



# Ready and Healthy for Kindergarten: A Bilingual Family Literacy Program in Primary Care

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Accepted: 31 December 2020 / Published online: 15 January 2021

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## Abstract

**Purpose** To describe the development and pilot testing of a bilingual family literacy program (FLP) for dual language learners entering kindergarten implemented in a Federally Qualified Health Center (FQHC).

**Description** The Ready and Healthy for Kindergarten program is an English–Spanish bilingual FLP that uses four parent and pediatrician-prioritized health topics to introduce early English literacy skills to families and promote health behaviors that are important for school readiness while encouraging maintenance of Spanish. We developed an FLP manual, conducted a 16-week single-arm pilot study, and modified the FLP based on family feedback and observation.

**Assessment** We recruited 14 parent–child dyads for the pilot through clinician referral. All participating parents identified as Hispanic/Latino and 86% reported limited English proficiency. Two-thirds had less than a high school education. Seventy-one percent of families attended more than half of the sessions. Parents rated the FLP as highly acceptable. During implementation, we made substantive changes to the FLP including increasing the focus on promoting bilingualism, encouraging all participants to share their experiences with the health topics, helping parents identify literacy activities embedded in their daily health routines (e.g., lullabies), and distributing information on health resources.

**Conclusion** We developed and implemented an innovative bilingual FLP in an FQHC that was well-attended and acceptable to families. The FLP has the potential to be replicated in other primary care sites and our findings lay the groundwork for future studies on how to best leverage healthcare settings to promote equity in school readiness.

**Keywords** Family literacy program · Primary care · Early literacy education · Bilingualism · Child health

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## Significance

*What is already known on this subject?* Family literacy programs improve school readiness for children and encourage parent engagement in educational activities. However, low participation particularly among low-income Latino families limits their impact. Few programs are designed for bilingual families.

*What this study adds?* Primary care is an innovative, near-universal platform to deliver preventative parenting interventions. We developed a bilingual family literacy program set in primary care that uses parent-prioritized health topics to introduce critical early literacy skills, promote health behaviors important for school readiness, and empower parents.

## Introduction

Children from low-income Latino backgrounds experience persistent gaps in school readiness compared to their non-Latino white peers (Reardon and Portilla 2016). Early academic success influences later educational, social, and health outcomes (High & American Academy of Pediatrics Committee on Early Childhood, Adoption, and Dependent Care and Council on School Health 2008). For example, academic performance starting in kindergarten is highly correlated with future earnings, college attendance, and retirement savings (Chetty et al. 2011). Activities like parent–child shared reading can enhance early language and socio-emotional development (Jimenez et al. 2019; Raikes et al. 2006) and, therefore, school readiness; yet Spanish-speaking parents have almost 4 times the odds of never reading with their children compared to English-speaking parents (Flores et al. 2005).

Primary care is an innovative setting to promote equity in school readiness. Primary care professionals have near-universal access and frequent contact with young children and their families (Hagan et al. 2017). Low-income Latino families in particular have higher odds of attending well-child visits compared to families from other racial/ethnic groups with similar income (Wolf et al. 2018). Primary care has an opportunity to leverage trust between parents and pediatric clinicians and recent qualitative studies suggest that low-income families seek pediatricians' advice on early childhood learning (Jimenez et al. 2020; Steinberg et al. 2018). Recognizing this opportunity, the American Academy of Pediatrics identified literacy promotion as an essential component of pediatric primary care (Council on Early Childhood, High, & Klass 2014). Reach Out and Read (ROR) is the most widely disseminated primary care literacy promotion program and several studies document that ROR increases parent–child shared reading and improves language development (Mendelsohn et al. 2001). Prior work also indicates that low-income Latino families can benefit from even more support. Despite the benefits of ROR, in one study 37–45% of children from low-income Latino families were at risk for reading difficulty prior to Kindergarten (Diener et al. 2012). Since ROR does not directly address technical reading skills like phonemic awareness and decoding which contribute to kindergarten readiness, teaching children these skills could be an additional strategy to support families. Previous work suggests that parents may not feel prepared to support their children's school readiness due to their own perceived low literacy skills and limited English proficiency (LEP) (Jimenez et al. 2020). Therefore, direct skill building with parents could be a useful approach to augment current primary care literacy promotion efforts.

Family literacy programs (FLPs) encourage parents to incorporate literacy activities into their daily routines to support their children's learning (Morrow et al. 1993) and have been shown to improve children's literacy skills (van Steensel et al. 2011). However, poor participation by low-income Latino families limits their impact for this population (Janes and Kermani 2001). Some FLPs designed for low-income Latino families impose dominant cultural activities (e.g., shared reading) which may not be intuitive or enjoyable for families and some underestimate cultural forms of literacy important for literacy development (e.g., traditional songs and stories) (Janes and Kermani 2001). Furthermore, only a few FLPs are bilingual and promote learning both languages (Leyva and Skorb 2017; Rodriguez-Brown 2010). Socio-cultural theory (SCT) highlights that children's social and cultural experiences and interactions with adult caregivers facilitate their learning (Davidson 2010). SCT-based bilingual FLPs incorporate families' cultural experiences to empower parents to become more involved in their children's early literacy development. Strategies include use of families' heritage language and encouraging discussion to incorporate families' experiences and build on existing routines rather than replacing them (Rodriguez-Brown 2010).

To address current gaps in the literature noted above and leverage the near universal reach and established trust of primary care, we developed and pilot-tested an SCT-based bilingual FLP implemented in a Federally Qualified Health Center (FQHC). The FLP builds on an interdisciplinary partnership between literacy educators and pediatricians. The FLP uses a primary care setting to introduce early literacy skills to children entering kindergarten and their families, promote healthy behaviors important for learning, and encourage bilingualism.

## Methods

### FLP Setting

All research activities took place at an FQHC in a Northeastern city in the US with a population of approximately 55,000 people. According to the US Census, 50% of the city population identifies as Hispanic/Latino and 34% have incomes less than 100% of the Federal Poverty Level (U.S. Census Bureau 2019). Most of the patients served at the FQHC identify as Hispanic/Latino (71%) and have incomes below 100% of the Federal Poverty Level (84%).

### FLP Development and Structure

#### Development

This project builds on our team's work enhancing literacy promotion for low-income Latino families (Jimenez et al.

2020). During qualitative interviews, parents expressed concerns that their LEP and literacy skills interfered with their ability to support their children’s school readiness and expressed a desire for more help from their pediatricians on this topic. We developed the FLP to respond to this need. We began the FLP development process with a detailed literature review and interdisciplinary team meetings that included educators and pediatricians. Team-members had expertise in literacy and language development, creating FLPs, and pediatrics. Our team also sought input directly from low-income Latino families on health topics that were priorities for them through informal interactions during pediatric office visits. Through this process, we identified

the priorities of involved stakeholders: families, healthcare professionals, and educators (Fig. 1).

Building on this work, we used SCT principles to inform development of the Ready and Healthy for Kindergarten/ Listo y Saludable para el Kinder FLP (Fig. 2). The idea that parents are their children’s first and most important teachers was a key premise for program design. Additionally, we designed the FLP to be hosted in an FQHC to build on families’ familiarity with this setting and to leverage existing trust between parents and their pediatric clinicians. We also decided to host the FLP primarily in families’ heritage language, Spanish, recruited a bilingual facilitator, and incorporated culturally relevant materials (e.g., bilingual storybooks) to ensure the FLP reflected families’ cultures. Furthermore, we centered program activities around health topics that parents prioritized: physical activity, nutrition, bedtime routines, and socio-emotional development. We also planned a weekly health discussion activity to encourage families to share their experiences to draw on their knowledge. Lastly, we decided to welcome other family members to the sessions, which is consistent with *familismo*, a value commonly held among Latinos that prioritizes family (Sabogal et al. 1987).

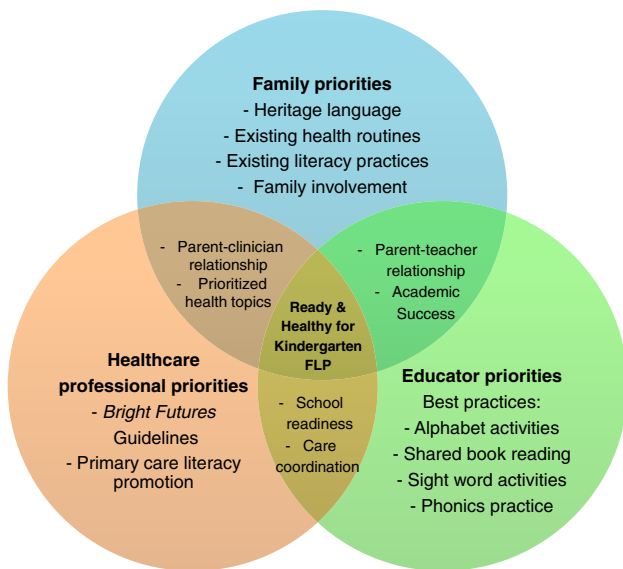


Fig. 1 Priorities of families, healthcare professionals, and educators incorporated into the family literacy program (FLP)

**Structure**

The FLP has 3 components: (1) parent–child workshops, (2) take-home activity kits, and (3) reminder text messages. The parent–child workshops consist of eight 45-min weekly sessions. Each session includes these activities in the following order: singing the alphabet, facilitator-led discussion of that week’s health topic, letter identification and phonics flashcards, letter writing, singing a health-related song, English sight word flashcards focused on words from that week’s health-related bilingual children’s storybook, and facilitator-led shared

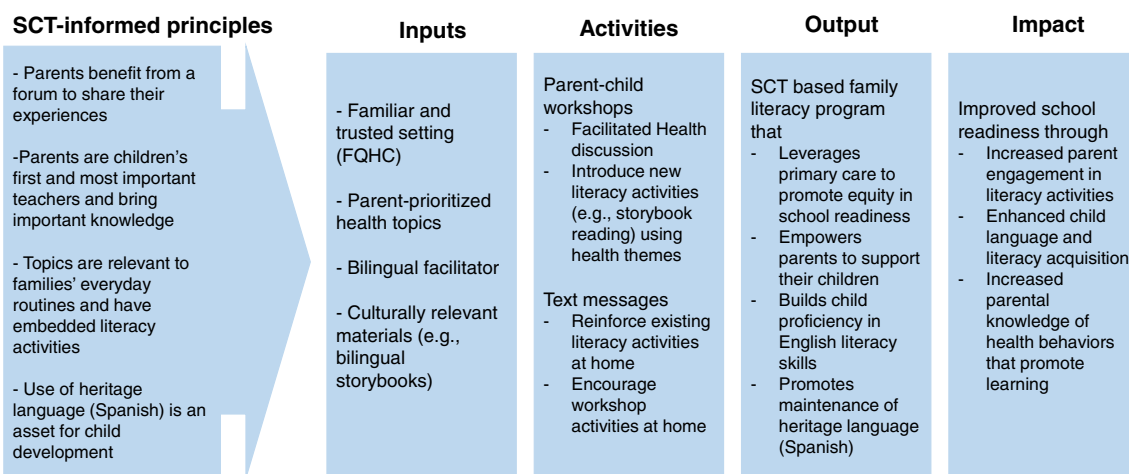


Fig. 2 Logic model for the family literacy program (FLP) using socio-cultural theory (SCT)

reading of that storybook. We designed kits for families to take home each week including sight word and letter flashcards from class and storybooks. Each week we sent two text messages to parents that suggested literacy games or encouraged practicing class activities (e.g., letter flashcards).

### Pilot Study

**Sample** The pilot study took place from May to September 2019. We recruited children who were reportedly entering kindergarten in September 2019 and their parents through clinician referral from within the FQHC. We hosted two 8-week cohorts. We ran two identical workshops per week, a weekday evening and a weekend morning, which were times families endorsed. Families attended the most convenient session.

**Data Collection** A research assistant observed all sessions and maintained detailed field notes on parent and child engagement. We also collected data on study enrollment defined as the number of families that agreed to participate over approached, session attendance, and retention defined as the number of families that completed the outcome assessment over enrolled. We assessed parent acceptability using the Acceptability of Intervention Measure (AIM) (Weiner et al. 2017) and two open-ended prompts (“Please tell us about your experience with the program.” and “Please use 3 words to describe the program.”). A bilingual team-member translated the AIM from English to Spanish and the translation was reviewed by other bilingual team-members.

**Analysis** We summarized data on enrollment, demographic information, attendance, retention, and acceptability. We analyzed parent responses to open-ended questions using inductive content analysis (Elo and Kyngäs 2008). Two study team members read the responses several times to develop a coding guide. Three team members (PS, DL, and MJ) reviewed the data, reconciled discrepancies in coding, and discussed patterns to identify themes. We made changes to the FLP manual based on parent responses and observations.

This study was approved by the Rutgers Biomedical Health Sciences Institutional Review Board and was registered on ClinicalTrials.gov (NCT03941197) before the first participant was enrolled. All participants gave their informed consent prior to study inclusion.

### Assessment

### Recruitment and Demographics

We enrolled 14 of the 20 eligible families that expressed interest in participating. Eight families participated in the

first cohort and 6 families participated in the second. All participating parents identified as Hispanic/Latino and 86% reported LEP. Only 14% of parents were born in the US and 57% were born in Mexico. Two-thirds had less than a high school education (Table 1).

### Feasibility and Acceptability

Seventy-one percent of families attended more than half of the sessions and half of families participated in 7 or 8 sessions (Table 2). Seventy-nine percent completed the study.

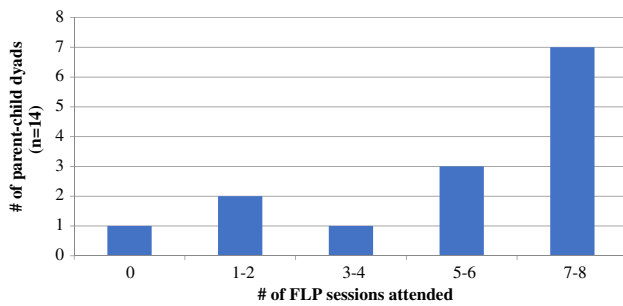
Parents rated the program as highly acceptable (Table 3). Three themes emerged from their responses to the open-ended questions.

Parents appreciated watching and participating in their children’s learning and development.

**Table 1** Parent-reported demographic information

	n = 14 parent–child dyads
Preferred language, # of parents (%)	
Spanish	12 (86%)
English	2 (14%)
Child age, # of children (%)	
4 years	3 (21%)
5 years	10 (71%)
6 years	1 (7%)
Mean parent age (range)	31.5 years (22–42)
Parent racial ethnic group, # of parents (%)	
Hispanic/Latino	14 (100%)
Parent country of birth, # of parents (%)	
México	8 (57%)
Honduras	2 (14%)
El Salvador	1 (7%)
Guatemala	1 (7%)
United States	2 (14%)
Parent education, # of parents (%)	
Less than 8th grade	5 (36%)
9th–12th grade	5 (36%)
HS diploma or higher	4 (29%)
Parent English proficiency, # of parents (%)	
Not at all	5 (36%)
Not well	3 (21%)
Well	4 (29%)
Very well	2 (14%)
Family Income, # of parents (%)	
< 25,500	6 (43%)
≥ 25,500	5 (36%)

**Table 2** Parent-child dyad attendance



“My experience with the program was excellent because I was able to interact with my son while he was learning new things.

Parents felt they were learning alongside their children during sessions.

Together with my son, I am learning a lot.

Parents learned how they can support their children’s learning and development.

I learned a lot of things like spending more time with my kids and ways to teach them more. I loved this program. I am thankful for the orientation given to our kids.

## Program Modifications

Based on parent feedback and our team’s observations, we made the following changes to the program for the second cohort.

## Health Discussions

To enhance participation, we held separate health discussions for children and parents. For children, the facilitator used the health-related storybook to encourage discussion. For parents, the facilitator introduced *Bright Futures* recommendations (Hagan et al. 2017), asked open-ended questions, and used active listening to encourage parents to share their health routines with the group and discuss barriers to following health recommendations. The facilitator used a strengths-based approach and encouraged families to discover and maintain literacy activities embedded in their existing health routines (e.g., reading food labels) and incorporate additional literacy activities (e.g., finding letters in the store) and health activities (e.g., dancing as exercise). Lastly, the facilitator encouraged families to set health and literacy skill related goals for the upcoming week and provided resources (e.g., a list of local farmer’s markets).

## Cultural Relevance of Activities

To enhance cultural relevance, we asked parents to recommend activities for the FLP. For example, the facilitator asked families to identify a lullaby they sing, which we used during the Bedtime Routines unit.

**Table 3** Acceptability survey responses and quotes from open-ended questions

Acceptability of intervention measure (AIM) <sup>a</sup> question	AIM mean score (range) <sup>b</sup> n = 10 parents	Representative quotations from open-ended questions <sup>c</sup>
(1) The program met my approval	4.8(4–5)	• “Excellent, Beneficial, Enjoyable”
(2) The program was appealing to me	4.9(4–5)	• “Teach, Share, Learn”
(3) I liked the program	5	• “I am very happy with programs like this one. They are very good for the children and for us parents”
(4) I welcome what I learned in the program	5	• “The program was very interesting especially with the parent participation. This way we know how attentive our kids are during class.” • “Thank you for all the support that you provided my son. It was an exceptional experience” • “...I was impressed with your tactics so that I am able to help my child in his learning”

<sup>a</sup>(Weiner et al. 2017)

<sup>b</sup>Each question was scored from 1 to 5, with 1 representing strongly disagree and 5 representing strongly agree

<sup>c</sup>Participants were asked to answer the following questions, “Please tell us about your experience with the program.” and “Please use 3 words to describe the program.” Responses in Spanish were translated to English

## Bilingualism and Spanish-Use

To enhance programmatic focus on bilingualism, we ensured health discussions with parents were held in parents' primary language of Spanish and used a combination of Spanish and English during discussions with children. We emphasized the benefits of bilingualism throughout the program and included focused discussion on the subject during the socio-emotional development health topic. We also addressed common myths about bilingualism (e.g., learning two languages causes confusion).

## Conclusion

We found that a bilingual FLP developed through an educator-pediatrician partnership and implemented in an FQHC was well attended and acceptable. Nearly all the families attended at least one session and half attended nearly all. Parents rated the FLP favorably and appreciated watching their children develop during the program, learning alongside and interacting with their children, and learning techniques to support their children's development. Our findings are promising and represent a first step in understanding how FLPs can be used to leverage healthcare settings to promote equity in school readiness.

The attendance rate for the current FLP is high when compared to other primary care-based parenting programs (Schilling et al. 2019) and other FLPs (Janes and Kermani 2001). Attrition rates for other FLPs designed for low-income Latino families have been as high as 70% (Janes and Kermani 2001). The high attendance in this study can likely be attributed, at least in part, to our use of SCT to inform program development. Several program elements were consistent with SCT. First, we held the FLP in a trusted and convenient location, an FQHC. Second, we structured the program around parent-prioritized topics. Third, we led the sessions in Spanish, which simultaneously endorsed the importance of families' language and culture and made the program accessible to all family members. Fourth, we used culturally-relevant materials which further enforced the relevancy of families' language and culture. Fifth, we used parent feedback to refine the FLP. Other SCT-based FLP pilots, which had similar features like encouraging use of heritage language during literacy activities had high attendance (Hirst et al. 2010). Future research should identify which program features are most important to families and determine how to further engage parents in the design of parenting programs.

Based on their feedback, parents found the FLP to be enjoyable and beneficial. Specifically, parents reported that they enjoyed interacting with, watching, and learning alongside their children during sessions. Parents also appreciated the opportunity to learn how they can support their

children's learning and help them develop. Our use of the parents' primary language likely facilitated their participation in the program alongside their children. Other bilingual FLPs, which encouraged use of heritage language received similar feedback from parents that they enjoyed spending time with their children during sessions and learning techniques to support their children's learning (Hirst et al. 2010; Leyva and Skorb 2017). Additional research should investigate the academic and socio-emotional outcomes of bilingual FLPs on dual language learners and their families.

Our pilot study is subject to certain limitations. First, because we implemented the FLP in one community, our findings may not generalize to all settings. Second, since a small sample of 14 families enrolled in the study, our results may be subject to selection bias. Third, given that this study was a time-limited pilot, we could not definitively test the effect of the intervention on parenting behavior and/or literacy development. Fourth, although we used a standard approach to translation, the AIM was not validated in Spanish. Fifth, we did not obtain feedback from the children enrolled in the study. We are planning additional work to address these limitations.

Despite these limitations, we found that a bilingual FLP based in an FQHC was well received and feasible. The current study opens the door for future research on how bilingual FLPs may build on successful and widely disseminated primary care-based literacy promotion programs such as ROR.

**Acknowledgements** We would like to thank the participants, our collaborators at the Rutgers University Graduate School of Education for their help in developing materials for the FLP and the staff and community board at Eric B. Chandler Health Center for their support of this project. We would also like to thank Haneen Bahader, Daniela Ceballos, Lawrence Liu, Jessica Pelaez, Mariam Tayiebi, Bridget Yako, and Nila Uthirasamy for their work making the take-home activity kits used in this study. Dr. Jimenez was supported by the Robert Wood Johnson Foundation Harold Amos Medical Faculty Development Program (grant 73308). Research reported in this publication was supported in part by the National Center for Advancing Translational Sciences, a component of the National Institutes of Health under award number UL1TR003017, as well as the Robert Wood Johnson Foundation through its support of the Child Health Institute of New Jersey (Grant 74260). The content is solely the responsibility of the authors and do not necessarily reflect the views of the funders.

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