Barriers and Facilitators to Implementing Health Literacy Practices in a Pediatric ENT Clinic

NCPD 2.0 Contact Hours

A Mixed-Methods Study

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ABSTRACT

Background: Despite strong evidence of improved patient outcomes, clinicians have been slow to adopt health literacy practices.

Purpose: To identify facilitators and barriers to implementing health literacy practices into clinical care.

Methods: Stakeholders (N = 40) completed surveys of acceptability, appropriateness, feasibility, conviction, and confidence with teach-back practices. Using the Consolidated Framework for Implementation Research (CFIR), interviews (n = 12) were conducted and analyzed.

Results: Most reported high acceptability, appropriateness, and feasibility, but low confidence in using teach-back. Facilitators included leadership engagement and relative advantage. Barriers were related to compatibility due to time and workflow constraints. The CFIR-ERIC (Expert Recommendations for Implementing Change) Implementation Strategy Matching Tool was applied to select implementation strategies.

Conclusions: The CFIR framework along with the CFIR-ERIC Matching Strategy Tool helped the research team select strategies likely to yield successful implementation and sustained use of health literacy practices.

Keywords: barriers and facilitators, Consolidated Framework for Implementation Research (CFIR), health literacy, implementation science

One in 3 parents have low health literacy, lacking the skills to understand or use health information to make decisions about their child's health.[1] Low parent health literacy has been associated with less health knowledge and increased emergency department visits and hospitalizations, with an estimated health care cost of $215 billion per year.[2] Healthy People 2030 included health literacy as 1 of the 5 overarching goals, expanding the definition beyond the individual patient's capacity to include organizational health literacy that acknowledged the role of clinicians to make health care more understandable for patients.[3]

Health literacy universal precautions call for using plain language, limiting information to 3 to 5 key points, chunking information, and using teach-back to ensure patient comprehension.[4] Despite evidence since the early 2000s that health literacy practices improved patient outcomes, implementation remains challenging as health care organizations have been slow to adopt health literacy into structures and systems.[5] This slow uptake is consistent with studies that have shown that it takes on average 17 to 20 years to translate evidence-based interventions into practice.[6] Health care teams have reported barriers to implementation of health literacy practices, including the lack of resources, increased workload, time constraints, competing priorities, little quality improvement experience, and lack of leadership support.[7]

Applying theory and strategies of implementation science may accelerate the implementation of health literacy practices. The Consolidated Framework for Implementation Research (CFIR) recognizes barriers and facilitators to

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This study was funded by the Children's Clinical Research Advisory Committee (CCRAC) Early Career Research Award.

The authors declare no conflicts of interest.

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Accepted for publication: August 12, 2023

Early Access: September 8, 2023

DOI: 10.1097/NCQ.0000000000000744

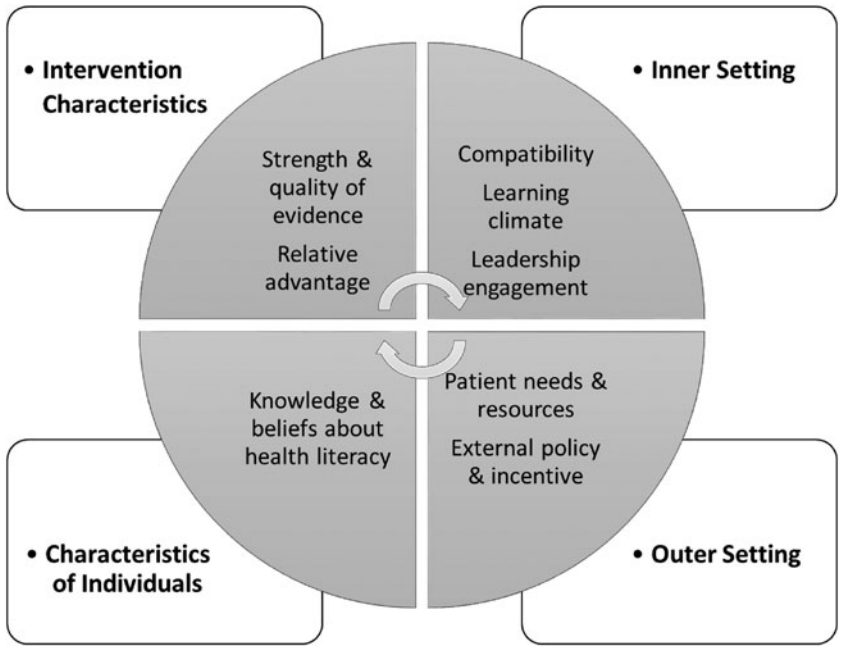

Figure 1. Adapted Consolidated Framework for Implementation Research framework.

intervention implementation. CFIR, a synthesis of 19 implementation theories, includes 39 constructs across following 5 domains: intervention characteristics, outer setting, inner setting, characteristics of individuals, and process.[8] To improve the evidence base for selecting implementation strategies, Powell and colleagues[9] created and ranked a compilation of 73 ERIC (Expert Recommendations for Implementing Change) strategies on their ability to address each CFIR barrier. Using the CFIR-ERIC Matching Strategy Tool, implementation teams produce a list of endorsed implementation strategies. Waltz et al,[10] however, cautioned that implementation teams should consider context-specific needs when selecting implementation strategies. The aim of this study was to conduct a preimplementation assessment to (1) use CFIR to identify barriers and facilitators to implementing health literacy practices (Figure 1) and (2) use the CFIR-ERIC Matching Strategy Tool to aid in selection of implementation strategies.

METHODS

Design, setting, and participants

This preimplementation mixed-methods study represented the first phase of a larger Communicate to Care Implementation Study and was approved by the university institutional review board. All ambulatory care clinics of an urban pediatric tertiary care health system were invited to participate. The ear, nose, and throat (ENT) clinic volunteered to join; other clinics declined due to staffing and time constraints. A total of 55 ENT participants, including physicians, advanced practice providers, nurses, staff, and leaders, were invited to participate via email and in person. The ENT team saw 100 to 130-patient visits per day in 15-minute appointments. Children were commonly seen for otitis media, hearing concerns, tongue ties, snoring, enlarged tonsils, and obstructive sleep apnea. The team provided instructions to families about diagnostic studies, treatment options, surgery, and postoperative management.

Research team

The principal investigator (C.J.H.) was a health literacy researcher with expertise in mixed methods and experience as a pediatric clinical nurse specialist and director of patient education. Although comfortable in an ambulatory setting, she had no prior experience in ENT care. The coprincipal investigator (B.L.), vice president of nursing excellence, had experience as a pediatric clinical nurse specialist, ENT airway expert, and director of patient education with expertise in quality improvement and qualitative methods.

S.E. was a third year medical student who helped with data analysis.

Measures

A total of 4 surveys were distributed to assess indicators of implementation success. The Acceptability of Implementation Measure (AIM) assessed the extent that stakeholders believed health literacy practices were agreeable or satisfactory; Intervention Appropriateness Measure (IAM) assessed the extent that stakeholders reported a perceived fit, relevance, or compatibility of health literacy practices to meet patient needs; and Feasibility of Intervention Measurement (FIM) assessed the extent that stakeholders believed health literacy practices could be effectively used. Each measure included 4 items, used a 5-point Likert scale (1 = completely disagree to 5 = completely agree), and took 5 minutes to complete.[11] Item scores were averaged, with higher scores showing grater acceptability, appropriateness, and feasibility. A mean rating greater than 4 indicated high likelihood of successful implementation.[12] Cronbach αs of .85 for AIM, .91 for IAM, and .89 for FIM, and satisfactory test-retest reliability, content validity, discriminant content validity, and responsiveness to change have been reported.[11] The Conviction and Confidence Scale (CCS) is a 4-item survey to assess respondents' conviction on the importance of and confidence in use of teach-back on a 0 to 10 scale, their perceived adoption or intent to adopt teach-back, and the frequency in which they use other health literacy practices (eg, plain language, caring tone, avoid yes/no questions) during the past week.[13] No psychometric data have been reported for the CCS that takes 2 minutes to complete.

In-person interviews were conducted with a convenience sample of ENT physicians, nurses, staff, and a purposive sample of clinic leaders. Informed by the CFIR interview guide, informants were asked questions related to intervention characteristics, inner setting, and characteristics of individuals (Table 1).

Data analysis

Descriptive statistics described the characteristics of the clinic team and mean ratings of AIM, IAM, and FIM, conviction and confidence with using teach-back, and use of other health literacy practices. Interviews were audio-recorded, transcribed verbatim, and uploaded to Dedoose[14] for analysis. The study team used directed content analysis using the CFIR domains and constructs as predefined codes in 3 iterative steps:

Table 1. CFIR Informed Interview Guide

CFIR Domain	CFIR Constructs Interview Questions
Intervention characteristics	Evidence strength and quality • What kind of evidence is needed about the effectiveness of health literacy practices to get staff on board? Relative advantage • What is the advantage of using health literacy practices compared with usual care in the clinic?
Characteristics of the individuals	Knowledge and beliefs about health literacy • Do you think health literacy practices will be effective in your clinic?
Inner setting	Compatibility • How well does health literacy practices fit with your existing work processes and practices? Learning climate • How much do you think the clinic wants to learn and try new things to improve care? Leadership engagement • What level of support have you seen or heard from leaders?

Abbreviation: CFIR, Consolidated Framework for Implementation Research.

(1) initial coding and data reduction with the CFIR domains, (2) next level coding with CFIR constructs, and (3) resolved discrepancies in coding through discussion to consensus.[15] Techniques to increase trustworthiness included use of 2 coders, reaching thematic saturation, use of analytic and code memos, member checking, and keeping an audit trail.[16] Coded CFIR constructs were keyed into the CFIR-ERIC Matching Strategy Tool to create a list of implementation strategies to address barriers and facilitators to health literacy implementation in the ENT clinic.[9]

RESULTS

Quantitative results

A total of 40 individuals completed the surveys; the majority were female (n = 33, 82%) and had more than 5 years of experience in the ENT clinic (n = 20, 50%) (Table 2). Mean ratings for AIM, IAM, and FIM were greater than 4, indicating high likelihood of successful implementation. Respondents had a mean of 8.2 out of 10 (SD = 2.4) on their conviction to use teach-back but reported lower confidence with using this strategy, with a mean of 6.7 (SD = 2.51); 41% (n = 16) reported current use of teach-back. For other health literacy practices, the greatest proportion of respondents reported use of plain language and the lowest for teach-back documentation (Figure 2).

Table 2. Characteristics of ENT Team Participants

Characteristic	n	%
Gender		
Female	33	82
Male	7	18
Age (years)		
25-35	14	36
36-49	14	36
>50	12	28
Race		
White	27	67
Hispanic	9	23
Asian	3	7
Black	1	3
Role		
Nurse	9	23
Physician	9	23
Advance practice providers	9	23
Practice administrator and Nurse team lead	2	5
Medical assistant	3	7
Other	8	20
Years in ENT clinic		
0-5 y	19	48
6-10 y	8	21
11-14 y	4	10
>15 y	8	21

Abbreviation: ENT, ear, nose, and throat.

Qualitative results

Twelve key informants participated in 30-minute interviews, including 4 physicians or advanced practice nurses, 3 nurses, 3 medical assistants, 1 practice administrator, and 1 nurse team lead. Although the ENT clinical team ratings of AIM, IAM, and FIM indicated high likelihood of implementation success, interviewees provided insight into the barriers and facilitators to health literacy implementation, mostly related to intervention characteristics (23 codes) and the inner setting (75 codes).

Intervention characteristics: Strength and quality of evidence

Informants shared their perceptions that research findings indicating health literacy practices improved patient outcomes were not key to their acceptance in the use of health literacy tools in practice. As 1 physician reported, "Literature data is a little remote … literature could demonstrate efficacy but what does this look like in real life?" Instead, informants believed that clinic team buy-in depended on seeing direct results in their patient population. From a medical assistant, "If there's more positive reviews, it means that we're making a change for the families, that patient family experience." Similarly, 1 nurse stated, "Staff will be more on board [with using health literacy practices] if they're able to see positive results, [such as] lesser phone calls, lesser messages."

Intervention characteristics: Relative advantage

The ENT team believed that there was a *relative advantage* to use health literacy practices compared with usual care. Informants were aware of the institution's focus on the patient experience and were regularly informed of patient

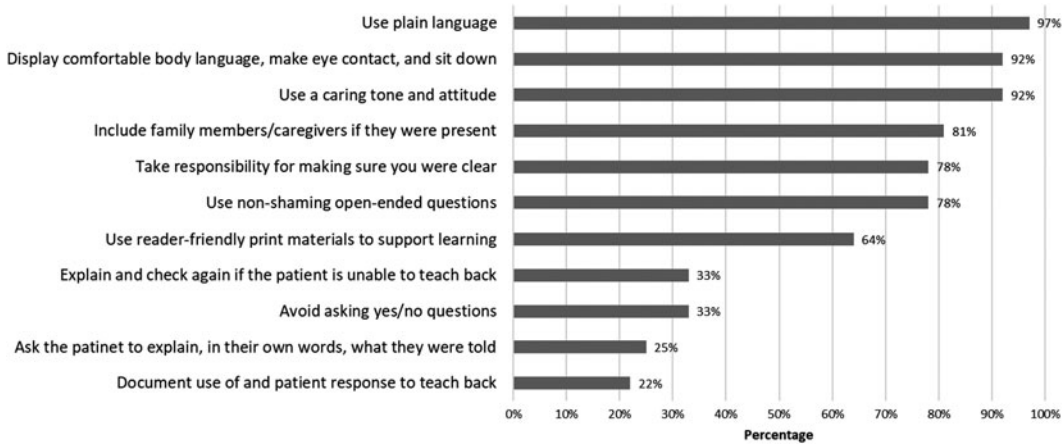

Figure 2. Other health literacy practices used by respondents.

satisfaction survey results. A clinic leader reflected, "We get through NRC [National Research Corporation], we get feedback [from patient experience surveys] … a lot of it is the physician's delivery of information to patients so that's a huge way for us to know whether or not, what we're doing is working." They viewed the health literacy project as a means toward institutional goals. All hoped that health literacy practices could improve parent reports of a positive patient experience. As 1 nurse reported, "If you have good communication with your patients, they're going to be happy about our services." Many hoped that health literacy practices would help decrease postoperative phone calls and preventable emergency department visits. At the start of this study, 25% of parents called the ENT clinic with questions and 30% brought their child to the emergency department postoperatively, commonly for uncontrolled pain and dehydration despite the ENT team providing instructions on how to prevent these problems.

Informants spoke at length about the importance of delivering patient education about the child's diagnosis and treatment options in ways that parents could understand so they could make informed decisions on the care for their child. When asked how health literacy practices could help with this, a clinic leader responded, "It's huge, for [parents] to understand the why behind some of the care options. Because if they don't understand, then they're just going along with it." Informants reported that some families did not understand why they were referred to ENT clinic. As 1 medical assistant explained, "They're not really understanding what their PCP [primary care provider] is telling them, what is the reason they're coming in, and we have to tell them why." This becomes even more important when surgery was being considered. One nurse noted: "If we're going to be doing surgery, before you cut into them, they should understand what you're doing and why and I think a lot of patients don't." The team related their worry that parents did not always comprehend the treatment options, quickly electing for surgery as a quick fix without recognizing the risks. A physician reflected, "Half these parents are like, 'let's just do a tonsillectomy and adenoidectomy' and I'm like, it's a very serious and high-risk procedure. It's not 'let's just do it.' So understanding the risks, I think that's a huge deal to make sure we're communicating effectively." Informants pointed out examples when the patient had not fully understood all that was discussed. One nurse described the downside of not ensuring patient understanding, explaining "[Teach back] helps on the back end when they call us afterward, and they're like, 'My kids' in pain. My kid's doing this,' and we're like, 'Yes, that's normal.' … It's almost a burden on the system if you don't do it upfront."

Characteristics of individuals: Knowledge and beliefs about health literacy

Informants reported knowing the need to use plain language and teach-back but expressed doubts on its actual use. One nurse reflected on physician practices, "Use lay terms, do teach-back … with the surgeons, when they go in, they know they're supposed to, but they still talk at a higher level than they should." Another shared,

"Teach-back is awkward. I want to do it but it seems like I am quizzing families." Despite this, another stated, "I see a need for health literacy, the education level of families is variable, so their understanding can be affected."

Inner setting: Implementation climate: Compatibility

Time commitment was a major concern. Informants shared their reservations about the *compatibility* of health literacy practices to fit in the existing clinic workflow. In a busy clinic with a 40% no show rate and late shows causing a backlog of patients, the clinic workflow could quickly become unpredictable. As a clinic leader noted, "The barriers are going to be just our volume. And if they are running behind, they just feel that extra pressure … so how do we improve communication under these circumstances?"

Informants shared their thoughts on how health literacy practices could be integrated into their existing workflow. One nurse stated, "Lay terms, using more basic language, definitely is an easy switch." They reported concerns over time restraints to use teach-back, "It takes me this long [to provide patient education for surgery] so then they're going to repeat it all back and they're going to struggle through it because they don't have it memorized and say it 10 times a day like I do. I can see where the time would be a constraint and makes me personally reluctant to have to do it." No participants addressed the evidence-based health literacy practices of limiting discussion with patient families to 3 to 5 key points or chunking information into manageable bits.

Inner setting: Readiness for implementation: Learning climate

Informants described a *readiness for implementation* in the clinic, with a commitment to integrating health literacy practices into patient interactions. As 1 nurse described, "We have an easy team that's willing to learn and they're eager to be part of this project." Given this positive climate, informants shared preferences for learning skills. Many endorsed "hands-on training involving learning about it and then working in real time to see how to incorporate it." They reported enjoying real-life examples, training, and practice, including, as 1 nurse described, "Do a practice roundtable on chunking things and teach-back because as you do it, you get more comfortable with it."

Inner setting: Readiness for implementation: Leadership engagement

Informants perceived varying degrees of leadership engagement with the health literacy implementation project. Most believed support for the study originated from leadership as 1 physician reported, "Our clinic manager is definitely on board and was excited that we are part of the project; she was spreading the word in staff meetings." A few informants had not heard of the health literacy project but pointed out that leader support would be helpful. When describing their newly set goal to improve patient satisfaction scores, 1 nurse stated, "I think that would be super helpful for them to say, 'Hey, this is a study to implement health literacy, that could really help with [implementation].'" Another advised, "Use some simple psychology. Tell them, 'Oh, Dr M. [Division Chief] wants to participate in this study implementation. He wants everyone to do it [teach back].'"

Implementation strategy selection

The CFIR-ERIC Implementation Strategy Matching Tool was applied to help select strategies that would capitalize on the facilitators and address the barriers to health literacy implementation in the clinic. Strategies selected included conducting local consensus discussions, preparing and supporting champions, obtaining patient and family feedback, using an external facilitator, conducting small tests of change, and using audit and feedback.

DISCUSSION

In this study, the clinical team rated acceptability, appropriateness, and feasibility of health literacy practices highly, which seemingly predicted successful implementation of health literacy practices.[17] Clinicians' high conviction scores regarding use of teach-back was encouraging to implementation; however, their low confidence ratings for use of teach-back revealed a need for training, practicing, and modeling to promote confidence. Informants provided deeper insight into the barriers and facilitators to implementation of health literacy practices than the surveys alone. Most determinants to implementation success or failure were related to the intervention characteristics and the inner setting,

showing the importance of attending to the local context when planning for implementation.[8]

Barriers

Our findings revealed several barriers to implementing health literacy practices. Time constraints in a busy clinic were the major barrier, confirming findings from previous efforts to implement health literacy practices.[7,18] Informants expressed ambivalence on the use of teach-back as it would add too much time to the patient visits and to their already full workload, similar to previous findings on nurses' reported time barriers.[19] From their standpoint, informants frequently recited their patient education script and had little expectation that parents could repeat back that information. This provided an opportunity to design training to reframe how a clinician can do teach-back, clarifying that the intent is not to have parents recite every detail of the care plan verbatim but instead to explain in their own words the key parts of the plan. Clinicians may quickly pick up any misunderstandings and clarify information.

For successful implementation, the research team must highlight the compatibility of health literacy practices with current clinician-patient family interactions, emphasizing that health literacy practices would not be an add-on, but a way to do the same work differently.[18] The research team will need a pragmatic approach to address the time constraints when integrating health literacy practices into the clinic workflow. To limit the task burden, the research team will focus on each member's roles and responsibilities. For example, while all team members should use plain language and limit information to 3 to 5 key points, providers could focus on chunking information and nurses could focus on teach-back.

Although implementation experts assert that clinicians' perception of the strength and quality of evidence facilitates implementation efforts,[8] this study did not find this to hold true. The lack of interest in the strong evidence that health literacy practices improved patient outcomes was an unexpected barrier, as the assumption that this would promote buy-in from the clinical team proved false. In this study, informants dismissed findings from controlled trials that, in their minds, had no bearing in the real-world context of a busy clinic. Similarly, Worum et al[20] reported on the research to practice gap, indicating that clinicians may not view research findings as generalizable to their setting. In weighing the pros and cons of health literacy practices, the ENT team would need to see outcomes for their clinic population. Toward this end, the research team would need local, visible evidence and thus plan to collect patient satisfaction and the 5-item health literacy composite surveys.[21]

Facilitators

Informants perceived the relative advantage of using health literacy practices to improve patient satisfaction scores and to decrease preventable phone calls, emergency department visits, and hospitalizations. They saw that health literacy efforts integrated well with the institution's focus on the patient experience. Informants discussed potential facilitators that would support implementing health practices in the ENT clinic. Leadership engagement has been highlighted as an indicator of readiness for implementation of evidence-based practices.[8] Although the research team had gained the support of clinic leaders, informant's revealed differing perceptions of leadership engagement, ranging from a lack of involvement to total support. Promoting consistent and visible leadership engagement will be a potential facilitator to implementing health literacy practices.

Limitations

This study has several limitations. Because this study was conducted in a single pediatric ENT clinic in a single health care system with a small sample, the reader must determine the transferability of findings to their patient population and clinical setting. Recruited informants represented a convenience sample who were available during the days and times of interviews, resulting in possible sample bias. The research team, however, purposively interviewed ENT leaders who were most informed about the staff and workflow of the clinic. Including the perspectives of patient families was beyond the scope of this study, limiting understanding of patient barriers to understanding information provided during a clinic visit.

Implications

Although AIM, IAM, and FIM surveys have been shown to be sensitive indicators for evidence-based practice implementation,[11] less is known

about their use in health literacy implementation projects. Additional studies are needed to confirm that these measures are predictive for health literacy practice adoption. The use of implementation science frameworks to guide future studies may lead to improved rates of successful implementation and sustainment of health literacy practices. Future research to better address how, when, where, and which implementation strategies can be used to spread and scale health literacy practices are needed.

CONCLUSION

Using theory and methods of implementation science, the research team identified barriers and facilitators to implementing health literacy practices and selected implementation strategies to best address them. The research team found the CFIR and CFIR-ERIC Matching Tool useful to plan for health literacy implementation.

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