

The Role of Clinic Culture in Implementation of Primary Care Interventions: The Case of Reach Out and Read

Tracy M. King, MD, MPH; Samar Muzaffar, MD, MPH;
Maureen George, PhD, RN, AE-C

Objective.—Reach Out and Read (ROR) is a primary care–based intervention supported by considerable evidence regarding its efficacy. Implementation of ROR, however, varies across participating sites. The objective of this study was to identify practice attributes associated with variability in ROR implementation.

Methods.—Twenty primary care providers and 70 support staff from 7 clinics in Baltimore, Maryland, participated in semistructured interviews. Sites were purposefully selected on the basis of the perceived success of their ROR program implementation. All interviews were transcribed and inductively analyzed to identify themes. Themes were compared to predictors postulated by a conceptual model for team effectiveness across a variety of workplace settings.

Results.—Only one theme (integration of ROR procedures) addressed the design of ROR implementation within clinics. Nearly all other themes identified group processes and group psychosocial traits broadly reflective of clinic culture. At struggling sites,

staff found their jobs burdensome and communication lacking. They demonstrated disrespect for patients and families. In this context, they experienced difficulty integrating ROR into their daily routines. Staff at successful sites worked as a team and expressed strong commitments to their communities. Integration of ROR at these sites tended to occur smoothly. Providers from all sites reported strong pressures to increase productivity, and thought that these pressures impaired their ability to deliver high-quality primary care.

Conclusions.—Clinic culture influences the implementation of an efficacious primary care intervention. Characteristics of clinic culture therefore need to be identified and taken into account in future efforts to improve its implementation.

KEY WORDS: implementation; primary care; qualitative research; Reach Out and Read

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Reach Out and Read (ROR) is a widely disseminated literacy promotion program that engages primary care providers in promoting early literacy among children ages 6 months to 5 years. More than 3700 ROR programs currently operate nationwide, serving 3.3 million children and distributing 5.4 million books each year.¹ Among preventive interventions in pediatric primary care, ROR is perhaps the one most strongly supported by empirical evidence regarding its efficacy. Studies have shown that parents whose children receive primary care at ROR sites read to their children more frequently, own more books, and are more likely to describe reading aloud as a favorite activity.^{2–12} Even more compelling, several studies have found that children receiving care at ROR sites demonstrate greater language abilities than their non-ROR peers.^{5,8,9} None of these

studies, however, have examined factors related to the nature or quality of ROR implementation at specific clinical sites.

Many outpatient interventions that are efficacious in highly controlled settings fail to demonstrate comparable effectiveness when taken to scale.^{13,14} Much of this “voltage drop” from efficacy to effectiveness may be attributed to aspects of implementation that fail to adhere to the original program model.¹⁵ To date, such variation in implementation or effectiveness has not been reported for ROR. Anecdotal reports, however, have suggested that such variation does indeed exist among ROR sites.

Among previous studies examining the implementation of recommended care in pediatric settings, most have focused on identifying individual physician- or patient-level factors associated with implementation.^{16–18} Because ROR is a practice-based intervention, however, we conceptualized the implementation of ROR as a practice-based or *team-based* phenomenon. We therefore sought to identify characteristics of primary care practice teams that were associated with the success of ROR implementation.

METHODS

Study Overview

This study was conducted in several stages: (1) purposeful selection of sites on the basis of perceived level of ROR implementation, (2) substantiation of ROR implementation

From the Division of General Pediatrics and Adolescent Medicine, Johns Hopkins School of Medicine, Baltimore, Md (Dr King); Department of Surgery, University of Missouri–Columbia School of Medicine, Columbia, Mo (Dr Muzaffar); and Family and Community Health Division, University of Pennsylvania School of Nursing, Philadelphia, Pa (Dr George).

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Address correspondence to Tracy M. King, MD, MPH, Division of General Pediatrics and Adolescent Medicine, Johns Hopkins School of Medicine, 200 N Wolfe St, Room 2072, Baltimore, Maryland 21287 (e-mail: tking9@jhmi.edu).

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level by use of available quantitative data, (3) qualitative interviews and focus groups, and (4) analysis of qualitative data to identify major themes.

Conceptual Framework and Rationale for Qualitative Methods

In conceptualizing primary care practices as teams, we were guided by previous work in management and organizational behavior examining predictors of team effectiveness across a variety of workplace settings.^{19,20} We used a framework described by Cohen and Bailey,¹⁹ which conceptualizes team effectiveness as a function of *group processes*, *group psychosocial traits*, *design factors*, and *environmental factors*. In this model, group processes, group psychosocial traits, and design factors have both direct and indirect influences on team effectiveness, while environmental factors influence effectiveness only indirectly.

Because few previous studies have examined the roles of team characteristics in the implementation of primary care interventions, we used qualitative methods to permit the broadest possible exploration of themes. Qualitative methods are particularly valuable when there is a paucity of knowledge about a phenomenon, when conventional quantitative approaches, such as the forced-response survey, would result in the loss of rich data or when the researcher seeks to generate novel explanatory theories by discovering previously unknown relationships among concepts.^{21–23} We therefore concluded that qualitative methods were best suited to characterizing team characteristics among ROR practices and identifying the relationships of these characteristics (if any) to the success of ROR implementation.

Purposeful Selection of Sites

This study was conducted in collaboration with the Greater Baltimore (Maryland) ROR Coalition. We aimed to select a sample of the 31 sites comprising the Coalition that reflected a wide range of ROR implementation. We therefore consulted with the Regional Coalition Coordinator (RCC), who had firsthand knowledge of all coalition sites. We asked her to suggest sites that she perceived to be highly successful, moderately successful, or struggling in their implementation of ROR. She in turn recommended 3 highly successful, 2 moderately successful, and 4 struggling sites.

Substantiation of ROR Implementation Level

Although categorization of sites by level of ROR implementation was intentionally subjective, we sought to substantiate these categorizations quantitatively by use of book distribution data and structured site observations.

Book distribution data were reported by ROR sites on a semiannual basis. Sites reported both the number of books distributed and the number of well-child visits for children ages 6 months to 5 years. The RCC had access to these data and reviewed them directly with each site. Data reviewed for this study were reported from January 1, 2003, to June 30, 2005.

Structured site observations had been conducted at most recommended sites within the 18 months prior to this

study. These observations were conducted using the 20-item *Site Observation Scale*, an instrument created by the National ROR Program to assess adherence to the ROR model (copies of the instrument are available upon request). It includes items ranging from book distribution to parent-provider interactions. It has not undergone formal determination of validity or reliability.

All observations were conducted by the RCC on the basis of direct observation and discussions with clinic staff. Although no formal training is required, written instructions are available and were familiar to the RCC. For this study, ratings were converted to a 4-point scale (with 4 being the highest possible score for each item) and averaged to generate a single site-specific score.

The concordance of these 3 data sources (RCC perception, book distribution data, and site observation scores) is summarized in Table 1. Where data were missing or discrepant, the RCC was consulted to obtain further information. These consultations provided the following additional information: among the 9 sites, 2 failed to report book distribution data for the entire 2½-year period, despite multiple reminders and offers of assistance. In addition, 3 sites declined to schedule a structured site observation over an 18-month period, again despite multiple RCC contacts. For one site, book distribution data appeared disproportionately low; the RCC provided additional information about funding constraints that had limited the supply of books at that site. After review of all available information, we opted to retain the original categorizations of ROR implementation that were based on the perceptions of the RCC.

All 9 recommended sites were invited to participate in this study. Two struggling sites declined to participate; one described its ROR program as being “in hiatus,” while the other failed to respond to multiple contacts. The 7 remaining clinics all agreed to participate. Characteristics of these 7 clinics are summarized in Table 2.

Institutional Approvals

Approval for this study was granted by the Institutional Review Board of the Johns Hopkins School of Medicine. In

Table 1. Concordance of Data Sources in Characterizing Success of Reach Out and Read Implementation Among All Sites Invited to Participate in Qualitative Interviews (N = 9 clinics)

Clinic	Perception of RCC	Visits in Which Eligible Child Received Book	Site Observation Score, Mean ± SD
1	High	87%	3.8 ± 0.4
2	High	88%	3.6 ± 1.0
3	High	99%	3.5 ± 1.0
4	Moderate	60%	3.5 ± 0.9
5	Moderate	23%‡	3.2 ± 1.1
6	Struggling	54%	2.6 ± 0.9
7*	Struggling	2%	Declined
8	Struggling	Unavailable	Declined
9*	Struggling	Unavailable	Declined

RCC indicates Regional Coalition Coordinator.

*Declined to participate in qualitative interviews.

‡Funding constraints limited the supply of books available for distribution at this clinic during the time period of this study.

Table 2. Characteristics of Participating Clinics (N = 7 clinics)

Clinic	Staffing Structure				Estimated Proportion of Patient Population Covered by Medicaid or Uninsured	Significant (>30%) Non-English-Speaking Patient Population?
	Providers (seeing pediatric patients)		Nonprovider Staff (specific to pediatrics or providing services utilized by pediatric patients)			
	Total	Participated in Interviews	Total	Participated in Interviews		
1	6	5	17	14	~75%	No
2	1	1	5	4	>95%	No
3	7	5	7	6	~80%	Yes
4	4	3	14	13	~50%	No
5	3	3	14	9	>90%	Yes
6	1	1	11	11	>95%	No
8	2	2	13	13	>95%	Yes

addition, approvals were obtained from research review boards for each site agreeing to participate. At sites without formal review boards, administrative permissions were obtained. Inclusion criteria were intentionally broad; every clinic staff member in attendance when qualitative interviews were being conducted was invited to participate. Although none of the participating sites was primarily a teaching clinic, 2 sites offered continuity clinic experiences for pediatric residents. By chance, these residents were not in attendance on scheduled interview dates and thus were not included in the study. All participants provided written informed consent indicating their voluntary participation. No patient information was accessed, nor were patients interviewed or observed during this study.

Qualitative Interviews and Focus Groups

The original study design called for one-on-one qualitative interviews at each site. During the process of obtaining institutional approvals, one corporation, representing 2 of the 7 consenting sites, requested that focus groups be added to the one-on-one interviews. As a result, in-depth interviews were conducted at all 7 sites, with focus groups also being conducted at 2 of the 7 sites. Individual interviews were conducted with all study subjects even if they also participated in a focus group. This was done because focus groups are prone to producing data that reflects the “groupthink” of the most influential members, and because less powerful members may be too intimidated to offer ideas or may have their opinions discounted.²⁴ Focus groups were conducted on the same dates as in-depth interviews. The order in which clinics were interviewed was based on convenience; clinics were not scheduled in any specific order (ie, by perceived level of ROR implementation).

In total, the 7 participating clinics identified 24 providers and 81 nonprovider staff that were either specific to pediatrics or provided services that were used by pediatric patients (such as translators or referral coordinators). Of these individuals, 20 providers and 70 support staff participated in qualitative interviews (mean = 12.9, range = 5–19 interviews per site). At the 2 sites requesting focus groups, 2 focus groups were conducted at each site (mean = 6.0, range = 5–8 participants per group). A breakdown of participating staff is provided in Table 2. Among

all 7 sites, only one individual (a female provider) actively declined to participate; in all other cases, discrepancies between the total number of staff and study participants reflect absences from work (scheduled or unscheduled) on the dates that interviews were being conducted. Further breakdown of participant characteristics is provided in Table 3.

Each interview or focus group began with a scripted explanation of the purpose of the study and reassurance that all discussions were confidential. The initial version of the interview guide is provided in Table 4. All interviews and focus groups were conducted on site by 1 of 2 study authors (TK or SM) in nonpublic work areas and audiotaped. Most interviews were completed in less than 1 hour. All focus groups lasted 1 hour. Audiotapes were transcribed verbatim by a professional transcription service. Accuracy of transcripts was established by comparing a sample of transcripts to the original audio recordings.

Analysis of Qualitative Data

Qualitative analysis was based on independent review of transcripts by the principal investigator and an external qualitative researcher unfamiliar with ROR or participating sites. Emerging themes were compared to predictors postulated by Cohen and Bailey’s framework¹⁹ for team effectiveness. Specific efforts were made to qualitatively identify relationships between emerging themes and sites’ levels of success in ROR implementation. To corroborate these findings, quotations reflecting each theme were then grouped and counted by implementation category.

Table 3. Characteristics of Study Participants (N = 90 participants)

Characteristic	Male	Female	Total
Provider			
MD	9	9	18
NP		2	2
Nonprovider staff			
RN/LPN	1	4	5
Medical assistants/nursing assistants/registration staff	0	55	55
Administrators/managers	1	4	5
Other	2	3	5
Totals	13	77	90

Table 4. Initial Interview Guide

Open-Ended Question	Follow-up Prompts (used only if needed)	Area(s) Addressed
How does this clinic work?	How would you describe... ...the things that you do? ...your coworkers? ...your patients?	Group processes Group psychosocial traits
How is ROR implemented at this clinic?*	What systems exist to support ROR implementation? Who is responsible for implementing each component of ROR? How well does ROR work here? What are the barriers to ROR implementation? What facilitates ROR implementation?	Design factors Environmental factors
How do staff at this clinic feel about ROR?		Group psychosocial traits
How do patients at this clinic feel about ROR?		Environmental factors
Is there anything else about this clinic or about the ROR program here that you think is important for me to know, but I haven't asked?		Group processes Group psychosocial traits Design factors Environmental factors

*ROR indicates Reach Out and Read.

Qualitative findings are deemed to be accurate if they are both credible and relevant.²³ In this study, credibility was established through several methods. First, multiple data sources were used, and multiple researchers analyzed these data independently, a method known as triangulation.^{23,25,26} To facilitate triangulation in this study, we interviewed employees at all levels among unique practice sites and used an independent qualitative researcher (MG) unfamiliar with participants or the ROR model to code transcripts independent of the principal investigator (TK). Differences in analysis were resolved through discussion, and a subset of transcripts were revisited to clarify and confirm the interpretation.

RESULTS

Themes emerged in each of the 4 categories predicted by our conceptual model to influence team effectiveness. Of these 4 categories, 3 (design factors, group processes, and group psychosocial traits) were related to practices' success in ROR implementation.

Group Processes

Staff at successful sites reported having more effective group processes than staff at struggling sites. Comments in this area fell into 2 themes: communication and teamwork.

Communication

Comments connoting poor communication between coworkers were common among individuals at struggling and moderately successful clinics (with 85% of quotations reflecting poor communication coming from these sites), but rare among highly successful practices. One medical assistant described conflict as having a stifling effect on communication: "Most of the time when something is

said it blows up to a big argument or whatever. So now people—we just sit there." This was echoed by an individual who observed, "You can't honestly express yourself."

Teamwork

Staff at struggling sites described frustration with the lack of teamwork among colleagues. Of all quotations reflecting a poor sense of teamwork, 87% were from participants at struggling or moderately successful sites. This was exemplified by a medical assistant who noted, "There's no teamwork, none...everybody here is going to look out for theirself [sic]... 'All I'm worried about is me.'"

Conversely, staff at highly successful sites reported positive experiences arising from team efforts to get tasks completed. Among quotations reflecting a strong sense of teamwork, 88% were from participants at highly successful sites. One front office staff member noted, "If I'm dealing with a patient that's having a hard time or giving me difficulty...[my coworker] takes up the slack." Similarly, a provider noted, "We work on the staff helping each other a lot...if someone's getting really hit hard, then the other staff will help."

Group Psychosocial Traits

Many attitudes and beliefs reported by individuals at struggling sites were in sharp contrast to those at highly successful sites. This was captured by a number of themes. Many staff at struggling sites described a poor work ethic and disrespect for families, while many at successful sites expressed a strong sense of mission and perceived ROR to have a positive impact on their self-image.

Poor Work Ethic

Study participants at struggling sites and some moderately successful sites described their jobs simply as a means

of supporting themselves, and thus deserving of the minimal required effort. Of quotations reflecting poor work ethic, 58% came from one of these 2 groups of sites. One medical assistant observed, "We just come in to work... You have a family to support." Some clinic staff felt they had few options: "I'm stuck... If I could leave, I probably would." Providers corroborated these sentiments: "It's more of a job... they come, they put in their 8 hours, and they leave."

Disrespect for Families

At struggling sites clinic personnel, particularly support staff, were more likely to express disrespect and even contempt for the families served by the clinic. One medical assistant reported, "The patients [think it's] just like a store; the customer has the right-of-way, the patient is right. And we're trying to get them out of that mode of thinking—you're not right, it's wrong." One nurse commented, "[Families] abuse what they get here... they think, you know, this is how it's supposed to be and they're always supposed to be the ones who get everything." This disrespect for families among staff at struggling clinics extended to their perceptions of the potential impact of the ROR program. One medical assistant commented, "We can encourage them, but that don't mean they're going to go home and read the book with their child."

Among quotations reflecting disrespect for families, 66% came from participants at struggling or moderately successful sites.

Sense of Mission

At highly successful clinics, on the other hand, staff discussed the value of providing community service. This was closely linked to perceptions that their work was aligned with a broader clinic mission. One provider noted, "Our clinic really is set up more as a service to the community... we're not purely a money-making clinical practice." These feelings were shared by support staff who said, "We make sure our patients are taken care of." Among quotations reflecting a strong sense of mission, 71% came from participants at highly successful sites.

Self-Image

Several providers at moderately and highly successful sites were motivated to incorporate ROR into their routines by the impression that distributing books improved their own image. "I [give a book] at really almost every visit, because... it makes us look better." Another offered, "We're not just giving shots. 'My doctor gave me a book,' you know. 'That's the book lady.'" Among quotations reflecting the perception that ROR improved providers' self-image, 100% were from providers at highly successful or moderately successful sites.

Design Factors

The only theme to emerge specific to the design of ROR implementation addressed integration of ROR into clinic routines. Full incorporation of ROR procedures into

a clinic's daily routines was seen universally among clinics that were highly successful in implementing ROR. A staff member at one highly successful clinic reported, "within a month or so we were in a routine, and [now] I don't think the books slow us down at all." Many staff members at successful clinics reported that positive feedback from families reinforced ROR routines. One provider commented, "A lot of patients come and ask us for books, even when it's not physical time... The only [kids] that complain are the ones that come out of the 6 year old visit, they don't get a book anymore."

Struggling clinics, on the other hand, were far less likely to make the accommodations necessary to fully incorporate ROR into clinic routines. One provider at a struggling site observed that ROR was "not something I felt I really needed to [do]. I don't have a lot of time to do it, to be honest with you." ROR book distribution at these sites tended to be erratic. "If we remember like during giving them their shot," commented one medical assistant, "we'll be like wait, we have a book, give them something colorful because they'll be so scared and stuff, so we give them a lollipop and a book." Even when children did receive books at these sites, other program components were not implemented, such as counseling around book-sharing behaviors. "They just give them the book... and just say, 'Here.'"

Among quotations reflecting successful integration of ROR procedures into clinic routines, 98% were from participants at highly successful or moderately successful sites. Among quotations reflecting an absence of such integration, 87% were from participants at struggling sites.

Environmental Factors

The only theme reflective of environmental factors was the pressure felt by providers to meet financial obligations. Unlike other themes, this was characterized by similar experiences across practices, regardless of their success in ROR implementation.

Most providers felt a strong tension between the pressure to increase productivity and the pressure to provide high-quality care. One provider noted, "We need to see enough patients to stay open... You try to reach that balance of being productive and having enough time to actually... help your patients. And it's hard... I've not figured out how to do both things." Another provider commented, "We get pressured quite directly. If our numbers [are] lower than last month, if they're lower than this time last year... it's always numbers talk. And it's frustrating for all the providers... Because there's quantity and then there's quality, and we're much more interested in quality." Among quotations reflecting financial pressures, 45% came from highly successful sites, 17% from moderately successful sites, and 38% from struggling sites.

DISCUSSION

Qualitative analysis of interview and focus group transcripts identified themes in each of the 4 areas postulated to influence the success of ROR implementation. Most of

these themes identified group processes and group psychosocial traits broadly reflective of clinic culture. At struggling sites, staff tended to find their jobs burdensome, communication less open, and teamwork lacking. They often demonstrated a lack of respect for the families they served. In this context, staff members at struggling sites were often unable or unwilling to make the accommodations necessary to fully integrate ROR procedures into their clinic routines. Staff at clinics that were highly successful in implementing ROR, on the other hand, reported working well as a team and expressed a strong commitment to their communities. Incorporation of ROR procedures into clinic routines at these sites tended to occur smoothly, and these routines were reinforced by positive feedback from families.

In recruiting practices for this study, we were intentional in our efforts to recruit not only motivated, successful clinics, but also clinics that were struggling with ROR implementation. This gave us the opportunity to identify and examine factors associated with struggling sites that are missing from previous research on ROR and many other interventions in pediatric primary care.

Some of our findings were not surprising. For example, we were not surprised to find that clinics experiencing more success in implementing ROR had stronger design factors—that is, they were more likely to have fully integrated ROR procedures into the flow of their daily activities. Integration of ROR procedures emerged only as a minor theme, however, among those identified in this study. Far more prominent were the group processes and group psychosocial traits that reflected clinic culture. The work ethic of staff members, their openness of communication, their willingness to work as a team, their sense of commitment to patients and communities—each of these attributes was clearly related to a clinic's success in implementing the ROR model.

Finally, we found that one environmental factor—the pressure to meet financial obligations—was nearly ubiquitous among participating practices, which ranged from corporate practices to hospital-owned clinics to federally qualified health centers. Nearly all providers commented, unprompted, on the pressure to see more patients and generate more revenue. On the basis of our conceptual model, we had predicted that any environmental factors would have indirect influences on ROR implementation. In this regard, however, our study failed to fully support the model; we could not discern any clear relationship between financial pressures and success of ROR implementation. Instead, providers at successful and struggling sites alike commented on these pressures and their perception that such pressures had a negative impact upon their ability to deliver high-quality care.

A growing body of research^{15,27} suggests that shortcomings in the implementation of efficacious models explain much of the diminishment of program impact seen when such models are taken to scale. This study provides a unique insiders' view into a sample of pediatric primary care practices that, while serving similar patient populations, varied widely in their success in implementing the ROR model. It

clearly shows that despite the strength of evidence regarding its efficacy, ROR is no exception to this rule.

This study also demonstrates that factors that predict team effectiveness are highly relevant to primary care practices, no less than they are in other workplace settings ranging from manufacturing to finance. As postulated by our conceptual model,¹⁹ we found that categories of predictors with both direct and indirect influences on team effectiveness (group processes, group psychosocial traits, and design factors) were related to the success of ROR implementation. Predictors postulated only to have indirect influences on team effectiveness (environmental factors), however, did not have an obvious relationship to ROR implementation.

Like any qualitative study, our study has several limitations. First, the qualitative data consist of participant self-reports; we did not attempt to verify the accuracy of any individual's responses. Second, the small number of participating sites and the purposeful nature of their selection limits the generalizability of this study. However, our goal was not primarily one of generalizability but rather of relevance and credibility. Our finding that broad themes of clinic culture predominated over ROR-specific themes in predicting successful ROR implementation provides essential new knowledge that is relevant not only for ROR, but also for a host of current and future interventions in pediatric primary care.

Some implications of this study are specific to the ROR program. ROR is unique in that individual sites have access to support from a national coordinating center and, in many cases, from local or regional coordinators. To date, such support has tended to focus on design factors, such as book distribution and staff training. Our findings suggest that such attention to design factors, while necessary, is insufficient to ensure that ROR is successfully implemented at all participating sites. Struggling sites face challenges not only in implementing ROR, but also in other areas, ranging from promoting effective communication to building strong relationships with their patients and communities. The ROR program would be well served by developing strategies for identifying the key group processes and group psychosocial traits that comprise clinic culture, and by creating new approaches to supporting ROR implementation that accommodate these aspects of clinic culture. Furthermore, any new approaches to improving ROR implementation are likely to have the greatest impact if they undergo rigorous testing to establish their efficacy, particularly if such testing occurs among not only successful but also struggling sites.

The implications of our findings, however, extend beyond ROR. Aspects of clinic culture identified here as related to ROR implementation—work ethic, communication, teamwork, sense of mission, respect for families—have the potential to impact many, if not all, aspects of preventive care. Future efforts are needed to understand whether these aspects of clinic culture create barriers to the delivery of other preventive care services, and to develop and empirically test strategies for addressing these barriers in a way that optimizes child and family outcomes.

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REFERENCES

1. Reach Out and Read. Available at: <http://www.reachoutandread.org/about.html>. Accessed October 23, 2008.
2. Needlman R, Fried LE, Morley DS, et al. Clinic-based intervention to promote literacy. A pilot study. *Am J Dis Child*. 1991;145:881–884.
3. High P, Hopmann M, LaGasse L, et al. Evaluation of a clinic-based program to promote book sharing and bedtime routines among low-income urban families with young children. *Arch Pediatr Adolesc Med*. 1998;152:459–465.
4. Golova N, Alario AJ, Vivier PM, et al. Literacy promotion for Hispanic families in a primary care setting: a randomized, controlled trial. *Pediatrics*. 1999;103:993–997.
5. High PC, LaGasse L, Becker S, et al. Literacy promotion in primary care pediatrics: can we make a difference? *Pediatrics*. 2000;105:927–934.
6. Sanders LM, Gershon TD, Huffman LC, et al. Prescribing books for immigrant children: a pilot study to promote emergent literacy among the children of Hispanic immigrants. *Arch Pediatr Adolesc Med*. 2000;154:771–777.
7. Jones VF, Franco SM, Metcalf SC, et al. The value of book distribution in a clinic-based literacy intervention program. *Clin Pediatr (Phila)*. 2000;39:535–541.
8. Mendelsohn AL, Mogilner LN, Dreyer BP, et al. The impact of a clinic-based literacy intervention on language development in inner-city preschool children. *Pediatrics*. 2001;107:130–134.
9. Sharif I, Rieber S, Ozuah PO, et al. Exposure to Reach Out and Read and vocabulary outcomes in inner city preschoolers. *J Natl Med Assoc*. 2002;94:171–177.
10. Silverstein M, Iverson L, Lozano P. An English-language clinic-based literacy program is effective for a multilingual population. *Pediatrics*. 2002;109:E76.
11. Weitzman CC, Roy L, Walls T, et al. More evidence for reach out and read: a home-based study. *Pediatrics*. 2004;113:1248–1253.
12. Needlman R, Toker KH, Dreyer BP, et al. Effectiveness of a primary care intervention to support reading aloud: a multicenter evaluation. *Ambul Pediatr*. 2005;5:209–215.
13. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press; 2001.
14. Flay BR, Biglan A, Boruch RF, et al. Standards of evidence: criteria for efficacy, effectiveness and dissemination. *Prev Sci*. 2005;6:151–175.
15. Fixsen DL, Naoom SF, Blase KA, et al. *Implementation Research: A Synthesis of the Literature*. FMHI Publication 231. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network; 2005.
16. Cabana MD, Rand CS, Becher OJ, et al. Reasons for pediatrician non-adherence to asthma guidelines. *Arch Pediatr Adolesc Med*. 2001;155:1057–1062.
17. Leslie LK, Weckerly J, Plemmons D, et al. Implementing the American Academy of Pediatrics attention-deficit/hyperactivity disorder diagnostic guidelines in primary care settings. *Pediatrics*. 2004;114:129–140.
18. Flores G, Lee M, Bauchner H, et al. Pediatricians' attitudes, beliefs, and practices regarding clinical practice guidelines: a national survey. *Pediatrics*. 2000;105:496–501.
19. Cohen SG, Bailey DE. What makes teams work: group effectiveness research from the shop floor to the executive suite. *J Manage*. 1997;23:239–290.
20. Bettenhausen KL. Five years of groups research: what we have learned and what needs to be addressed. *J Manage*. 1991;17:345.
21. Sofaer S. Qualitative methods: what are they and why use them? *Health Serv Res*. 1999;34:1101–1118.
22. George M, Apter AJ. Gaining insight into patients' beliefs using qualitative research methodologies. *Curr Opin Allergy Clin Immunol*. 2004;4:185–189.
23. Strauss AL, Corbin JM. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. 2nd ed. Thousand Oaks, CA: Sage Publications; 1998.
24. Morgan DL. Why things (sometimes) go wrong in focus groups. *Qual Health Res*. 1995;5:516–523.
25. Cohen MZ, Kahn DL, Steeves RH. *Hermeneutic phenomenological research: a practical guide for nurse researchers*. Thousand Oaks, CA: Sage Publications; 2000.
26. Patton MQ. Enhancing the quality and credibility of qualitative analysis. *Health Serv Res*. 1999;34:1189–1208.
27. Institute of Medicine. *The State of Quality Improvement and Implementation Research: Expert Views—Workshop Summary*. Washington, DC: National Academies Press; 2007.