the beginning until it gets smoothed out and it becomes part of a natural ... part of the visit. (Program Director, Interview 1)

Participants cited that within resident didactic teaching, literacy promotion falls secondary to topics that would be tested on the pediatrics board exams.

There are a number of other things that we could do as far as education around ROR. But what do I give up to do it ... is the issue. Do I do an extra hour on ROR or do I do another hour on another topic that they need to pass the boards? (Program Director, Interview 8)

Further, because literacy promotion is not tested, another program director considered the topic to be a "softer" aspect of medicine.

There's very little of the, I guess, softer aspects of "peds" that are on that test. Which is why there's a

little bit of a separation. So not you're just supposed to ignore the rest. ... It's the balance of being able to incorporate everything within three years. (Program Director, Interview 9)

Pressures experienced by faculty clinicians also decreased the opportunities and time to train residents about literacy promotion: "It's not just resident time but it's also faculty time. Faculty are pulled in a thousand directions and ... it's gotten worse over time in terms of faculty being pulled" (Program Director, Interview 2).

One program director noted that the electronic health record limited available time during appointments for physicians to discuss literacy: "I think there's a little less time, or a little less focus on ROR because I think people are just distracted by the electronic medical record. ... It takes more time to see patients and we're a little ... more distracted" (Program Director, Interview 2).

Perceived lack of interest among some residents was another barrier to literacy promotion education. A few program directors reported that residents who did not intend to work in primary care did not see literacy promotion as an important or relevant topic for them.

Interest might be another [barrier] because, you know, a lot of residents are not planning to go into primary care. So their interest may not be as much as somebody who is going into primary care. (Program Director, Interview 7)

So if there's a resident who's going into ... pediatric ICU, and they don't necessarily need to focus on literacy promotion because they're not going to be a primary care doc, or even in outpatient, they just don't even go into the outpatient at all. (Program Director, Interview 9)

One program director attributed an absence of interest in literacy promotion to residents' understanding for the need in the community: "Sometimes I think they don't appreciate ... what literacy problems are until they go out into the communities so I think the barriers are to get to know the community and know what kinds of issues are going on" (Program Director, Interview 4).

Discussion

We found that although most of the pediatric residency programs in our sample incorporate training regarding literacy promotion, program directors perceive barriers such as competing educational topics, time demands on faculty, and lack of interest from

some residents. Program directors in our sample used an existing primary-care-based literacy promotion intervention (i.e., ROR) and the primary care clinic as the primary mechanisms for literacy promotion training. These findings have direct implications for faculty involved in graduate medical education who strive to ensure pediatric residents are prepared to fulfill ever-evolving care standards.

Residency programs in our sample relied on primary care clinic experiences to provide training on literacy promotion. More specifically, program directors in our sample leveraged ROR, an existing evidence-based primary care literacy promotion program, to fulfill a relatively new training imperative. ROR provides an opportunity to foster the integration of literacy discussions into routine primary care by having residents discuss the importance of reading with patients and hand out books regularly during well-child visits. ROR has long been a model for primary-care-based literacy promotion.²⁵ Multiple studies have found that ROR produces positive effects on children's receptive and expressive language,^{26,27} parental attitudes towards reading,^{28,29} reading frequency,^{30,31} and the home literacy environment.^{32,33} Our findings suggest that ROR also plays a critical role in literacy promotion training as was suggested in a previous survey of primary care pediatricians.¹² Program directors reported that ROR helps reading recommendations become habitual for the residents participating over their three years of training. Our findings support the idea that as training imperatives and clinical practice continue to evolve, program directors may find synergy in existing evidence-based models to meet the educational needs of trainees. A different but analogous example in pediatrics is the use of evidence-based developmental screening tools to educate trainees on developmental milestones. Additional work is needed to understand whether pediatric residents exposed to ROR continue to engage in literacy promotion postresidency training.

Program directors discussed multiple factors that function as barriers to literacy promotion training in their programs, which could possibly serve as targets for future interventions. Program directors clearly must address material that will be tested on the American Board of Pediatrics (ABP) General Pediatrics Certification exam to ensure residents are well prepared. Given that literacy promotion does not appear in the ABP content specifications,³⁴ it is vulnerable to receiving limited didactic attention. Although, it is worth noting that training residents using ROR may aid trainee understanding of child

development, a topic tested on the ABP Pediatrics exam. The Accreditation Council for Graduate Medical Education's efforts around strengthening education on other social determinants of health may serve as a useful model. These efforts included the implementation of Community Pediatrics as a suggested rotation with resident self-reported competence and involvement in community activities.³⁵ Among pediatric residents, a formal curriculum targeted toward social determinants of health has been shown to improve resident comfort, knowledge, and documentation of these topics.³⁶

Residency programs might consider several practical strategies to overcome the barriers to literacy promotion training identified in our study. First, our findings suggest that in addition to improving child development and parenting outcomes,^{26–28} the ROR program is also a practical strategy for training residents in literacy promotion. Second, to overcome competing demands on didactic time, programs can make use of the online modules offered by ROR. Last, although documentation in the electronic health record was cited as a barrier that can distract providers, programs can potentially leverage these systems to provide point-of-care decision support that can remind trainees and preceptors to discuss literacy milestones and shared reading.³⁷ Future work may examine the role of electronic health records in inhibiting or facilitating literacy promotion.

Our work is subject to certain limitations. First, interviews were limited to residency programs in one state, so our findings may not transfer to all settings. Although most of the program directors in our sample practiced in a primary care setting like a national sample of pediatric residency program directors in another recently published study, our sample differed in that most participants were male and oversaw relatively smaller programs.³⁸ Second, responses may be subject to social desirability bias. Third, we did not confirm the extent to which programs participated in literacy promotion education or program directors' familiarity with ROR training materials using objective measures or observation. Further, the present study did not assess the extent to which pediatric residency programs adhere to the ROR training regimen or model. One of the most important indicators of quality for ROR and for literacy promotion more broadly is that it should not be reduced to book distribution. As the AAP recommendation is based on the power of the primary care relationship and the opportunity for specific developmentally appropriate guidance, the same facets should be present to ensure adequate

resident training. We would therefore expect that high fidelity to the ROR model would be correlated with pediatric residents' proficiency and success in promoting literacy among patients and their families. Fourth, we did not explore this topic with pediatric residents directly. Future studies might consider incorporating observation, quantitative measures, and interviews with pediatric residents. Additional work may also seek to study training practices and how they relate to resident educational outcomes, as well as the extent to which resident learning impacts patient outcomes.

Despite these limitations, our findings offer insight into current implementation methods and barriers related to literacy promotion among pediatric resident education. Program directors identified practical strategies for addressing a relatively new training imperative—in this case, literacy promotion by using required continuity clinic experiences and ROR an existing evidence-based program. Additional work is needed to evaluate strategies for overcoming barriers such as competing time demands on residents and faculty.

Conflicts of interest

The authors declare that there is no conflict of interest.

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