

Pediatricians and Health Literacy: Descriptive Results From a National Survey

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KEY WORDS

pediatrician practice, health literacy, communication

ABBREVIATION

AAP—American Academy of Pediatrics

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abstract

OBJECTIVE: To describe pediatricians' self-reported experiences with health literacy, use of basic and enhanced communication techniques, and perceived barriers to effective communication during office visits.

DESIGN/METHODS: A national, random sample of 1605 nonretired, posttraining American Academy of Pediatrics members were surveyed in 2007 about health literacy and patient communication as part of the Periodic Survey of Fellows. The response rate was 56% ($N = 900$).

RESULTS: Eight-one percent of the pediatricians were aware of a situation in the previous 12 months in which a parent had not sufficiently understood health information that had been delivered to him or her. In addition, 44% of all pediatricians were aware of a communication-related error in patient care within the previous 12 months. Using simple language (99%), repeating key information (92%), and presenting only 2 or 3 concepts at a time (76%) were the most commonly used communication strategies. Enhanced communication techniques recommended by health literacy experts such as teach-back and indicating key points on written educational materials were used less often (23% and 28%, respectively). The most common reported barriers to effective communication were limited time to discuss information (73%), volume of information (65%), and complexity of information (64%). The majority of physicians rated themselves highly in their ability to identify caregiver understanding (64%), but only 21% rated themselves as very good or excellent in identifying a parent with a literacy problem. Fifty-seven percent of the respondents were interested in training to improve communication skills, and 58% reported that they would be very likely to use easy-to-read written materials, if available from the American Academy of Pediatrics.

CONCLUSIONS: Pediatricians are aware of health literacy-related problems and the need for good communication with families but struggle with time demands to implement these skills. Despite awareness of communication-related errors in patient care, pediatricians report underutilizing enhanced techniques known to improve communication. *Pediatrics* 2009;124:S299–S305

“The single biggest problem in communication is the illusion that it has taken place.”

George Bernard Shaw (1856–1950)

For parents and other caregivers to understand the information presented to them during health care encounters, there must be a match between the information-processing abilities of the parent and information presentation by the health care professional. Effective communication is one of the most powerful tools in a pediatrician's arsenal. Nonetheless, few studies have examined physician experiences concerning health literacy. These studies include convenience samples or physicians in geographically distinct regions of the country.^{1,2}

A pilot study in California in which 64 physicians were surveyed revealed that three fourths were aware of medical errors related to low literacy skills.¹ In another survey of 706 physicians in Iowa, almost half (45%) reported knowledge about errors in patient care that resulted from patient reading and writing difficulties or understanding/communicating with medical personnel.² This is consistent with a common theme in the literature that patients often misinterpret or do not understand information presented to them by a physician. Physicians may overestimate patients' comprehension; they might mistakenly believe that patients understand the information provided if patients do not ask any questions.²

A survey of community health center providers in 10 Midwestern states revealed that 96% of the health care providers (of which 44% were physicians) always/often ask patients if they understand instructions or have any questions; only 38% ask patients to repeat the instructions back to them to assess health literacy.³ The physicians estimated that 40% to 50% of their patients had limited health literacy. Most

study physicians reported using techniques such as plain language (97%) and reviewing instructions carefully with the patient (98%) to assist with limited health literacy. Despite the large proportion of physicians (85%) who gave their patients health-education materials, only 36% provided materials that were designed specifically for patients with limited health literacy skills. The 2 most commonly cited barriers to implementing a formal health literacy program were limited time to screen for health literacy skills (65%) and other higher-priority issues (62%).

Schwartzberg et al⁴ surveyed a convenience sample of 356 physicians, nurses, and pharmacists and found that using simple language (95%), handing out printed materials (70%), and speaking more slowly (67%) were the most common communication strategies. Findings in this study were similar to those of previous reports that demonstrated more frequent usage of basic communication techniques, with little attempt to assess patient understanding. A method that physicians can use to verify understanding is “teach-back.”⁵ In this technique, the physician or other member of the health care team delivers a key message. The patient/parent is then asked a question that causes the person to respond by putting the message in his or her own words; the patient/parent “teaches back” to the physician what the physician just taught the patient. For example, “We went through a lot of information, so I want to make sure I didn't leave anything out. If Michael starts wheezing, what will you do?” Only 38% of the respondents in the Schwartzberg et al⁴ study had patients repeat information, yet almost all (93%) perceived it to be an effective communication technique. For most strategies assessed, the number of providers who reported that they used

a strategy lagged far behind the number of those who reported that they thought the technique was effective with low-health literacy patients.⁴

In our study, with a national survey of randomly selected pediatricians, we focused on perceived provider and system factors related to effective communication. We examined pediatricians' experiences with miscommunication, attitudes about patient communication, use of basic and enhanced communication techniques, assessment of health literacy skills, perception of barriers to effective communication with patients/families, practices regarding collection of health literacy-related information, and interest in training to improve communication skills.

METHODS

Data were collected from pediatricians through the American Academy of Pediatrics (AAP) Periodic Survey of Fellows between March and August 2007. The survey was the 67th in the series and was developed to assess pediatricians' experiences surrounding health literacy and patient communication. Content for the survey was developed in collaboration with the AAP Health Literacy Project Advisory Committee. Pilot testing was completed to refine the survey questions.

The periodic survey was an 8-page, forced-choice, self-administered paper questionnaire that was sent to a random sample of 1605 nonretired US members of the AAP. An original mailing and 6 follow-up mailings to recontact nonrespondents were conducted. The survey was approved by the AAP's institutional review board.

Data Analysis

For most questions, simple frequencies were used to describe the results. To provide summary measures, data collected on basic and enhanced com-

TABLE 1 Pediatricians' Use of Basic Communication Techniques With Patients/Parents

Basic Communication Technique	Reported Use Most of the Time or Always, n/N (%)
Use everyday language instead of medical terminology	797/808 (99)
Repeat key information	737/804 (92)
Discuss the amount of medicine that should be taken (when prescribing medications)	720/804 (90)
Encourage patient/parents to call back if they have questions	694/788 (88)
Confirm that treatment plan was followed during the next visit	585/769 (76)
Present only 2 or 3 concepts at a time	610/806 (76)
Speak slowly	571/807 (71)

munication techniques were aggregated in the following ways.

Basic Techniques (50%)

Pediatricians indicated their use of various basic communication techniques by using a 5-point scale ranging from never to always. Values for each technique were recoded dichotomously on the basis of whether the pediatrician reported using the technique most of the time or always (see Table 1). Pediatricians who use the majority of the 7 techniques most of the time or always were included in the basic-techniques (50%) measure.

Basic Techniques (75%)

This measure included pediatricians who use $\geq 75\%$ of the 7 basic communication techniques most of the time or always.

Enhanced Techniques (50%)

A similar approach was used for the enhanced communication techniques listed in Table 2. Pediatricians

who use the majority of the 7 enhanced communication techniques most of the time or always were included in the enhanced-techniques (50%) measure.

Enhanced Techniques (75%)

This measure included pediatricians who use $\geq 75\%$ of the enhanced communication techniques most of the time or always.

χ^2 tests were used to compare categorical data between groups of pediatricians. Comparisons were made between pediatricians who reported that a higher percentage of parents in their practice had limited literacy skills ($>33\%$ of parents) and other pediatricians ($\leq 33\%$ of parents with limited literacy skills). Comparisons were also made between pediatricians who reported higher levels of patients in their practice with limited English proficiency ($>33\%$ of patients) and other pediatricians ($\leq 33\%$ of patients with limited English proficiency).

TABLE 2 Pediatricians' Use of Enhanced Communication Techniques With Patients/Parents

Enhanced Communication Technique	Reported Use Most of the Time or Always, n/N (%)
Write out patient-specific treatment plan	405/806 (50)
Have staff reinforce key health information	319/802 (40)
Write out the days/times when the medicine should be taken (when prescribing medications)	318/806 (40)
Demonstrate how to administer the medicine (when prescribing medications)	276/803 (34)
Underline, circle, or otherwise indicate key points on written educational materials	226/800 (28)
Ask patient/parents to repeat or teach-back to you what they learned	178/787 (23)
Call patient/parents after the visit to double-check the treatment plan	106/792 (13)

McNemar nonparametric tests for related samples were used to compare the different categorical summary measures of the use of basic and enhanced communication techniques. A *P* value of $\leq .05$ was considered statistically significant within all inferential tests. The number of cases within each statistical analysis varied slightly on the basis of missing values to specific questions.

RESULTS

Response Rate

A total of 900 surveys (56%) of the 1605 mailed were returned. To assess possible nonresponse bias, the respondents' age and gender were compared with those of the target sample. Information on the nonrespondents was available from the AAP membership file. The average age of survey respondents was slightly higher than that of nonrespondents (49 vs 47 years; *P* = .004); respondents and nonrespondents were equally likely to be female (52% vs 50%; *P* = .442). Analyses were limited to 848 respondents who reported that they provided patient care.

Practice Characteristics

Of the pediatricians included in the analyses (*n* = 848), 52% were female; the mean age was 49 years. The most common locations of primary practice reported by the pediatricians were suburban areas (40%), followed by urban non-inner-city (28%), urban inner-city (22%), and rural (10%) locations. The most common practice arrangements were group practices (44%), followed by medical school/hospital (20%) and 1- or 2-physician practice (14%).

Pediatrician Experience With Communication Problems

A total of 81% of the pediatricians reported being aware in the previous year that a parent had not sufficiently

TABLE 3 Pediatrician Agreement With Principles of Health Literacy

Health Literacy Principle	Agree or Strongly Agree, <i>n/N</i> (%)
Improving communication and ensuring understanding can improve patient/parent satisfaction	762/796 (96)
Patient/parent difficulties with reading and writing skills or with communicating with medical personnel can lead to errors in patient care	740/797 (93)
Ensuring that patients and parents understand the health information given to them can improve the quality of pediatric health care delivery	694/797 (87)
There are strategies I can use to help ensure that patients and parents understand the health information given to them	673/799 (84)

understood the medical information that had been delivered to him or her. During the previous year, 44% of the pediatricians also reported that they were aware of an error in patient care that resulted from the parents' difficulties with reading or writing skills or with understanding and communicating with medical personnel. Of those pediatricians who were aware of an error ($n = 355$), 15% described the error as resulting in moderate-to-great harm to the patient.

Pediatrician Attitudes About Patient Communication

Nearly all the pediatricians agreed or strongly agreed with general principles of health literacy as shown in Table 3. More than half of the pediatricians (51%) also agreed with the statement that "there is not enough time in a pediatric visit to use special communication techniques."

Pediatrician Use of Communication Techniques

Most pediatricians reported using basic communication techniques most of the time or always (Table 1), such as using everyday language (99%), repeating key information (92%), and discussing the amount of medicine that should be taken when prescribing medications (90%). Almost all of the pediatricians (97%) reported using at least half of the basic techniques most of the time or always, and 70% reported using at least three quarters of the methods. Pediatricians who have

more parents with limited literacy were no more likely to report using basic techniques (50% measure) than other pediatricians (97% vs 95%; $P = .484$).

Pediatricians were much less likely to use enhanced communication techniques (Table 2) such as asking patients or parents to repeat or teach-back what they learned (23%) or underlining, circling, or otherwise indicating key points on written educational materials (28%). Only 24% reported using at least half of the enhanced techniques most of the time or always, and fewer than 1 (7%) in 10 use 75% of these methods most of the time or always. The rates of use of the enhanced techniques were lower than the use of basic techniques using both the 50% measure (24% vs 97%; $P < .001$) and the 75% measure (7% vs 70%; $P < .001$). Pediatricians who reported higher numbers of their parents with limited literacy skills were

more likely than other pediatricians to use enhanced techniques at least half the time (38% vs 23%; $P = .002$). Similarly, pediatricians who reported higher numbers of patients in their practice with limited English proficiency were more likely than other pediatricians to use enhanced techniques a majority of the time (37% vs 22%; $P < .001$).

Barriers to Effective Communication

Pediatricians identified several factors that make it difficult to communicate effectively with parents during an office visit (Table 4). The top-ranked barriers included limited time to discuss information (73%), volume of information to be communicated (65%), and complexity of information (64%). Most pediatricians (55%) also reported that divided attention demands during visits, defined as parents comforting the child, changing the child's clothes, and monitoring child behavior, were moderate or significant barriers. Pediatricians who reported that they have a higher percentage of parents in their practice with limited literacy skills were more likely than other pediatricians to report that a lack of patient-education materials in other languages (48% vs 34%; $P = .008$) or in easy-to-read formats (42% vs 26%; $P < .001$) were barriers. Similarly, pedia-

TABLE 4 Factors Rated as Barriers to Effectively Communicating With Parents During an Office Visit

Factor	Reported as a Moderate or Significant Barrier, <i>n/N</i> (%)
Limited time to discuss information	586/801 (73)
Volume of information	517/801 (65)
Complexity of information	510/802 (64)
Divided attention demands for parents comforting, changing clothes, or monitoring child behavior during visit	439/795 (55)
Parents with limited cognitive skills	330/796 (42)
Lack of reimbursement for patient education	325/792 (41)
Parents with limited English proficiency	304/796 (38)
Lack of patient-educational materials written in languages other than English	288/797 (36)
Lack of patient-education materials written in easy-to-read language	223/800 (28)

TABLE 5 Pediatricians' Self-assessment of Health Literacy Skills

Health Literacy Skill	Reported Ability Is Very Good or Excellent, <i>n/N</i> (%)
Convert medical terminology into everyday language	720/821 (88)
Assess whether patients/parents understood the health information that you presented	524/819 (64)
Select educational materials that are appropriately written for patients/parents	426/816 (52)
Develop educational materials that are appropriately written for patients/parents	301/808 (37)
Identify that a parent has a literacy problem	171/816 (21)

tricians with more patients with limited English proficiency were more likely than other pediatricians to report that a lack of patient-education materials in other languages (53% vs 33%; $P < .001$) or in easy-to-read formats (44% vs 25%; $P < .001$) were barriers.

Self-Assessment of Health Literacy Skills

Pediatricians acknowledged great variability in their health literacy-related skills (Table 5). Nearly 9 (88%) in 10 felt that they were very good or excellent at converting medical terminology into everyday language, whereas only 21% felt that they were very good or excellent at identifying a parent with a literacy problem. Many pediatricians were unaware of the availability of adult literacy-development programs in their community either for English-speaking parents (62%) or those with limited English proficiency (58%).

Collection of Health Literacy Information

Seven (69%) of 10 pediatricians asked about the primary language spoken in their patients' homes. Only 23% of the pediatricians inquired about the highest level of schooling completed by the mother, and 27% asked about the parents' history of reading difficulty. Approximately two thirds (68%) of the pediatricians inquired about the child's favorite activities, and 52% asked about the reading progress of school-

aged patients. Approximately 4 (39%) in 10 pediatricians asked how often children <5 years old are read to, and 33% asked about frequency of reading books at bedtime. Only 8% inquired about the number of children's books the family owns.

Interest in Training on Patient/Parent Communication

Nearly 6 (57%) of 10 pediatricians said they are interested in formal training to improve their skills in, or their practice's approach to, patient/parent health communication. Among those who did not think they needed such training ($n = 369$), most (54%) said their current communication skills are adequate, and 29% indicated that their practice/hospital has other training priorities at this time. Furthermore, most pediatricians (58%) reported that they would be very likely to use easy-to-read written materials, if available from the AAP, to improve communication with families with limited literacy skills, and 51% said they would use written materials in languages other than English. Pediatricians with a higher percentage of parents with limited literacy compared with other pediatricians were more likely to report that they would use written materials in languages other than English (66% vs 48%; $P = .003$). Similarly, pediatricians with more patients with limited English proficiency compared with other pediatricians were also

more likely to report that they would use these materials (75% vs 46%; $P < .001$). One third of the pediatricians would like to use Web-based materials to improve health communication with families with limited literacy.

DISCUSSION

In this national sample of pediatricians, we found that most were aware of situations in which parents have not sufficiently understood presented health information and were cognizant of how this can affect patient safety. Previous studies have reported that patients with limited health literacy skills have poorer health status than the remainder of the population.⁶⁻¹⁰ Most pediatricians surveyed in this study agreed or strongly agreed that patient/parent understanding of health information can improve the quality of pediatric health care delivery and that there are available strategies to help ensure patient/parent understanding of health information. However, pediatricians were more likely to report use of basic communication techniques than more enhanced methods recommended by health literacy experts, a finding consistent with previous studies.^{3,4} Use of these more enhanced techniques was more likely to be reported by pediatricians who are practicing in settings with more parents with limited literacy skills or limited English proficiency.

The most frequently cited barrier to effective communication during an office visit was limited time to discuss information. This is not an unexpected finding; physicians frequently report that time is a factor when asked to incorporate something "new" or "extra" into the office visit.¹¹⁻¹³ The barriers reported by pediatricians in this survey support a framework for health literacy that takes into account the contributions of system factors.⁹ The current health care system rewards physician

efficiency, which leads some pediatricians to perceive “lack of reimbursement for patient education” as a hindrance to effective communication. In light of current economic pressures on the health care system, lack of reimbursement will most likely continue to be an issue.

Our study demonstrates that most pediatricians rate their ability to assess whether parents understand presented health information highly. Perhaps because of this belief, most pediatricians, >75%, do not assess parents’ understanding with methods such as teach-back. Other research has demonstrated that patients recall and comprehend as little as half of what they are told by their physicians.^{14–17} Parents who do comprehend what they are told by their physicians are more likely to effectively manage their children’s illnesses. For example, a study on parent comprehension of the word “wheeze” suggested that parents who understood the meaning of the word were more likely to report wheezing in their children.¹⁸ Schillinger et al¹⁹ demonstrated better diabetic control of patients whose physicians assessed recall or comprehension. It seems prudent to encourage pediatricians to assume that parents and/or patients may not understand health information and to routinely assess parent/patient recall and comprehension.

Our study revealed that most pediatricians (79%) rated themselves only fair to good in identifying a parent with a literacy problem. In contrast, other studies have reported that physicians commonly overestimate their patients’ literacy levels.^{20–22} Kelly and Haidet²² demonstrated that overestimation occurred more often in minority patients and may be a source of disparities in health care. Any overestimation of lit-

eracy level, however, may lead to poor patient understanding and potential health disparities, and pediatricians should be encouraged to treat all patients as if they need clear and simple communication.

This study was limited by its dependence on pediatricians’ report of health literacy–related attitudes, knowledge, and skills and the lack of parent perceptions and direct observation of physician-patient/parent encounters. Although 99% of the pediatricians in this study reported using everyday language instead of medical terminology always or most of the time, other studies that used direct observation of physician encounters have not agreed with our finding. A study that involved audiotaping outpatient encounters between patients with diabetes and their primary care physician revealed that 81% of all encounters contained at least 1 unclarified jargon term (mean of 4 per visit).²³ Although 23% of the pediatricians in this study reported using teach-back always or most of the time, a study by Schillinger et al¹⁹ showed primary care physician assessment of recall and comprehension of patients with diabetes mellitus and low functional health literacy to be even lower (12%–15% of time).

Many (57%) of the pediatricians we surveyed expressed interest in additional training to improve communication skills. A survey of graduating categorical pediatric residents found that fewer (<1 in 3) wanted more training in health literacy.²⁴ However, pediatric residents have been shown to have problems communicating with parents and patients. Farrell et al²⁵ demonstrated that residents’ usage of jargon during counseling about newborn genetic-screening results was very high (average: 72.3 words). Another

study examined pediatric residents’ efforts to assess parental understanding during counseling. Residents assessed understanding in only 26 of 59 simulated doctor-patient encounters, and the primary communication techniques used were close-ended questions or “OK?” question types. No encounters included a request for teach back.²⁶ It is possible that more experience with patient care, and medical errors that occur as a result of poor communication, enhances pediatricians’ understanding of the need for better communication skills.

Skills such as teach-back, using written materials effectively, and medication demonstration are enhanced communication methods recommended to facilitate patient understanding and adherence^{5,26–29} but, as demonstrated in this study, are used less frequently in pediatric practice. Pediatricians need to be afforded an opportunity to recognize their communication strengths and weaknesses as viewed from the parents’ perspective. Assessment and feedback can occur through the use of parental surveys, observation, and/or peer coaching. Standardized patients can be a valuable tool for teaching about communication skills with all patients and especially with those who have low literacy.³⁰ Pediatric resident education should include more extensive training in communication and health literacy. Continuing medical education programs should offer interactive training in enhanced communication techniques to practicing pediatricians and focus on strategies to effectively and efficiently implement these skills and methods in day-to-day practice. True efficacy of these educational endeavors will ultimately be defined by improved patient outcomes.

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