

Final Report of the Raising Readers Impact Study

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Submitted to Raising Readers by

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Introduction

So the first experience was in the hospital getting the bags for each of my kiddos which was amazing and some of their favorite books. And then it was honestly the highlight of going to the doctor's and getting new books every visit because they were typically books that I hadn't heard of before and I hadn't seen before and they're literally some of my kids' favorites. So that is definitely our relationship [with Raising Readers].

(Parent #25)

So, when we're talking about literacy, it's reading, writing...you know, essentially I'm all for it of course. But in terms of how we get to it, I think this [Raising Readers] has become a successful avenue. I always kind of knew it personally, but also, I think that we've shown for all children from all backgrounds—poor or whatever—you give them a book and we can open their door to literacy, too. I think that's true. You know there's some children who are challenged and maybe aren't going to find reading as easy as others, not because of their backgrounds so much as whatever IQ they came with, etc. but most—right down to some, you know lower than average children, can be charmed by books and enjoy them.

(Provider #2)

The purpose of this report is to summarize the results of research designed to evaluate the collective impact of the Raising Readers program on the attitudes and behaviors of Maine parents and healthcare providers who care for pediatric patients across the state of Maine. In spite of being the largest health and literacy program ever undertaken in a state, Raising Readers has remained true to its mission that every child aged birth to five who receives well-child care in Maine is given at least a dozen hardcover books and grows up being read to from birth. Twenty years of quantitative research by organizations such as Reach Out and Read and the Annie E. Casey Foundation have provided unequivocal evidence that early literacy positively affects children's brain development and that those who are exposed to literacy from birth are more likely to succeed in school and life. Research has also demonstrated that children

participating in medical book distribution models have an advantage over their non-participating peers in the area of emergent literacy development (see for example High et al. 1998, Mendelsohn et al., 2001, or Sharif et al. 2002). Also in support of medical book distribution models, the American Academy of Pediatrics, in its July 2014 Policy Statement, “Literacy Promotion: An Essential Component of Primary Care Pediatric Practice,” specifically requested that pediatric healthcare providers become powerful advocates for reading aloud to babies and young children, going so far as to recommend providers’ add it to their anticipatory guidance for families, along with breastfeeding, safe sleep, and vaccinations, as a way to highlight its importance. In this project, Raising Readers was not looking to duplicate the research described above, but instead this project focused locally on how the program has affected attitudes, beliefs and behaviors of families and the medical community through a series of surveys, focus groups and interviews with parents and medical providers. Using the findings of this study, we identify what is working well and also identify potential areas of improvement to enable the program to better serve the diverse needs of Maine’s families and providers.

Background for the Current Project

Founded in 2000, and now the largest health and literacy program ever undertaken in a state, Raising Readers has remained true to its mission that every child aged birth to five who receive well-child care in Maine is given at least a dozen hardcover books and grows up being read to from birth. The program’s model reinforces the powerful understanding that literacy begins well before children enter kindergarten; that it is integrally tied to a child’s health,

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school readiness and long-term success; and that reading to children is one of the most important things parents can do to foster brain development.

Previous research has shown the important role physicians play when counseling parents at well-child visits: parents who receive physician counseling about reading aloud are more likely to read to their babies and children than parents who don't get this information from their child's doctor (see for example, Diener et al. 2012, Golova et al., 1999, or High et al., 2000). Seven hundred new brain connections are formed each second during the first two years of life and brain development is 90 percent complete by the age of three.

Raising Readers serves families and children in all of Maine's 16 counties thanks to a longstanding collaboration between the state's two largest health systems, MaineHealth and EMHS, and the 350 hospitals and medical practices that participate in the program. Now in its fifteenth year, Raising Readers has reached over 228,000 children and distributed more than 2.2 million books. The program has been wholly funded by the Libra Foundation and based at MaineHealth since its inception.

As mentioned above, twenty years of quantitative research by organizations such as Reach Out and Read and the Annie E. Casey Foundation have provided important and clear evidence that early literacy positively affects children's brain development and that those who are exposed to literacy from birth are more likely to succeed in school and life. Research has also demonstrated that children participating in medical book distribution models are at an advantage to their non-participating peers in the area of emergent literacy development. The American Academy of Pediatrics, in its July 2014 Policy Statement, "Literacy Promotion: An

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Essential Component of Primary Care Pediatric Practice” endorsed a message that Maine provider have been promoting for many years – reading to a child can never begin too soon.

Since it began, Raising Readers has collected annual statistics on the number of books distributed through medical practices, hospitals and birth centers; and the percent of children aged birth through five estimated to receive well-child care in Maine who were reached by Raising Readers. For the past 15 years, the program has also conducted an annual quality improvement survey with healthcare providers and their clinical and administrative staff to gain insight in to how the program is integrated in to well-child visits and how it is used to highlight the importance of early literacy with families. Providers are asked three questions about their perception of the impact of the program, namely whether it changed their approach to well-child visits; increased the counseling they do about reading; and appeared to increase the prevalence of parents reading aloud. Providers are asked a second set of questions regarding how they use the Raising Readers books in the visit (e.g., to assess developmental level; model reading behavior; assess parent/child interaction; entertain the child; or as part of anticipatory guidance).

In the current project, the researchers were looking to duplicate the research described above, but instead focused locally on how the program has affected attitudes, beliefs and behaviors of families and the medical community regarding early literacy through a series of surveys, focus groups and interviews with parents, healthcare providers, and clinical support staff.

Description of the Current Project

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This project funded an investigation of the well-established Raising Readers book distribution program among health care providers in Maine practices. Over the last fifteen years, this program has given away more than two million books to families with young children birth to age five at each well child visit with participating practitioners across the state. The Horizon grant allowed researchers from the University of Maine to create a mixed methodological study that included designing, distributing and analyzing surveys of families and practitioners involved with Raising Readers during the fall of 2015. Additionally, interviews were conducted with randomly selected volunteer parents and practitioners. The guiding questions of this research were:

In what ways, if any, does Raising Readers program impact the children and families of Maine?

In what ways, if any, does the Raising Readers program impact the participating health practitioners of Maine?

More specifically, we endeavored to assess:

- a. Effects of the Raising Readers program on parents' attitudes regarding reading aloud to their children.
- b. Effects of the Raising Readers program on parents' behaviors regarding reading aloud to their children.
- c. Parents' assessment of the perceived benefits of the program for their children's "literacy knowledge" (i.e. the knowledge and skills that lay the foundation for reading and writing).

- d. Effects of the Raising Readers program on health care provider attitudes about early literacy.
- e. Effects of the Raising Readers program on health care provider relationships with patients and families.
- f. Any other benefits identified by the participants.

Data Collection

The data collection plan was based on a mixed methods design that included a plan for collecting large numbers of surveys from both practitioners and families working with Raising Readers. These surveys were designed to yield quantitative data with some qualitative remarks added to the end of the survey. Additionally, the research team sought qualitative data through parent and practitioner interviews conducted by phone during the spring of 2016.

The parent surveys. The original proposal called for surveys to be distributed to every participating practitioner's office in Maine for a single month. This design ensured a random sampling of families coming to their practitioners for all levels of well child visits. That is to say, any given month would have a random distribution by age of children and assuming no one month had more birthdays than any other, a similar number of children. Surveys were designed by the University of Maine researchers and copied and distributed by the Raising Readers staff to each of the participating sites. In total, 11,000 surveys were created and distributed for practitioners to share with their families during the well child visit. A total of 815 completed surveys were returned. The survey is attached as Appendix A.

The practitioner surveys. Each participating practitioner was given a survey to complete as well. These surveys were similar to the parent surveys but focused on the unique perspective that a practitioner would have about working with Raising Readers and benefits she or he attributed to the Raising Readers program. Raising Readers works with 1328 practitioners and distributed a survey to each one. 238 were completed and returned for a return rate of 18%. The practitioner survey is attached as Appendix B.

Practitioner interviews. Each of the practitioners was invited to participate in a follow up interview. Of the 1328 practitioners who received a survey, 42 agreed to be interviewed. From those, we randomly selected 15 practitioners for a follow-up phone interview. All 15 were interviewed but one did not record so 14 interviews were actually transcribed and analyzed. The practitioner interview protocol is attached as Appendix C.

Parent focus groups. The original project proposal called for 3 one hour focus groups of 10 parents to be conducted in three zones of the state. Each parent completing a survey was invited to volunteer to participate in such a group. Unfortunately, after randomly selecting participants in three areas, we found we could not get commitment from participants. Instead, we conducted phone interviews as described in the next section.

Parent Interviews instead of Focus Groups. Since participants were unwilling to travel even a half hour for a focus group, we instead used the questions we'd intended to ask in a focus group to conduct phone interviews. We were able to schedule, conduct, record and analyze 27 interviews of parents that were sorted by geographic area and then randomly

selected. These interviews were then transcribed for analysis. The protocol for the parent phone interviews is attached as Appendix D.

Limitations to the study

While every effort was made to maintain integrity of design and analysis, there are some caveats associated with the findings of this investigation.

Practitioner respondents were not always practitioners. Both in the interviews and the surveys, we found that actual doctors or nurse practitioners were not always the people completing the survey or engaging in the interviews. Often, it was an office person in charge of book distribution/ordering. Whenever possible, we noted the role of the person completing the survey or interview. It may be however, that we don't know who completed the survey and particular behaviors or benefits that a doctor might identify will have gone unreported by an administrative assistant who was not present for actual well child visits. Similarly, benefits may have been over stated by an enthusiastic administrator with little actual knowledge of the goings on during a well child visit.

Limitations of the Quantitative Data

As with all studies, this one has limitations. In this study, many of the limitations are linked to lack of depth in demographic information collected about the respondents, and about the responding sample's characteristics. Because the study was designed to offer a random sample of parents the opportunity to participate, the actual sample responding includes a self-selection bias. Several thousand surveys were distributed (10,843 parent surveys were sent out to medical practices participating in Raising Readers around the state, to be distributed to

parents of children receiving a book from Raising Readers during the survey collection period in fall 2015). Because non-distributed surveys were not returned to Raising Readers, we know how many surveys were distributed to medical practices, but we do not know how many of those were distributed by the practice to the patients. As such, we cannot calculate an accurate response rate, only an accurate response N (815). The 815 parents choosing to respond did so of their own volition. In analyzing the demographics of the 815 self-selecting respondents, it was found that the sample responding was, in several ways, not representative of Maine's demographics overall. In addition, the amount of demographic information that we collected was limited.

Limitations of Qualitative Data

While we randomized our selection of parents and practitioners to interview from those that volunteered, those that volunteered were likely more predisposed to think positively about the program than those who did not volunteer to be interviewed. Interview data gathered in this way is likely to "slant positive" and while it should not be completely disregarded, it should be evaluated in terms of specific examples offered rather than density of positive responses.

Missing Demographic Information

In designing the survey, a conscious choice was made to limit questions about respondent demographics; this was done for three reasons: to increase the amount of questions that could be focused on respondents' perceptions of the Raising Readers program, to keep the survey at a reasonable length so as not to deter participation, and to ensure a non-intrusive feel to the survey (also so as not to deter participation). For these three reasons, we

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did not collect extensive demographic information on our respondents; as such, we do not know the gender or age of the respondent, whether single, married, or living together, nor do we know whether the respondent was a parent or some other caregiver. We also did not collect information on whether the parent(s)/caregiver(s) were working in or outside the home, were working full or part time, what their profession(s) are, or on household income. While we did collect information on several demographic variables (child age, child gender, child's full or part-time daycare attendance, number of siblings and whether those siblings are older or younger, number of adults living in the household, years of education of each adult living in the home, and all languages spoken in the home), there are several more demographic variables we could have collected. In selecting a subset of the potential demographic variables to collect, we made an effort to choose the ones most theoretically relevant to our study, and allowed single variables to serve as rough proxies for overarching constructs (e.g., parent education for socioeconomic status).

In addition to the calculated decision to limit the number of demographic questions on the survey, we also missed a geographic variable due to a miscommunication between the study researchers and the program staff (who distributed the survey). We, the researchers, had understood that a medical practice ID number would be printed on the surveys going to a particular medical practice, which, upon receipt of a completed survey would provide information about the geographic location of the respondent. Unfortunately, the printed surveys did not have a medical practice ID number on them. In this way, one variable that we had designed the study to collect was not collected.

Responding Sample Non-Representativeness

Comparing the responding sample's distribution in several demographic variables to the overall Maine population's distribution revealed several variables on which our sample was dissimilar from the state population. These include that we had, proportionally, fewer single parent/caregiver households (our sample: 5.8%; statewide population: 9.5%), and more college-educated adults (our sample: 49% have a college or graduate-level degree; statewide population: 26.5% of Maine adults have a college or graduate-level degree). In addition, although it is difficult to know an exact statistic on daycare attendance statewide, we suspect that the number of respondents reporting that their children were at home full time may not be representative, with our survey receiving more responses, proportionally, from stay-at-home parents than there are stay-at-home parents in Maine.

Finally, although not an issue of statistical representativeness, but of coverage, we received zero responses from the state's growing Somali population. While this is statistically possible and needn't reflect on representativeness (10,000 Somali residents of 1.3 million Maine residents), we were hoping to start learning about the Raising Readers program's impact on new Mainer's families. This is an area ripe for future research given the extensive research showing that children's book distribution programs are often most beneficial to children from minority groups, children whose parents are second language speakers of English, and children of certain emotional temperaments; in brief: Raising Readers' impact appears to be strong overall, and may be even stronger among families in the newcomer population.

Data Analysis

Quantitative Data Analysis

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A comprehensive data system was created for all quantitative data for the surveys, entering each of the 815 parent and 238 provider responses into a de-identified database with a numeric code for each respondent. Descriptive statistics and statistical analyses were run in EXCEL to identify relationships between categories, demographics and survey responses.

Qualitative Data

In addition to the extensive quantitative data described above, this study also collected and analyzed a significant body of qualitative data. We began data analysis by formulating some coding categories as recommended by Miles, Huberman, and Saldana (2014). We based our initial coding categories on our own experiences and a review of the literature. These deductive categories included: *Parent Belief and Practice, Provider Belief and Practice, Benefits to Parents, Benefits to Providers, Benefits to Children, Disconnect Between Belief and Practice, Structure of Raising Readers, and Suggestions for Raising Readers*. Because we wanted to understand parent and provider perceptions in their own language, we also conducted in vivo coding of short excerpts both inside and outside of these categories for our initial coding. We used *Dedoose* software to combine and eliminate codes. We developed 5 inductive master codes that included *Advice, Belief and Practice, Raising Readers Effect, Relationship Foundation, and Suggestions/Improving Raising Readers*. Each of the first five master codes was divided into inductive secondary codes based on the interviews. Many of these codes focused on analyzing the populations affected by Raising Readers and the effects on these populations. For a list of Master and Secondary Codes, please see Table 1A. In addition, under each of these master and secondary codes, we developed a variety of inductive child codes. Finally, we created a matrix of these final codes within *Dedoose* so we could look across interviews and identify key themes.

Table: Coding scheme used in Dedoose for interview data

Advice	Belief and Practice	Relationship Foundation	Raising Readers Effect	Suggestions/ Improving Raising Readers
Parent Advice for Families	Parent Belief	Parent/Provider Relationship Formal	Changed Parent Behaviors	Practices
Provider Advice for Families	Provider Belief	Parent/Provider Relationship Informal	Changed Provider Behaviors	Distribution
Provider Advice for Providers	Parent Practice		No Change/No Effect	Material
	Provider Practice		Benefits	Population
			Source of Effect	

The Findings

The findings in this study will be reported as they relate to the guiding questions, embedding both relevant supporting quantitative and qualitative data in the same section. As indicated above, the key questions of this study are:

- *What are the effects of the Raising Readers program on parents' attitudes regarding reading aloud to their children?*
- *What are the effects of the Raising Readers program on parents' behaviors regarding reading aloud to their children?*
- *What are parents' assessment of the perceived benefits of the program for their children's "literacy knowledge" (i.e. the knowledge and skills that lay the foundation for reading and writing)?*

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- *What are the effects of the Raising Readers program on health care provider attitudes about early literacy?*
- *What are the effects of the Raising Readers program on health care provider relationships with patients and families?*
- *Are there any other benefits identified by the participants?*

Before reporting on these questions, however, knowing who our respondents were will be helpful.

Raising Readers Impact Study: Demographics

From the parent survey, only a small number of questions were specifically about the parents (caregivers) responding to the survey. In addition, a small number of questions were about the demographics of the family situation overall, and a large number of questions sought information on the children regarding whom the respondents were answering the survey's questions.

The children ranged in age from 0 to school-age; for the purposes of this study, children 6 and older were excluded (n=18) because the questionnaire was designed to be completed in tandem with the child receiving a book from their primary care physician as part of the Raising Readers book distribution program. This program gifts its last book to children at their five-year check-up. In addition to 18 excluded responses, 38 respondents did not indicate their child's age. Of the 759 valid responses, 54% of responses are from parents of children under the age of 2; as such, this survey's respondents trend towards less exposure to the Raising Readers program rather than more exposure.

Table: Number and percentage (of valid responses) of children in each age range

Child Age (Months)	# (%) of Respondents
0-11	177 (23%)
12-23	234 (31%)
24-35	109 (14%)
36-47	96 (13%)
48-59	73 (10%)
60-71	70 (9%)

The children about whom the adults were responding to the survey were slightly higher number of male children than female (412 male; 361 female; 42 missing data points). Of the 773 survey responses with child gender indicated, 53% of responses were in reference to male children and 47% of responses in reference to female children. The variation in responses for male and female children was not related to the child’s age; each age group has varying percentages of male and female respondents, as shown in the table:

Table: Child demographics by age and by gender (percentages by child age in months)

	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Child Gender						
Male	59%	52%	56%	46%	57%	49%
Female	41%	48%	44%	54%	43%	51%

As expected, there is systematic variance in the relationship between the child’s age and the number of siblings that he or she has; older children have more siblings:

Table: Child’s number of siblings by age (percentages by child age in months)

Number of Siblings	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Zero	46%	48%	36%	26%	21%	16%
One	38%	36%	41%	58%	57%	51%

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Two	13%	10%	18%	16%	18%	26%
Three or More	3%	6%	5%	0%	4%	7%

Because children can have both older and younger siblings, an additional question asked about the relative position of the child for whom the survey was filled out. While the number of younger children in the home (younger than the child for whom the survey response was completed) varies systematically with the age of the child, the number of older children in the home (older than the child for whom the survey was completed) remains steady (between 48 and 60% of 0-5 year olds having zero older siblings) regardless of the age of the child (please see table below). This is a critical demographic consideration because it indicates that approximately half of the youngest children in this survey are children of first-time parents. In this way, child age is also somewhat a proxy for parent experience.

Table: Child's older or younger sibling status by age (percentages by child age in months—only 'without siblings' percentages shown)

	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Zero siblings who are:						
Older	48%	52%	49%	60%	60%	50%
Younger	96%	94%	76%	55%	52%	47%

In addition to number of siblings and relative age, we asked about the child's full or part-time attendance at a daycare facility, preschool, or Kindergarten classroom. Our respondents reported older children increasingly being cared for outside the home.

Table: Child's daycare attendance (percentages by child age in months)

Daycare Attendance	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Not in care	113 (66%)	132 (57%)	53 (49%)	26 (37%)	5 (7%)	23 (34%)

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In part-time care	25 (14%)	48 (21%)	16 (15%)	39 (41%)	35 (48%)	14 (20%)
In full-time care	34 (20%)	52 (22%)	39 (36%)	31 (32%)	33 (45%)	31 (46%)

Similar to older children being more likely than younger children to be in care outside of the home, older children are reported to live in homes with more children’s books than younger children. As previously mentioned in regard to the high percentage of one and two-year old children whose parents do not have older children at home, this observed effect in number of children’s books in the home aligns with the relative absence of older siblings within the group of respondents with younger children (ages 0-23 months).

Table: Number of children’s books report in child’s home (percentages by child age in months)

Children’s Books at Home	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
0-25	46 (27%)	24 (11%)	8 (8%)	7 (7%)	4 (6%)	5 (7%)
25-50	51 (30%)	81 (36%)	30 (29%)	17 (18%)	13 (18%)	7 (10%)
50-100	42 (24%)	82 (36%)	35 (34%)	35 (38%)	27 (38%)	25 (36%)
100+	33 (19%)	38 (17%)	30 (29%)	34 (37%)	27 (38%)	32 (47%)

Finally, two family demographic questions focused on the education levels attained by the adults living in the home (from which we also totaled the number of adults living in each child’s home), and the languages spoken inside the home where the child lives. In terms of languages, only a small percentage reported using an additional language (to English) at home (n=53, 7%). Only two languages had a critical mass among the 53 reporting a second language (French with 22 families, and Spanish with 12 families); all other languages reported had a range of one to three families speaking that language at home. It is important to note that no responses to this survey were received from the linguistic community with the largest number

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of school-going children speaking a second language: Somali. In Maine, the three largest L2 groups are Somali, French, and Spanish, with approximately three times as many Somali-speaking children as French or Spanish. In this way, our sample is not only not representative, but may indicate that evaluating the Raising Readers program effect on this linguistic group may need to be undertaken using a different methodology than written surveys.

In terms of parent education, which was chosen as an important, and relatively low intrusion, indicator of family socio-economic status. Two trends in parent education are critically important to interpreting the results of our study: our sample is skewed in that our sample is more highly educated than is representative of the state of Maine as a whole, and the correlation between the education levels of the two parents in a home is high.

Of 784 valid responses detailing the respondent's education level, 36% of the respondents indicated holding a college degree, with an additional 21% having attending some college, and an additional 18% having gone to graduate school. When asking the parent filling out the survey to report on the education level of a second adult (if applicable) living in the home, it was found that 46 respondents did not have a second adult living in the home. Of the 738 families with a second parent, the most frequently reported education level for the second parent was that of having a high school diploma (or less). Overall (n=1522 for both first and, if applicable, second adult living in the child's home), 30% of parents had a high school diploma (or less), while 21% had some college (but no degree), and 49% had either a college degree or graduate school qualifications.

Table: Number and percentage of parents (parent 1, parent 2 if applicable, and total parents) with each education level

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	Parent 1 Education Level	Parent 2 Education Level	Total Adult Education Level
≤ High School	196 (25%)	253 (34%)	449 (30%)
Some College	166 (21%)	160 (22%)	326 (21%)
College Graduate	279 (36%)	214 (29%)	493 (32%)
Graduate School	143 (18%)	111 (15%)	254 (17%)

As mentioned, there is a high correlation between education levels of the two parents living in the same home. Parents who graduated from high school are most likely to be partnered with someone who also graduated from high school; this relationship holds across all levels of education.

Table: Matrix of parent education levels (percentages by parent 1 education level)

		Parent 2 Education				
		Single Parent	≤ High School	Some College	College Graduate	Graduate School
Parent 1 Education	≤ High School	27 (14%)	128 (65%)	29 (15%)	10 (5%)	2 (1%)
	Some College	9 (5%)	62 (37%)	64 (39%)	25 (15%)	6 (4%)
	College Graduate	6 (2%)	56 (20%)	48 (17%)	131 (47%)	38 (14%)
	Graduate School	4 (3%)	7 (5%)	19 (13%)	48 (34%)	65 (45%)

If this distribution is representative of the population at large, it is an important consideration to remember when planning interventions and/or programs. As book distribution program evaluations have shown in various settings, the program tends to be most beneficial for populations most likely to need it (e.g., second language speakers, children with atypical behavior profiles, and children in areas with most economic need). When designing programs

or interventions that are not universal (in contrast to the universal distribution of children’s books in which Raising Readers engages), the correspondence between the education levels of two parents in a two-parent family serves as a reminder of where to expend the limited resources that are sometimes available.

The next section will endeavor to answer the following core questions:

- *What are the effects of the Raising Readers program on parents’ attitudes regarding reading aloud to their children?*
- *What are the effects of the Raising Readers program on parents’ behaviors regarding reading aloud to their children?*
- *What are parents’ assessment of the perceived benefits of the program for their children’s “literacy knowledge” (i.e. the knowledge and skills that lay the foundation for reading and writing)?*

Raising Readers Impact Study: Parent Study Core Findings

89% of survey respondents reported that their child “liked” or “loved” receiving books through the Raising Readers program. 11% of children reportedly reacted ‘neutral’ to receiving a book. There were no negative responses reported. This effect is related both to child age and to the number of books that the child had received from Raising Readers (these are correlated by the design of Raising Readers; it is not possible to tease apart an age effect or a dosage effect):

Table: Child Reaction by child age in months; counts (percentages by child age)

Child Reaction to Receiving Book	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Neutral	60 (35%)	10 (4%)	5 (4%)	3 (3%)	1 (1%)	2 (3%)

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“Liked it”	45 (26%)	79 (34%)	32 (30%)	22 (23%)	17 (23%)	16 (23%)
“Loved it”	67 (39%)	144 (62%)	71 (66%)	69 (74%)	55 (76%)	52 (74%)

The more books a child has received, the more likely the survey respondent is likely to report that the child ‘liked’ or ‘loved’ receiving a book; child reaction appears not to be a novelty effect, and the more books a child has received, the more they enjoy receiving another one:

Table: Child Reaction by books received; counts (percentages by books received)

Child Reaction to Receiving Book	1 Book Received	2 Books Received	3 Books Received	≥ 4 Books Received
Neutral	25 (41%)	27 (37%)	16 (13%)	15 (3%)
“Liked it”	12 (20%)	16 (22%)	53 (43%)	139 (26%)
“Loved it”	24 (39%)	30 (41%)	54 (44%)	374 (71%)

Providers are most often reported ‘often’ (72% of responses) encourage parents to read with their children; this effect does not appear to be related to the age of the child.

Table: Reported frequency of provider encouraging parent to read with child by child age in months; counts (percentages by child age)

Frequency of Encouragement	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Never	6 (3%)	8 (3%)	6 (6%)	1 (1%)	2 (3%)	2 (3%)
Sometimes	51 (30%)	49 (21%)	26 (24%)	23 (24%)	17 (23%)	18 (26%)
Often	116 (67%)	176 (76%)	76 (70%)	70 (75%)	53 (74%)	50 (71%)

Similarly, providers are most often reported ‘often’ (62% of responses) emphasize the important effects that reading early in life has on later life development. This is relatively less often reported than providers encouraging parents to read with their children, but ‘often’ is the most frequent response for both encouraging reading and emphasizing the importance of reading. Like encouraging parents to read with their children, the providers’ tendency to emphasize the importance of reading early in life is also unrelated to the age of the child.

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Table: Reported frequency of provider emphasizing the importance of early reading by child age in months; counts (percentages by child age)

Emphasis on Reading's Effects	0-11 Months	12-23 Months	24-35 Months	36-47 Months	48-59 Months	60-71 Months
Never	12 (7%)	13 (6%)	9 (8%)	6 (6%)	6 (8%)	5 (7%)
Sometimes	63 (36%)	72 (31%)	29 (27%)	31 (33%)	19 (27%)	19 (27%)
Often	99 (57%)	148 (63%)	70 (65%)	57 (61%)	46 (65%)	46 (66%)

The survey asked parents to report on the perceived effects of the Raising Readers program on five elements related to their child, and five elements related to themselves (summarized in one table below, before looking at effects on children and parents separately, and by a few additional variables).

Summary Table: Reported effects of Raising Readers on children, and parents; counts (percentages by reported effect)

Effects on Children & Parents:	Raising Readers Having Effect	Raising Readers 'Not Yet' Having Effect
Child's time spent with books	574 (74%)	203 (26%)
Child's enjoyment of reading	528 (68%)	248 (32%)
Child's desire to read	370 (48%)	400 (52%)
Genres in child's library	436 (56%)	340 (44%)
Child's literacy skills	435 (57%)	334 (43%)
Frequency of reading w/child	597 (77%)	181 (23%)
Enjoyment of reading w/child	604 (78%)	173 (22%)
Changed reading goals for child	494 (64%)	278 (36%)
Reading other genres w/child	457 (59%)	317 (41%)
Altered way of reading w/child	384 (50%)	377 (50%)

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In terms of the effects that parents saw in their children, there was a stark contrast between parents reporting on effects on children younger than one year old and all other ages. While some effects jump suddenly from ages 0 to 1 and stay constant for ages 1-5, other effects steadily increase in being reported through ages 0-5. There is also, independent of child age, effects that are more commonly reported than others (the two most common being that Raising Readers book distribution is perceived to increase children's time spent with books (73% of all respondents reporting this) and increase children's enjoyment of reading (68% of all respondents reporting this).

Table: Reported effects of Raising Readers on children, by child age in months; counts (percentages by child age)

Effects on Children:	0-11 Months	60-71 Months
Child's time spent with books	84 (49%)	56 (84%)
Child's enjoyment of reading	65 (38%)	54 (79%)
Child's desire to read	36 (21%)	48 (72%)
Genres in child's library	65 (38%)	49 (72%)
Child's literacy skills	43 (25%)	47 (70%)

Unlike the reported effects on children, which were related to child age, reported effects on parents were not related to child age. The two most commonly reported effects were that 78% of parents reported that they enjoyed reading with their child more because of Raising Readers, and 77% of parents reported that they spent more time reading with their child because of Raising Readers.

Table: Reported effects of Raising Readers on parents, by child age in months; counts (percentages by child age)

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Effects on Parents:	0-11 Months	60-71 Months
Frequency of reading w/child	84 (82%)	56 (73%)
Enjoyment of reading w/child	65 (79%)	54 (73%)
Changed reading goals for child	36 (62%)	48 (67%)
Reading other genres w/child	65 (56%)	49 (69%)
Altered way of reading w/child	43 (47%)	47 (52%)

The Effect of Siblings

Comparing reported results from parents of an only child to reported results from parents with multiple children, we observe a few differences between the two groups: children’s reactions to receiving books, as well as Raising Readers’ effects on children and effects on parents are reportedly larger for children who have siblings than they are for children who are part of a single-child family.

Of all children without siblings, 57% are reported to ‘love’ receiving a book through Raising Readers, as compared to 64% of children who do have siblings.

Table: Child Reaction by child sibling status; counts (percentages by child sibling status)

Child Reaction to Receiving Book	No Siblings	≥1 Sibling(s)
Neutral	41 (15%)	37 (8%)
“Liked it”	75 (28%)	126 (28%)
“Loved it”	151 (57%)	293 (64%)

In terms of the perceived effect of Raising Readers on children, we see a similar trend, with more respondents reporting that Raising Readers has had an effect on the five items we asked about. While there is variation across the items in how much of an effect Raising Readers has had, affirmative responses were consistently higher for parents of multiple children than for parents of a single child.

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Table: Reported effects of Raising Readers on children, by sibling status; counts (percentages by child sibling status)

Effects on Children:	No Siblings	≥1 Sibling(s)
Child's time spent with books	188 (71%)	337 (75%)
Child's enjoyment of reading	171 (65%)	314 (70%)
Child's desire to read	101 (39%)	232 (52%)
Genres in child's library	132 (50%)	264 (59%)
Child's literacy skills	128 (49%)	264 (59%)

When reviewing the perceived effects that Raising Readers is having on parents, the trend is less pronounced for effects on parents than it was for effects on children, with only one of the five elements (altered parent's way of reading with their child) being reported significantly more frequently by parents with multiple children than parents with one child. For two other elements, parents of multiples only responded affirmatively in a very small increase over parents of single children.

Table: Reported effects of Raising Readers on parents, by sibling status; counts (percentages by child sibling status)

Effects on Parents	No Siblings	≥1 Sibling(s)
Frequency of reading w/child	206 (78%)	347 (77%)
Enjoyment of reading w/child	207 (78%)	349 (78%)
Changed reading goals for child	162 (62%)	289 (65%)
Reading other genres w/child	148 (57%)	270 (60%)
Altered way of reading w/child	114 (44%)	235 (53%)

In contrast to the differential responses (from parents of multiples compared to parents of single children) regarding Raising Readers' effects on children and parents, both types of parents reported similar practitioner behaviors through the surveys. Practitioners more frequently were reported to encourage parents to read with their children than they were

reported to emphasize the importance of early reading on later life outcomes; however, the distribution of responses was similar for parents of single children and for parents of multiple children.

Table: Reported frequency of provider encouraging parent to read with child by child sibling status; counts (percentages by child sibling status)

Frequency of Encouragement	No Siblings	≥1 Sibling(s)
Never	13 (5%)	10 (2%)
Sometimes	65 (24%)	112 (25%)
Often	190 (71%)	333 (73%)

Table: Reported frequency of provider emphasizing the importance of reading with child by child sibling status; counts (percentages by child sibling status)

Emphasis on Reading's Effects	No Siblings	≥1 Sibling(s)
Never	20 (8%)	28 (6%)
Sometimes	84 (31%)	143 (31%)
Often	164 (61%)	284 (63%)

Parents with only one child report similarly what their provider is doing (as compared to parents with multiple children), but less of an effect of Raising Readers, both in terms of how much their child enjoys receiving a book, and what effects the program is having on their child and on them. This trend holds across age groups for all families with only one child, and might be interpretable as a dosage or cumulative exposure effect. We have already observed a dosage/cumulative exposure effect (shown through increasing effects with child age & number of books received through Raising Readers); it is possible that this dosage/cumulative nature is across children rather than specific to each child. Since the parent is the reporter (survey

respondent), it is possible that the parents' estimation of the effects of the program on their child would be affected by the program's effects on their other children (if they have any).

Parent Interviews Core Findings

The interviews with parents reinforced the benefits of the program by offering specific descriptions of benefits for both children and family members. In descending order of response, the following benefits of the program for children were cited:

1. Receiving books
2. Joy/Excitement for reading
3. Encouraging reading at home/showing importance of literacy
4. Reducing anxiety during the well child visit

Other benefits that were mentioned but not more than once were motivating the child, building self-esteem, school readiness, developing curiosity, and supporting healing.

For parents, the benefits cited were similar, again in descending order of reporting:

1. Access to high quality texts
2. Knowledge of literacy development
3. Knowledge of how to engage children around books
4. Reinforcing awareness of importance of literacy

Other benefits that were mentioned included supporting the well child visit, giving reassurance to the child while visiting the doctor, and exposure to varied and appropriate books.

It should be noted that there is quite a range of response among families regarding the importance of early literacy and early learning. For example, one woman replied:

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It's hugely important. My husband and I both love...I think we are lifelong learners. We don't really watch TV. We watch documentaries and that sort of thing. I literally started, when I was pregnant with child 2, classical music in our house all the time. I literally started reading to her when she was in the womb. It's just, it's what we do. We're in the car. We talk about colors and letters and finding, you know, directions and talking about the weather. I don't think there is an opportunity where we don't, you know, learn something. It's probably the most important thing in our household. (Parent #25)

Contrast that response with this one:

I think it's great. From my kind of thoughts from my—my eldest one is in preK and we've gone over things at home, you know, just, I don't wanna say that we do sit down sessions, but it's like, you know, what color cup do you want? Purple or red? It's just kind of – how can I say – just little things like that. It's almost like a game for them instead of "learning". And that I feel like once they do start getting into the mainstream schooling system, they have an easier time adjusting. It's kind of...not really catching up with the other kids, but having an easier time in school in general. (Parent #1)

Both of these moms cited that early learning was important but both also reported that they had received no information from their providers on early literacy other than the Raising Reader pamphlets. The greater influence on their thinking was their friends. Parent #1 also indicated that the Raising Reader written material and website were helpful. Parent #25 indicated that her circle of friends in her neighborhood were very focused on early learning and they encouraged each other by having play dates and adventures together.

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In spite of this, half of the parents interviewed indicated that Raising Readers and their own online research is the only source they have for literacy information for their children.

When asked what training he'd had, formal or informal about early literacy, one dad answered:

Training...I guess I'd have to say none. My wife might answer that different but myself, none other than the—the little bit of information that we get when we go to the doctor's office and kind of touch base with her and where she should be and where she is and what we should do to promote going forward as far as what's suitable for her age and everything. (Parent #4)

Some parents indicated that receiving the books reinforced and reminded them of what they already knew: that early literacy is important. They pointed to an elevated awareness as a benefit of the program. Others, appreciate the information shared during visits and would actually welcome more.

I would like—to receive some through the mail and stuff because my child grows , both of my children grow and there is a lot out there that I was never taught when I was younger, so...and now I'm an adult so it's like when they teach me something, when the come home with – especially when my oldest comes from school—I'll be like, okay, so I have to go back and ask the teacher... to explain to me what she, you know, needs, but she's [the child] pretty much trying to teach me what she's learning in class. (Parent # 12)

When asked where they get their advice, parents responded with a variety of sources. In this order:

- 1) Their own parents

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- 2) Other family members
- 3) Their social circle
- 4) Their doctor
- 5) The internet
- 6) A teacher

But some parents indicated that though they sought out advice of others, they thought their doctor's advice was more reliable:

It's hard to remember with all the doctor's appointments you end up with...I'm sure that we probably end up with some kind of print out or pamphlets or something at some point, but I think getting information directly from a doctor's office comes off as more reliable and more legitimate than, say, googling where should my child be or something because you just get all these—uneducated isn't the right word, but all these—laypeople's, I guess, ideas about where their kids are and where they think yours should be in relationship to that. So I think the best way—the most seemingly reliable way—to get it would be from a doctor's office. (Parent # 4)

Parents report that they are open to additional information in the form of website information (though only two people indicated they'd visited the Raising Readers website), pamphlets or videos on how to read aloud.

Before leaving this section, it's important to note that while 89% of survey respondents indicated that they liked or loved Raising Readers and no one had anything negative to say about it, there is an inherent bias in a respondent's evaluation of a program that is based on giving

them free things. Several parents urged us during the interviews to make sure the program lasted forever and wanted to expand the program to encompass more years, more times a year, and across more states so their extended family could enjoy the same benefits.

While the last section presented the project's answers to the questions about benefits to children and their families, this section will focus on answering the following questions:

- *What are the effects of the Raising Readers program on health care provider attitudes about early literacy?*
- *What are the effects of the Raising Readers program on health care provider relationships with patients and families?*
- *Are there any other benefits identified by the participants?*

Provider Survey Core Findings

When considering the effects that providers reported as having been reported to them by parents, it appears that there is a marked difference between general appreciation/enjoyment of the book distribution program, and all other types of feedback that parents could verbally give to medical providers. In the table below, it is shown that almost 80% of providers responding to the survey (N=238) have been 'often' told by their patients that their children enjoy the Raising Readers program and that the parents appreciate the program. The other listed effects in the table below drop off markedly (approximately 30% in the 'often' category). (Note: this data is included in this section, rather than the previous section on benefits to families, because it reports *providers' impressions* of the success/benefits of the program rather than *actual benefits*.)

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Table: Provider-Reported Feedback from Parents/Caregivers; counts (percentages by provider-reported feedback)

Provider report of parent/caregiver feedback	No, Never	Yes, Sometimes	Yes, Often	(Missing Data)
Children Enjoy Book Distribution	4 (2%)	44 (18%)	181 (76%)	9 (1%)
Parents Appreciate Book Distribution	10 (4%)	42 (18%)	183 (77%)	3 (1%)
Parents Read More as Result of Book Distrib.	37 (16%)	119 (50%)	75 (32%)	7 (1%)
Parents Read More as Result of Provider Encouragement	33 (14%)	128 (54%)	71 (30%)	6 (1%)
Parent Confidence Increased w/Book Distrib.	95 (40%)	87 (37%)	47 (20%)	9 (2%)
Parents Enjoy Reading More as Result of Book Distribution	70 (29%)	95 (40%)	65 (27%)	8 (2%)

In response to a question asking providers to detail the things that they ‘never’, ‘sometimes’, and ‘often’ do during Well-Child visits that promotes reading and literacy in some way, there were, again, varying responses depending on the action inquired about. Responses ranged from a high of 89% of respondents who report ‘often’ encouraging parents to read with their children, to a low of 31% of respondents ‘often’ modeling reading aloud during a medical visit.

Table: Provider current practices during Well-Child visits; counts (percentages by provider practice)

Provider report of literacy practice	No, Never	Yes, Sometimes	Yes, Often	(Missing Data)
Encourage Reading w/children	1 (0%)	23 (10%)	212 (89%)	2 (1%)
Encourage Availability of Books for Children	6 (3%)	55 (23%)	174 (73%)	3 (1%)
Encourage Parents to Read Themselves	47 (20%)	69 (29%)	120 (50%)	2 (1%)
Encourage Child Visits to Library	28 (12%)	103 (43%)	105 (44%)	2 (1%)
Encourage Child Book Borrowing	43 (18%)	105 (44%)	85 (36%)	5 (2%)
Tell Reading Impacts Literacy Development	9 (4%)	61 (26%)	163 (68%)	5 (2%)
Tell Literacy Impacts Later Life	34 (14%)	74 (31%)	125 (53%)	5 (2%)
Tell Reading Is Popular Quality Time	29 (12%)	68 (29%)	137 (58%)	4 (2%)

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Activity				
Model Reading Aloud	68 (29%)	91 (38%)	75 (31%)	4 (2%)
Model Talking About Pictures	47 (20%)	92 (39%)	93 (39%)	6 (2%)
Model Asking Age-Appropriate Questions	59 (25%)	83 (35%)	89 (37%)	7 (3%)
Children Told Books Are Exciting	12 (5%)	79 (33%)	143 (60%)	4 (2%)
Children Asked if they Enjoy Reading	9 (4%)	69 (29%)	157 (66%)	3 (1%)
Children Shown Something in Book	36 (15%)	93 (39%)	104 (44%)	5 (2%)

Closely related to the prior question regarding current literacy practices during Well-Child visits, an additional question asked providers to compare how frequently they currently engage in each one of these literacy-encouraging practices as compared to another point in time when they were not participating in a book distribution program. This question helps us to tease apart the perceived effect (on provider practices) that the book distribution program has. The highest-ranking change is that 62% of respondents indicated that they currently show a child something in a book during a Well-Child visit more often than they did when they were not participating in a book distribution program. The practices that have changed the least as a result of participating in book distribution are both related to children visiting the library (36% and 37%).

While some providers report engaging in these literacy promotion activities less (with a book distribution program) than they did at another time in their career (without book distribution), these numbers are low, and more likely indicative of some other intervening characteristic that causes the provider to do less of the literacy promotion activities (for example, because of administrative needs or some other change in the practice) than indicative of Raising Readers leading practitioners to do less with literacy.

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Table: Provider current practices compared to a time in career without book distribution; counts (percentages by provider practice)

Provider report of literacy practice (compared to a time w/out book distrib.)	Currently Less	Currently Equal	Currently More	(Missing Data)
Encourage Reading w/children	9 (5%)	66 (35%)	111 (59%)	1 (1%)
Encourage Availability of Books for Children	12 (6%)	76 (41%)	98 (52%)	1 (1%)
Encourage Parents to Read Themselves	9 (5%)	99 (53%)	75 (40%)	4 (2%)
Encourage Child Visits to Library	11 (6%)	101 (54%)	70 (37%)	5 (3%)
Encourage Child Book Borrowing	9 (5%)	104 (55%)	67 (36%)	7 (4%)
Tell Reading Impacts Literacy Development	10 (5%)	82 (44%)	88 (47%)	7 (4%)
Tell Literacy Impacts Later Life	11 (6%)	88 (47%)	81 (43%)	7 (4%)
Tell Reading Is Popular Quality Time Activity	8 (4%)	87 (47%)	88 (47%)	4 (2%)
Model Reading Aloud	13 (7%)	78 (42%)	90 (48%)	6 (3%)
Model Talking About Pictures	12 (6%)	74 (40%)	93 (50%)	8 (4%)
Model Asking Age-Appropriate Questions	12 (6%)	80 (43%)	85 (46%)	10 (5%)
Children Told Books Are Exciting	9 (5%)	69 (37%)	104 (55%)	5 (3%)
Children Asked if they Enjoy Reading	7 (4%)	80 (43%)	96 (51%)	4 (2%)
Children Shown Something in Book	14 (7%)	51 (27%)	115 (62%)	7 (4%)

Overall, parents are reported to be far more open and engaged when it comes to literacy advice, trust, and asking questions as a result of Raising Readers. Interestingly, Raising Readers has less of an effect on parents' tendency to ask health-related questions and less of an effect on parents' trust on medical advice, which serves both as a control on the reported effects. It could be expected that distributing books would have less of an effect on parents' health interactions with a medical provider than on their literacy interactions with a medical provider, so this differential effect serves as a nice control of reported effects.

However, there is also the possibility that the book distribution qualitatively changes the medical visit, and/or the parents' and child's relationship to the provider, which has an effect

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not only on the literacy aspects, but also on the health aspects of the Well-Child visit. This is a possibility that could be further investigated in future research.

Table: Provider-Reported Feedback from Parents/Caregivers compared to a time in career without book distribution; counts (percentages by provider-reported feedback)

Provider report of parent/caregiver feedback (compared to a time w/out book distrib.)	Currently Less	Currently Equal	Currently More	(Missing Data)
Parent Enthusiasm for Well-Child Visits	3 (2%)	51 (27%)	133 (70%)	2 (1%)
Parent Openness to Early Literacy Advice	2 (1%)	48 (26%)	135 (72%)	4 (1%)
Parent Trust in Provider Early Literacy Advice	2 (1%)	66 (35%)	115 (61%)	6 (3%)
Parent Tendency to Ask Literacy Questions	2 (1%)	65 (34%)	118 (63%)	4 (2%)
Parent Tendency to Ask Health Questions	2 (1%)	116 (61%)	66 (35%)	5 (3%)
Parent Trust in Provider Medical Advice	2 (1%)	119 (63%)	62 (33%)	6 (3%)

The Raising Readers program has had a positive effect on roughly half of providers' knowledge and views on early literacy.

Table: Reported Effects on Providers' Views and Knowledge; counts (percentages by provider-reported feedback)

Effect of Raising Readers on Provider Views and Knowledge	Currently Less	Currently Equal	Currently More	(Missing Data)
Provider Understanding of Literacy	1 (0%)	107 (45%)	124 (52%)	6 (3%)
Provider View of Literacy in Development	1 (0%)	99 (42%)	132 (55%)	6 (3%)
Provider View of Literacy to Health	1 (0%)	108 (45%)	123 (52%)	6 (3%)

Provider respondents to this survey are, for the vast majority, either 'generally confident' or 'highly confident' in their early literacy knowledge.

Table: Providers' Confidence in their Literacy Knowledge; counts (percentages)

Provider Confidence	# (%) of Respondents
Generally Not Confident	4 (2%)
Neutral	3 (1%)

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Generally Confident	112 (47%)
Highly Confident	114 (48%)
Missing Data	5 (2%)

Provider Interview Core Findings

Phone interviews were conducted with 15 providers as well. The provider interview data reinforces the survey data as well. The most important benefits of the program to practitioners as reported in the interviews in descending order were:

- 1) Books as vehicles of conversation about literacy
- 2) Books as vehicles of conversation about health and development
- 3) Fostering relationships between doctor and child, doctor and parents
- 4) Supporting the well-child visit (as in providing motivation for families to attend)

Other benefits mentioned included reaching extended populations, engaging children during wait time, aids in developmental assessment, and a gift to give as a celebration of milestones.

Of the interviewed providers, half of the respondents indicated that their only source of literacy information they have to pass on to their patients comes from Raising Readers. But, half (not necessarily the same people) also indicated that they didn't feel the need to have more information. Here's an example:

Interviewer: What training have you had regarding early literacy?

Provider #1: Just your standard stuff from Raising Readers really.

Interviewer: Okay, is there any information about early literacy that you'd like to have and if so, how would you like to receive the information?

Provider #1: No, I think I'm okay.

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Some providers identified some challenges in their practice that they would welcome support in addressing. The most pressing it seems is working with families whose literacy is low. This is of particular concern when considering the relationship between health and literacy, which 100% of practitioners identified as extremely important.

I do have a few illiterate adults and it's—again, it's a question you don't think to ask and sometimes we'll go a long time before—or I will—before I realize this patient can't read. I have, I think of one right off the top of my head of one elderly man, who, it was about a year before I recognized that he wasn't able to read. His wife is very bright and he would take his instructions home and she would interpret them, but if I didn't write something down for him and he forgot it, that information didn't get carried out, so...there are—I much more frequently now ask people if they're able to read and even when they say, "Yes, I can read" that doesn't really tell me how sophisticated their reading is. (Provider #10)

Similarly, they are challenged by parents who simply don't like to read.

I have no idea what to do to help some of my patients whose parents don't like to read. Because I can't get a kid to read if their parents—well and I say do you guys read together? Mom says, "I don't like to read."

Interviewer: And so what do you say?

I try to emphasize the importance of, even if she doesn't like to read, she needs to set a good example. I encourage her to try picking out things that might be of interest to her subject-wise as well as their kids. I also try to push on the dad because the dad's more cooperative in the example that comes to mind. And he's more willing. And I emphasize

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the importance as far as language skills goes because this is a kid who was a little speech delayed because of this as well. (Provider #9)

Although this provider offered important and useful suggestions, it's clear that he left the experience feeling less than skilled in his response and would like strategies to reach parents more effectively.

When asked how they'd like to receive information, while most providers preferred email for written messages, some clearly preferred the personal touch rather than online information.

Maybe like a short presentation at a conference. That would be helpful. With some specific references from studies that really give evidence or credence behind the importance of early childhood literacy. (Provider #14)

I guess I'm pretty open. I mean online I know is kind of the way things are going, but that's fine or if there was a workshop that I was able to truly attend with other people. I'm a combination between a self-starter, doing it on my own, but at the same time, prefer to be hands-on with other people because you can have so much more with interaction as well. (Provider # 10)

Recommendations Based on the Findings

It's clear that Raising Readers is effectively meeting the goals of its stated mission to distribute books to Maine children through well-child visits. This study has illustrated the overwhelming support of the program's recipients. It is extremely unusual for any program to

have only positive feedback. The only real critique of this program is it doesn't keep following children as they age beyond the intended scope of 5 years. The recommendations that follow therefore are offered knowing that the program is already very effective in promoting engagement with literacy for many families in Maine.

- 1) Expand reach through greater awareness of existing resources.
 - a. Assist families in knowing about the web page (few did). A flyer distributed with the books showcasing some of the resources on the webpage would educate both families and practitioners about the resources there.
 - b. Some families suggested offering story extenders such as the ones on the web page. While making people aware of the webpage is important, there may be some who do not/cannot access it. Consider providing more story extenders than are currently provided in the back of the book. Perhaps bookmarks could be made for each book to distribute along with the book that include activities and developmental milestones of the intended age.
- 2) Expand reach through expanded scope.
 - a. While many families requested more books for more years, that is not in the scope of the currently defined program. Should the program redefine the scope, some suggestions included following children into the middle school years where they are often turned off by reading, having special books for the English language learning populations in some communities, and selecting books primarily focused on ease of use by low-literate families.
 - b. Providers would like more posters.

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- c. Providers suggest universally expanding to include a 30 month visit (as opposed to the current pilot).
 - d. Several parents hoped for books (or something!) to be given to siblings present during the visit.
- 3) Provide professional development for families via classes, workshops or webinars on read aloud.
 - a. Again, the website is an appropriate place for this as is a YouTube channel that models read aloud of the Raising Reader books, with a seasoned reader modeling asking questions.
 - b. Workshops conducted in combination with local libraries might offer support to families without the Raising Readers staff having to actually deliver the sessions. Make the YouTube channel known to local librarians along with materials they can distribute to families at a session. Partnering with the Maine State Early Literacy Librarian would offer a vehicle for distribution.
- 4) Provide professional development for providers via classes, workshops or webinars on how to talk about literacy with special populations such as teen moms, low literate or unmotivated parents.
 - a. Similar to the YouTube channel for parents, offer mini workshops for providers on current research on early literacy.
 - b. Consider hosting events around the state, such as Grand Rounds, to reach providers to share research and strategies for working with special populations.

5. Consider follow up studies that focus on special populations that providers are concerned about reaching more effectively, such as teen parents, families with low literacy, and families learning English.

Conclusion

This study revealed several important ways that Raising Readers is making a difference in the lives and families of Maine. Families are reading more, talking more and engaging more with their young children and their books. Practitioners are more aware and more connected to their young patients. The writing is on the wall, Raising Readers does make a difference in the attitudes and behaviors of both families and practitioners in Maine. That can only make literacy learning better for our youngest learners.

Yes, I think more than anything, it's ...you know, I think...how do I put this? I think getting behind reading, you know, telling people to read to children, I don't think it's a hard thing to get behind, but I think...since becoming more involved, it's that curiosity and the "why" questions and trying to go through that. Kind of becoming a little more versed in what is behind it, that I think has changed since becoming more involved with Raising Readers. (Provider #14)

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Appendix A- Parent Survey Questions

If you have more than one child, please respond about the child who received a book when you received this survey.

1. Including today, how many times has your child received a book from his or her primary health care provider?

One Two Three Four or more

2. How would you describe your child's reaction to receiving books from his or her health care provider?

Hated it Disliked it Neither disliked nor liked it Liked it
Loved it

3. Does your child's health care provider encourage you to read with your child?

No, never Yes, sometimes Yes, often

4. Does your child's health care provider emphasize that reading early in life has important effects later in life?

No, never Yes, sometimes Yes, often

5. Do you think that your child receiving books from his/her health care provider has had **an effect on your child** in any of the following ways:

	Yes*	Not Yet
Has receiving books affected how often your child spends time with books (whether looking at books alone, or being read to)?		
Has receiving books affected how much your child enjoys reading?		
Has receiving books affected your child's desire to become a good reader?		
Has receiving books introduced new genres of books into your child's library that were not previously present? (e.g., fantasy stories, true stories, etc.)		
Has receiving books increased your child's literacy skills? (e.g., knowledge of books & print, letter recognition, rhyme awareness, etc.)		

*If yes, please briefly describe any effects/changes you have observed in your child?

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6. Do you think that your child receiving books from his/her health care provider has had an **effect on you** in any of the following ways:

	Yes*	Not Yet
Has receiving books affected how often you read with your child?		
Has receiving books affected how much you enjoy reading with your child?		
Has receiving books affected your goals for your child as a reader?		
Has receiving books resulted in you reading types of books with your child that you otherwise wouldn't have? (e.g., fantasy stories, true stories, etc.)		
Has receiving books altered the way you read to your child in any way?		

*If yes, please briefly describe any effects/changes you have noticed in yourself?

7. About how many children's books are in your home and within reach of your child? (Please circle one)

0-25

25-50

50-100

More than 100

8. Where are children's books located in your home? (Please circle all that apply)

Child's room

Living room

Kitchen

Other (please specify):

9. Please tell your child's age in years & months, & circle his/her gender: ___ years ___ months

Male **Female**

10. Does your child attend daycare, preschool, or a combination of both?

Yes, full-time (30-50 hrs/week)

Yes, part-time (4-29 hrs/week)

No, not at all

11. Consider when your child has been read to or has looked at books in the last week. Please indicate what time of day your child reads (please choose only one per row):

	Don't Know	0-1 Day/Week	2-3 Days/Week	4-5 Days/Week	6-7 Days/Week
Bedtime					
Naptime (if applicable)					
Morning Play					
Afternoon Play					

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12. Indicate the number of people living in the same home as your child receiving a book when you received this survey:

Number of adults (including yourself)	
Number of children older than child receiving a book	
Number of children younger than child receiving a book	

13. Of the time your child spends with books in a week, please provide a rank order of the time that your child spends reading with each person. (For example, if your child reads mostly with a parent, sometimes with a sibling, and rarely alone, please mark 'parent/caregiver' as '1', 'sibling' as '2', and 'Alone' as '3'.)

My child reads with (please provide a rank for anyone your child reads with & leave others blank):

	Rank		Rank		Rank
Parent or Primary Caregiver		Other family member		Daycare provider	
Sibling		Alone		Other:	

14. Please list the language(s) spoken in your child's home: _

15. How many years of education did each adult in your child's home complete (e.g., "13" for high school, "15" for an Associates, "17" for a Bachelors)? (Write your own in 'Adult 1' & use as many extra boxes as there are adults at home):

Adult 1:	Adult 2:	Adult 3:	Adult 4:
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16. Do you have any comments or feedback about receiving books from your child's health care provider? Raising Readers welcomes your feedback:

Separate Postcard will say:

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Thank you for completing the Raising Readers Survey!

If you might be willing to be interviewed later this fall and earn a \$25 Hannaford gift card, please indicate your name, phone number, and the town in which you live. We will be calling volunteers to share more information in October.

Name _____ Phone _____ Town where you live

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Appendix B Practitioner Survey

1. Do you ever receive any of the following feedback from parents about the impact of receiving books or advice from you about reading with children?

	Yes, Often	Yes, Sometimes	No, Never
Do parents report that their children enjoy receiving books at well-child visits?			
Do parents report that they, themselves, appreciate that their children receive books at well-child visits?			
Do parents report reading more with their children because they receive books at well-child visits?			
Do parents report reading more with their children because you have encouraged them to do so?			
Do parents report being more confident about reading aloud to their children because of receiving free books and advice on early literacy from you?			
Do parents report enjoying reading aloud more because of receiving free books and advice on early literacy from you?			

2. Which of the following things do you currently do when conducting well-child visits for children between the ages of 0-5?

	Yes, Often	Yes, Sometimes	No, Never
Encourage parents to read with children			
Encourage parents to make books available to children at home			
Encourage parents to read in the home so that children see their parents reading			
Encourage parents to visit the library with children			
Encourage parents to allow children to check books out of the library			
Tell parents that reading to their children impacts early literacy development			
Tell parents that early literacy experiences affect later life outcomes			
Tell parents that reading with children is a popular way to spend quality time			
Model reading aloud from the book that the child is receiving that day			
Model talking about pictures using the book that the child is receiving			
Model asking children age-appropriate questions using the book the child is receiving			
Talk with children about how exciting books are			
Ask children if they enjoy reading or what their favorite books are			
Show children something in the new book they are receiving that day			

Please note: For questions three through seven, please compare your current practices (as a participating provider with Raising Readers) to some other point in your medical career when you

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conducted well-child visits without distributing books. This may or may not be within the same medical practice where you currently work.

3. Please compare what you currently do during well-child visits (in which you distribute books) to a time in your career when you did not distribute books at well-child visits:

	I do this less than I did it when I was not distributing books	I do this equally as much as I did it when I was not distributing books	I do this more than I did it when I was not distributing books
Encourage parents to read with children			
Encourage parents to make books available to children at home			
Encourage parents to read in the home so that children see their parents reading			
Encourage parents to visit the library with children			
Encourage parents to allow children to check books out of the library			
Tell parents that reading to their children impacts early literacy development			
Tell parents that early literacy experiences affect later life outcomes			
Tell parents that reading with children is a popular way to spend quality time			
Model reading aloud from the book that the child is receiving that day			
Model talking about pictures using the book that the child is receiving			
Model asking children age-appropriate questions using the book the child is receiving			
Talk with children about how exciting books are			
Ask children if they enjoy reading or what their favorite books are			
Show children something in the new book they are receiving that day			

4. In thinking about how your current practice (including book distribution) compares to a time when you did not distribute books, please compare the following reactions of parents:

	Is less with book distribution than it was without book distribution	Is equal with or without book distribution	Is greater with book distribution than it was without book distribution
Parents' enthusiasm about well-child visits			
Parents' openness towards advice regarding early literacy			
Parents' trust in my advice regarding early literacy			
Parents' tendency to ask questions regarding early literacy			
Parents' tendency to ask questions about medical concerns			
Parents' trust in my advice regarding medical concerns			

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5. If you noted that any items are different in item 4, please briefly describe the role that the Raising Readers book distribution program has had, if any, in those changes:

6. Has working with Raising Readers to distribute books at Well-Child visits influenced your views or knowledge of early literacy development in any way?

	Has decreased because of Raising Readers	Has not changed because of Raising Readers	Has increased because of Raising Readers
My understanding/knowledge of early literacy development			
My view of how important literacy is to children’s overall development			
My view of how closely linked literacy is to children’s health			

7. If you noted that any items have changed in item 6, please briefly describe how the Raising Readers book distribution program has influenced your knowledge and/or views:

8. How confident do you currently feel about your ability to advise parents and caregivers on fostering early literacy development?

Not at all confident Generally not confident Neutral Generally confident Highly confident

9. If you would like to increase your ability to advise parents and caregivers on early literacy, what do you need to know more about?

10. If you have anything else to share about the Raising Readers program, please write in your comments here:

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Appendix C Practitioner Phone Interview Protocol

Practitioner Interview Protocol

Thank you, Dr. _____, for agreeing to be interviewed for the Raising Readers evaluation project. With your permission, I will be audio recording this interview. Do I have your permission to record this interview? [If yes, turn on recorder.] Thank you.

This interview should only take about twenty minutes but you are welcome to talk as long as you like or terminate it at any time. Feel free to pass on any question you'd rather not answer. We appreciate whatever information you're able to share with us.

The interview is broken into 3 parts. The first part is designed to know more about you as a practitioner and the kind of practice you have.

Practitioner Profile

- 1) When did you go into practice?*
- 2) What specialty training have you had?*
- 3) How do you describe the demographics of your patients?*
- 4) What training have you had regarding early literacy?*
- 5) Is there any information about early literacy that you would like to have? How would you like to receive that information?*

Relationship with Raising Readers

- 1) How long have you been partnering with Raising Readers?*
- 2) Describe what your relationship is with Raising Readers. (For example, do you distribute any materials beyond the books? Do you use any materials yourself? Have you accessed or recommended their website or Facebook page?)*
- 3) Do you feel your partnership has been beneficial to your patients? Why or why not?*
- 4) Do you feel your partnership has been beneficial to you as a practitioner? Why or why not?*
- 5) Have your well-child visits changed in any way since partnering with Raising Readers? Can you describe those changes?*
- 6) Has your attitude about literacy changed in any way since partnering with Raising Readers?*
- 7) Are there subgroups of your practice that you feel might be better served by Raising Readers? What might be done to better support them?*

Attitudes about the Importance of Early Literacy

- 1) What are your thoughts about the relationship between health and literacy?*
- 2) How do you feel about the APA's emphasis on the role of early literacy in young children's lives?*
- 3) If a colleague came to you for advice about how to talk with families about promoting their children's learning, what might you say to her?*

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Final question: Is there anything Raising Readers can do to better serve you or your families?

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Appendix D Parent Phone Interview Protocol

Parent Interview Protocol

Thank you, _____, for agreeing to be interviewed today. As was mentioned on the consent form, this session will be audio recorded for later transcription and analysis. Do I have your permission to record this interview? [Wait for confirmation.] Thank you. Just a reminder, you may decline to answer any question or stop the interview at any time. You will still receive your thank you gift card. Please answer as candidly as you like. We will keep your responses confidential and any publication of your comments will use a pseudonym.

Parent Profile

- 1. Tell us about your children.*
- 2. Who do you rely on for parenting advice?*
- 3. Among your friends, how much emphasis is placed on early learning?*
- 4. How important do you feel supporting early learning is? What do you do to promote it?*
- 5. What training have you had regarding early literacy?*
- 6. Is there any information about early literacy that you would like to have? How would you like to receive that information?*

Relationship with Raising Readers

- 1. Describe what your relationship is with Raising Readers. (For example, do you receive any materials beyond the books Have you accessed or recommended their website or Facebook page?)*
- 2. How knowledgeable do you feel your practitioner is about literacy? What advice has he or she given you about your child's literacy learning?*
- 3. Have you changed any behaviors as a result of your relationship with Raising Readers or your practitioner's advice?*

Attitudes about the Importance of Early Literacy

- 1. If a friend came to you for advice about promoting their children's learning, what might you say to her?*

Final question: Is there anything Raising Readers can do to better serve you or your family?

Thank you all for your time and thoughtful responses. Your answers will be very helpful to us as we work to improve the Raising Readers program.