

Pediatricians' Knowledge, Attitudes, and Practice Patterns Regarding Special Education and Individualized Education Programs

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ABSTRACT

OBJECTIVE: The medical community has called upon pediatricians to be knowledgeable about an individualized education program (IEP). We sought to: 1) evaluate pediatricians' knowledge and attitudes regarding special education; 2) examine the relationship between perceived responsibilities and practice patterns; and 3) identify barriers that impact pediatricians' ability to provide comprehensive care to children with educational difficulties.

METHODS: Surveys were mailed to a national sample of 1000 randomly selected general pediatricians and pediatric residents from October 2010 to February 2011.

RESULTS: The response rate was 47%. Of the knowledge items, respondents answered an average of 59% correctly. The majority of respondents thought pediatricians should be responsible for identifying children who may benefit from special education services and assist families in obtaining services, but less than 50% thought they should assist in the development of an IEP. The majority of pediatricians inquired whether a child

is having difficulty at school, but far fewer conducted screening tests or asked parents if they needed assistance obtaining services. Overall, the prevalence of considering a practice a pediatrician's responsibility is significantly higher than examples of such a practice pattern being reported. Financial reimbursement and insufficient training were among the most significant barriers affecting a pediatrician's ability to provide care to children with educational difficulties.

CONCLUSIONS: In order to provide a comprehensive medical home, pediatricians must be informed about the special education process. This study demonstrates that there are gaps in pediatricians' knowledge and practice patterns regarding special education that must be addressed.

KEYWORDS: delays; development; early intervention; medical home; primary care

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WHAT'S NEW

Millions of children receive special education services. To provide a comprehensive medical home, pediatricians are expected to be informed about the special education process; however, pediatricians' knowledge, attitudes, and practice patterns regarding special education services may not be sufficient.

THERE HAS BEEN significant work exploring pediatricians' knowledge, attitudes, and roles regarding early intervention services for children birth to 3 years with developmental delays, which has resulted in strategies to improve the delivery of care and early therapeutic services to children with special health care needs.^{1–13} However, after the age of 3, many children rely on school services for developmental, educational, and behavioral supports. According to the National Center for Education, the number of children and youth between 3 and 21 years

old receiving special education services was 6.5 million in 2008–2009, which corresponds to approximately 13% of all public school enrollment.¹⁴ Many of these families are increasingly looking to pediatricians for assistance with obtaining special education services.¹⁵

The medical community has called upon pediatricians to be knowledgeable about the federal, state, and local requirements regarding services for children ages 3–21 years with developmental, behavioral, and educational challenges requiring an individualized education program (IEP).^{15–19} There are a number of children—including, but not limited to, children who have learning disabilities, vision impairment, speech difficulties, and autism—who benefit from services included in an IEP. An IEP is a legally mandated document that describes the special education services to which a child is entitled after an individualized evaluation has been completed and the child has been found eligible for services. Examples of services incorporated in an IEP include classroom

academic support, placement in a special education classroom, or therapies such as speech, occupational, and physical. Federal legislation, under the Individuals with Disabilities Education Act (IDEA), requires that every child has the right to receive an evaluation, although not every child will be considered eligible to receive services.

The American Academy of Pediatrics (AAP) has developed a policy statement for pediatricians' role in the development and implementation of an IEP.²⁰ In addition to being informed about the special education process, the AAP has suggested roles and responsibilities for the pediatrician regarding the IEP process. These roles include screening, establishing diagnoses, and providing referrals to children who may benefit from services under IDEA. Pediatricians are also being called on to counsel and advise families, review a child's IEP, and collaborate with the educational team working with individual children.

Despite these recommendations, pediatricians' level of knowledge and current practices in regard to special education and the extent to which the medical community plays a role in the development of the IEP is unknown. Therefore, we sought to: 1) evaluate pediatricians' knowledge, attitudes, and self reported management practices regarding referral to special education services; 2) examine the relationship between pediatricians' self perceived responsibilities regarding children who are experiencing educational difficulties and their management practices; and 3) identify barriers that impact pediatricians' ability to provide comprehensive care to children with educational difficulties.

METHODS

SAMPLE

We generated our sample from the American Medical Association's (AMA) master file, obtained from Medical Marketing Service Inc, a contracted vendor. The AMA master file is considered the most comprehensive database of physicians licensed to practice in the United States and includes both AMA members and nonmembers. The master file contains physician names and addresses, and physician demographic information including gender, year of birth, information on subspecialty, and practice setting. From this list, we selected a national random sample of 1000 allopathic and osteopathic general pediatricians and pediatric residents practicing in the United States, limiting eligibility to US medical school graduates, age 25 to 65, practicing in hospitals, offices, and teaching institutions. We excluded physicians with a subspecialty board certification, researchers, and administrators. A total of 36,851 pediatricians fulfilled these inclusion criteria.

SURVEY INSTRUMENT AND ADMINISTRATION

We developed an instrument consisting of 23 items. Knowledge regarding the IEP and the special education process was assessed with 7 true/false questions. Likert scales of agreement were used to assess pediatricians' attitudes, management practices, and perceived barriers in

providing care to children with educational difficulties. Likert response categories ranged from 1, "never, strongly disagree, or not at all confident," to 5, "always, strongly agree, or very confident," depending on the item. Respondents were asked how helpful various types of special education and IEP training materials would be to them using a 4-point Likert scale ranging from 1 "not at helpful," to 4, "very helpful." Demographic data included age, gender, ethnicity, practice characteristics, years in practice, and whether the respondent was a resident.

We conducted pilot testing on a convenience sample of 15 pediatricians in a variety of practice settings. The survey was revised to ensure understanding and meaning of items and ease of administration. The survey took approximately 5 minutes to complete and is available by request to the author. The survey was sent by mail, and a bookmark was enclosed with all surveys in the first mailing. A total of 4 mailed surveys were sent to all physicians who did not respond. The University of Chicago institutional review board approved the study.

STATISTICAL/DATA ANALYSIS

Each case was equally weighted, and all data were analyzed in the weighted format. Categorical variables

Table 1. Sample Demographics

Characteristic	Response (n = 369)	No Response (n = 635)
Age, y, mean (SD)	45.1 (10.5)	45.3 (10.3)
Male, %	34.1	37.6
No. of years in practice (SD), mean	14.4 (9.7)	14.4 (10.3)
Proportion in residency training program, %	10.5	14.7
Primary employment location		
Urban inner city	13.8%	
Urban non-inner city	26.7%	
Rural	15.5%	
Suburban	45.0%	
Ethnicity		
White/Caucasian	79.0%	
Hispanic/Latino	4.2%	
Black/African American	5.3%	
Asian	6.7%	
American Indian	0.0%	
Other	2.2%	
Prefer not to respond	2.8%	
Practice setting		
Pediatric group practice	54.4%	
Solo practice/2-physician practice	12.6%	
Medical school or university	7.4%	
Hospital or clinic	14.6%	
Community based health center	6.6%	
Other	4.4%	
Patients who receive public health insurance		
None	7.2%	
1-25%	35.7%	
26-50%	20.8%	
51-75%	14.7%	
76-100%	21.6%	

SD = standard deviation.

Table 2. Prevalence of Knowledge

Knowledge Item	Correct Answer	Proportion Answered Correctly, % (95% Confidence Interval)
Each public school child who receives special education services must have an IEP	True	75 (70–79)
Each child with an IEP should receive special education services in a separate classroom designed to meet the needs of his/her disability	False	72 (68–77)
Parents are part of the team that develops their child's special education program	True	91 (88–94)
A private school is required to provide special education services to an enrolled child with a disability	False	56 (51–61)
Children with a genetic complication automatically qualify for special education services	False	29 (24–34)
Parents may be financially responsible for "related services" included in an IEP	False	32 (27–37)
A physician's prescription for an IEP mandates the school to develop an IEP for a child	False	52 (47–57)

IEP = individualized education program.

were compared by a chi-square test, and continuous variables were compared by a Student *t* test. Items with Likert scale response formats were dichotomized into agree (strongly agree or somewhat agree) or disagree (somewhat disagree, or strongly disagree), or high frequency (always, frequently, or sometimes) or low frequency (rarely or never), depending on the question. All statistical analyses were conducted by Stata 11.0 software (StataCorp, College Station, Tex).

RESULTS

RESPONSE

Of the 1000 surveys mailed, 52 were returned with no forwarding address. A total of 443 of the remaining 948 pediatricians returned surveys, for a response rate of 47%. Of the 443 returned surveys, 2 surveys were marked "deceased"; we also excluded those who indicated they were not general pediatricians or pediatric residents, or not actively in practice ($n = 74$). Therefore, responses from a total of 369 pediatricians were included in our analysis. Those who responded and those who did not were similar in terms of age, sex, proportion in residency, and years in practice. The sociodemographic characteristics of the pediatricians included in our analysis are summarized in Table 1. Most pediatricians were women, were younger than 50, and were white.

KNOWLEDGE

Pediatricians' responses to individual knowledge items related to special education and IEP are provided in Table 2. Of the 7 items, respondents answered an average of 4.1 (59%) correctly (95% confidence interval [CI], 3.9–4.2). The majority knew that parents were part of a child's IEP team, but almost half incorrectly believed that a prescription from a physician mandated a school to develop an IEP, and approximately 70% incorrectly believed that having a genetic complication automatically qualifies a child for an IEP.

PHYSICIAN ATTITUDES

Of note, 14% of pediatricians were very confident determining which patients require special education services (95% CI 11–18.2), and 18% were very confident counseling families regarding the IEP process (95% CI 14–22). Table 3 shows the prevalence of pediatricians' beliefs and self-reported practice patterns. A total of 85% (95% CI 81–88) of all respondents agreed that pediatricians should assist patients in obtaining special education services, but less than 50% thought they should assist in the development of a patient's IEP.

PHYSICIAN SELF-REPORTED PRACTICE PATTERNS

Regarding pediatricians' self-reported practice pattern, we found that the majority inquired whether a child is having difficulty at school (98%; 95% CI 97–100), but far fewer went beyond inquiry to conduct screening or surveillance tests (60% vs 98%; $P < .0001$). Additionally, although most pediatricians ask parents if they need assistance obtaining special education services, far fewer provide materials about special education (61% vs 13%; $P < .0001$). Overall, the prevalence of considering a practice pattern a pediatrician's responsibility—such as identification and assistance with special education—is significantly more than examples of such a practice pattern being reported (all $P < .0001$). The exceptions are the practices of inquiring whether a child is having difficulty at school and reviewing a child's IEP. The same pattern of responses was seen among residents with no significant differences between the 2 groups.

PHYSICIAN BARRIERS

Potential barriers impacting the pediatricians' ability to provide care to children who may require special education services are listed in Table 4. Eighty-seven percent of respondents did not think that pediatricians have sufficient knowledge regarding the special education and IEP process. Pediatricians did report a wide range of learning strategies would be helpful to them, with an Internet-

Table 3. Pediatricians' Perception of Responsibility and Corresponding Examples of Self-Reported Practice Patterns

Belief	Reported as Pediatricians' Responsibility % (95% CI)	Residents vs Attending, % (<i>P</i> *)	Self-Reported Practice Pattern	Reported as Current Practice % (95% CI)	Residents vs Attendings % (<i>P</i> *)
Pediatricians should be responsible for identifying children who may benefit from special education services	84.0 (81.0–88.0)	82.2 vs 84.64 (.7)	Inquire whether a child is having difficulty at school	98.0 (97.0–100.0)	97.8 vs 98.1 (1.0)
			Conduct a development surveillance or screening to identify patients who may benefit from special education services	60.0 (55.0–65.0)	66.7 vs 58.7 (.3)
Pediatricians should assist patients in obtaining special education services	85.0 (81.0–88.0)	86.7 vs 84.3 (.7)	Ask parents if they need assistance obtaining special education services for their child	61.0 (56.0–66.0)	64.5 vs 60.0 (.6)
			Provide handouts or web-based resources regarding the special education process	13.0 (10.0–17.0)	11.1 vs 13.7 (.6)
			Provide information on community resources that can help families with the special education process	49.0 (44.0–54.0)	48.9 vs 49.2 (.9)
Pediatricians should assist in the development of a patient's IEP	43.0 (38.0–48.0)	31.2 vs 45.0 (.1)	Attend an IEP meeting	0.82 (0.2–2.4)	2.22 vs 0.62 (.3)
			Review a patient's IEP	37.0 (32.0–42.0)	24.5 vs 38.6 (.1)
			Offer to be available during an IEP meeting by written communication, conference call, or other mode of correspondence	10.0 (7.0–13.0)	11.1 vs 9.9 (.8)
			Assist a family in writing a letter requesting an IEP evaluation for their child	23.0 (18.0–27.0)	22.2 vs 23.0 (.9)
Pediatricians should be knowledgeable about federal, state, and local requirements regarding special education services	94.0 (92.0–97.0)	91.2 vs 94.9 (.3)	Educate families about their legal rights regarding the IEP process	48.0 (43.0–53.0)	48.9 vs 48.5 (1.0)

CI = confidence interval; IEP = individualized education program.

*Residents and attending physicians were compared by the chi-square test.

Table 4. Potential Barriers that Affect a Pediatrician's Ability to Provide Care to Children With Educational Difficulties

Potential Barrier Item	Proportion Who Disagree, % (95% Confidence Interval)
Pediatricians receive adequate training regarding the special education and IEP process	88 (85–92)
Pediatricians are sufficiently reimbursed for the time spent on issues involving special education	97 (95–99)
Pediatricians have access to sufficient community resources that can help families with the special education process	77 (73–82)
Pediatricians have sufficient time during well child visits to discuss issues involving school difficulties	87 (83–90)
Pediatricians have access to clear guidelines to help children who are having school difficulties	90 (87–93)
Pediatricians have sufficient knowledge regarding the special education and IEP process	87 (84–91)

IEP = individualized education program.

based (89%; 95% CI 85–92) or office-located seminar (87%; 95% CI 84–91) reported to be most helpful.

DISCUSSION

To our knowledge, this is the first study to describe pediatricians' attitudes, practice patterns, and knowledge regarding special education and the IEP process. The majority of pediatricians in this national sample thought they should be responsible for many of the roles recommended by the AAP, such as identifying patients who may benefit from services under IDEA and assisting with the special education process. However, less than half thought they should assist with the development of a child's IEP. Ninety-four percent of the respondents thought pediatricians should be knowledgeable about requirements regarding special education, yet our findings demonstrate there are gaps in knowledge surrounding the IEP process. Moreover, despite reporting the importance of their roles in the IEP process, the vast majority of pediatricians do not feel confident in their skills surrounding the special education process. A weak knowledge base may in part explain why respondents reported such low levels of confidence in counseling families regarding the IEP process.

By contrasting pediatricians' attitudes regarding special education with actual reported practices, we demonstrate a disconnect between attitudes and practice. Eighty-five percent of respondents agreed that pediatricians should assist patients in obtaining special education services, but only 61% asked parents if they needed assistance, less than half provided information on community resources, and only 13% provided handouts or Web-based resources. Despite an increasing emphasis towards providing a comprehensive medical home, the responses

between residents and attendings were surprisingly similar. We speculate that the barriers impacting a pediatrician's ability to provide care to children with educational difficulties, including specific training regarding the special education process, financial reimbursement, and time constraints, may explain the discrepancy between attitudes and practice. Additionally, because our questionnaire did not have open-ended questions, we may not have ascertained other means of counseling provided by pediatricians.

Many children facing educational, behavioral, and developmental difficulties continue to face barriers to learning and achievement.^{15,21,22} For example, children with disabilities may, without need, be placed in separate educational classrooms, or children struggling academically may unnecessarily be held back.²¹ Unfortunately, this can place tremendous strain on parents to ensure appropriate services for their children.²³ Additionally, services including speech therapy, reading instruction, and counseling are provided in an IEP and offer support to many children who would not otherwise receive these interventions. Pediatricians are in a position to help parents negotiate the special education system and lessen these burdens. By providing timely identification and assisting with school services, pediatricians may increase the likelihood of academic success.^{24–26}

Creating improved collaborations between the educational and medical systems will assist many parents in navigating the special education system to advocate for their children and ensure quality services. In order to best develop mutually interactive and complementary pathways among families, the educational system, and pediatricians, the medical community needs to have a strong foundation, including knowledge, screening, and assisting families, in the special education process. Implementing a strategy to build a stronger knowledge and comfort base surrounding special education will be an important next step. Respondents thought that a variety of training materials would be helpful. Internet and office-located seminars were reported to be most helpful and have been studied to be an effective model among pediatricians.^{27–29} Areas of future studies should assess the impact of educational and clinical interventions on physician knowledge and practices regarding special education and the IEP process.

There are limitations to this study. Even though our response rate was slightly less than 50%, which is consistent with the average response rates of physicians,^{30–32} it does limit the generalizability of our results. Additionally, because there were relatively few residents in this sample, it does also limit the generalizability of the findings among residents. Additionally, because respondents were self-reporting their attitudes and practices, there may be a social desirability bias such that respondents may overestimate their services. Furthermore, because physicians who have a specific interest in special education may be more likely to respond than those with less interest, there is the potential for a selection bias. One might expect the combination of these aforementioned

2 points to result in higher confidence and knowledge scores as well as practice patterns more aligned with the AAP policy statement among respondents in our study. Consequently, the significant knowledge gaps and low confidence surrounding special education among pediatricians may be higher and represents a major challenge in the coordination of care in the medical home.

CONCLUSIONS

This study represents a first step in understanding pediatricians' knowledge, beliefs, practice patterns, and barriers in providing care to children with special education needs. In order to provide a comprehensive medical home and the opportunity to assist school systems in providing an optimal educational environment for children, pediatricians must be informed about the special education process, the IEP, and their role in monitoring outcomes over time. This study demonstrates that addressing gaps in pediatricians' knowledge and practice patterns regarding special education must be addressed to ensure that our pediatric community better serves children with disabilities, special health care needs, and educational challenges.

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