HAVE PROFESSIONAL RECOMMENDATIONS AND CONSUMER DEMAND ALTERED PEDIATRIC PRACTICE REGARDING CHILD DEVELOPMENT?

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ABSTRACT

Objective. Amid growing consumer demand and professional society recommendations for more information on early childhood development, current practices of pediatricians in regard to children's development remain largely unknown. We investigate whether there are differences in provider practices and satisfaction with regard to children's development (based on length of time in practice).

Design. A self-reported survey was conducted of physicians at 30 pediatric practices participating in the Healthy Steps for Young Children Program. Healthy Steps is a national program to enhance the developmental potential of young children. Comparisons were made among physicians categorized as in training ($n = 88$), recently in practice (completing residency from 1984 to 1996, $n = 69$), or more experienced (completing residency prior to 1984, $n = 52$).

Principal Findings. Relative to those recently in practice and in training, more experienced pediatricians spend less time in well-baby visits in the first 2 months of life. One-third of physicians conduct family risk assessments, half complete routine developmental screening, and over half do safety risk assessments in the first 2 months of life. There were few differences by provider experience in the topics covered under anticipatory guidance for

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new parents. Nearly all discussed infant car seats, sleep position, feeding practices, and temperament, but less than half routinely discussed domestic violence, and between half and three-quarters discussed infant bathing, maternal depression, and appropriate discipline practices. While all three groups of physicians were satisfied with the amount of time to discuss growth and development and parenting issues, more experienced physicians were more satisfied with their own and their staff's abilities to meet new parents' needs on these issues.

Factors that over one-third of physicians reported affected their ability to deliver the best-quality care were shortage of support staff, limited referral sources, managed-care restrictions on referrals for special services, excessive paperwork, and lack of time for follow up, teaching parents, and answering questions. Physicians in recent practice were more likely than more experienced physicians to cite reimbursement concerns and limited staff to address the needs of parents regarding development.

Conclusions. Most pediatricians do not conduct routine developmental screening in the first 2 months of life, and most discuss safety, as opposed to developmental and mental health, concerns with parents of newborns. Pediatricians with more experience believe they are better meeting new parents' needs and are less likely to cite systems and organizational factors as limiting their ability to deliver high-quality care.

KEY WORDS Early child development, Parenting, Pediatrics.

INTRODUCTION

In recent years, there has been an explosion of interest in early child development among both child health professionals and the general public. Public interest in early child development is evidenced by the 1997 White House Conference on Early Childhood Development and Learning, as well as Internet sites concerning the topic and the news media's recent attention to brain development, infant stimulation, and early learning. News magazines, including *Time* and *Newsweek*, as well as the Internet and prime time national television, have devoted special reports to such topics as the science of early brain development, the impact of day care on child development, and the acquisition of language and motor skills among young children.^{1,2} These stories link scientific evidence about human development with parental wisdom about infant growth and maturation.

Surveys of parents of young children have confirmed parents' desires to learn more about their children's development. In a nationally representative sample of parents with children younger than 3 years, 79% of parents reported they could use more information in at least one of six areas of child rearing. Parents sought specific information regarding encouraging early learning, discipline, toilet training, sleep patterns, how to respond to a crying baby, and newborn care. Less than half of all parents discussed these issues (excluding newborn care) with their pediatric providers. However, Young and colleagues found that such discussions between providers and families appeared to influence parental behavior positively. For example, parents who discussed how to encourage read-

ing with their child's pediatrician were more likely to read to their children on a daily basis.³

While parental demand for attention to growth and development is recognized in the scientific literature and in the popular press, pediatricians historically have focused only a small proportion of the average preventive care visit on behavior or development.⁴⁻⁶ However, many pediatricians believe that topics such as feeding, sleeping, crying, and normal development should be discussed with parents of newborns.⁷ Among the barriers cited to devoting more time to behavioral issues and anticipatory guidance are lack of time and inadequate training.^{8,9}

In recent years, there has been continued concern as to whether pediatricians are trained appropriately to provide comprehensive primary care, including the recognition and management of behavioral and developmental concerns.^{6,9-11} In 1978, the Task Force on Pediatric Education of the American Academy of Pediatrics recommended that pediatric training programs place greater emphasis on child development in response to the changes in child health needs.¹² Since that time, there have been many changes in pediatric residency programs, including the development of curricula for developmental and behavioral pediatrics.^{8,13-18} In addition, since 1985, pediatric residency training programs have been required to provide weekly clinical training in primary care settings.^{19,20} Currently, pediatric residency programs also are required to provide specific training related to growth and development in order to be accredited.²¹ Several follow-up studies since the 1978 Task Force recommendations have found improvements in pediatricians' perceptions of adequacy of training in developmental and behavioral pediatrics.^{22,23}

Along with changes in pediatric residency training, new clinical practice recommendations have emphasized child development. For example, *Bright Futures* emphasizes the need for health care providers to assess developmental milestones and provide anticipatory guidance regarding injury prevention, discipline, early learning, and parenting.²⁴ However, the degree to which pediatric clinicians provide these services remains unknown.

The objective of this study was to assess current practices of pediatricians regarding children's development. We hypothesized that the length of time in practice influences provider practices and satisfaction with regard to their emphasis on children's development for parents with young children.

Data for this study were collected as part of the evaluation of the Healthy Steps for Young Children Program. The Healthy Steps Program is a national endeavor with goals to enhance the developmental potential of young children and to strengthen the involvement of parents in their children's early develop-

ment. A major goal is to build into the delivery of pediatric care a focus on behavioral and developmental services. Healthy Steps introduces a new type of provider into the standard pediatric primary care practice, the Healthy Steps Specialist, who has expertise in early childhood development and/or nursing. The program was designed by the Boston University School of Medicine and the Commonwealth Fund, and the evaluation is being conducted by the Johns Hopkins University School of Public Health. The Healthy Steps Program is being evaluated at 30 practices dispersed across the continental US. Participating practices include private practices, point-of-service managed-care practices, university-based residency clinics and faculty practices, and municipal public health departments in partnership with private practices. Several of the practices have multiple offices or clinics under the same administration.

METHODS

DATA COLLECTION

The survey of pediatricians was self-administered. A contact person at each practice was responsible for distributing and collecting the completed questionnaires. The response rate was 61%. The exact number of completed questionnaires varied from site to site depending on staffing structures and response rates (range 0–48). Among the 30 practices were 4 with no completed provider questionnaires.

CONTENT OF THE QUESTIONNAIRE

The questionnaire contained questions related to the physicians' backgrounds, including their education, number of years in practice, and any special training they had received in child development or child behavior. Questions were asked about the content of well child visits in the first 2 months of life and the amount of time they spent performing specific activities during these visits. The survey also included the type of assessments they performed on infants in the first 2 months of life, topics they discussed with the children's parents, and barriers they perceived to providing quality well baby care. Additional questions were asked about satisfaction with the time they spent discussing the baby's health and development with parents and their ability to meet the needs of parents. Similar questions were asked about their satisfaction with the ability of clinical support staff to meet the needs of new parents.

DATA ANALYSIS

Completed questionnaires were entered into a computer file using SPSS-DE. Data analysis was conducted using SAS programming. Physicians were categorized as in training ($n = 88$), recently in practice (completing residency from 1984 to 1996,

n = 69), or more experienced (completing residency prior to 1984, n = 52). Frequencies of responses were compared for the three groups. In the case of nominal variables, the chi-square test of independence was used to compare variables across the three groups; analysis of variance was used for continuous variables.

INSTITUTIONAL REVIEW BOARD

Institutional review board approval was granted by Johns Hopkins University, as well as by each of the institutions participating in the evaluation. A disclosure statement accompanied each questionnaire, and the respondents were requested to read the statements.

RESULTS

RESPONDENTS

There were noticeable differences in respondents based on their length of time in practice (Table I). More experienced physicians were older, had worked more years in the current practice, and were more likely to be board certified in pediatrics and to have their own children. A smaller proportion of more experienced pediatricians were female compared to physicians in training or recently in practice. Overall, less than 10% of respondents had completed specialty training in behavioral or developmental pediatrics, although the largest proportion (9%) was among those recently in practice.

TABLE I Respondent Characteristics

	Length in Practice			Total (n = 209)
	In Training (n = 88)	Recently in Practice (n = 69)	More Experienced (n = 52)	
Age (mean $\pm$ SD)*	29 $\pm$ 3	37 $\pm$ 4	49 $\pm$ 7	36 $\pm$ 9
Hours worked per week in this practice (mean $\pm$ SD)†	11 $\pm$ 19	32 $\pm$ 18	34 $\pm$ 19	24 $\pm$ 21
Years worked in this practice (mean $\pm$ SD)†	1 $\pm$ 1	4 $\pm$ 4	13 $\pm$ 8	5 $\pm$ 7
Gender—female, (%)†,‡	63	58	33	54
Board certified in pediatrics (%)†	0	91	96	54
Specialty training in behavioral/developmental pediatrics (%)*	0	9	6	4
Have their own children (%)†	18	77	96	57

* $P < .05$.

† $P < .001$.

‡Difference significant between physicians in training or recently in practice and more experienced physicians ($P < .05$).

Practice sites were designated as group practices (including single and multi-specialty group practices and community health centers), hospital practices (including hospital-based resident continuity clinics, faculty practices, and academic medical centers), or health maintenance organization pediatric practices (including staff model health maintenance organizations). Virtually all the physicians in training were affiliated with hospital pediatric practices, while those recently in practice and more experienced were distributed more equally across other settings. Among all the practices, only a few physicians were trained in family practice.

TIME SPENT FOR WELL-BABY VISITS

On average, physicians spent 24 ± 9 minutes with each patient (excluding paperwork) during well baby visits in the first 2 months of life. Providers in training spent significantly more time on well baby visits than their counterparts recently in practice or those more experienced (27 ± 9 in training vs. 23 ± 10 recently in practice vs. 21 ± 8 more experienced, $P < .01$). However, there were no differences by length in practice in the proportion of each visit dedicated to conducting physical exams (29%), providing anticipatory guidance (32%), or answering parents' questions (30%).

NEWBORN DEVELOPMENTAL ASSESSMENTS

Overall, 7% of physicians reported using the Brazelton Neonatal Behavioral Assessment Scale; 60% used Denver Developmental Screening, 33% used Family Risk Assessments, and 52% performed Home Safety Risk Assessments. Those in training were more likely to perform Denver Developmental Screening than more experienced physicians (73% for physicians in training vs. 62% for physicians recently in practice vs. 36% for physicians with more experience, $P < .001$). A larger proportion of physicians in training were also more likely than those recently in practice or more experienced to report conducting Family Risk Assessments (46% vs. 19% vs. 31%, respectively, $P < .001$) and Home Safety Risk Assessments (65% vs. 40% vs. 45%, respectively, $P < .001$).

ANTICIPATORY GUIDANCE

Topics discussed by nearly all physicians with parents of infants in the first 2 months of life included smoking cessation (90%), infant temperament (91%), breast versus bottle feeding (100%), introduction of solid foods (92%), sleep position (98%), and use of infant car seats (99%). Smaller proportions discussed establishing routines for the baby (81%) and childproofing the home (82%). Between half and three-quarters of respondents raised issues surrounding maternal depression (66%), bathing the baby (68%), discipline (69%), and substance

use (65%). Less than half of the providers reported discussing issues related to domestic violence (49%) and child abuse (47%). There were few differences in the topics discussed based on length in practice. Those in training were more likely to discuss appropriate discipline practices (82% physicians in training vs. 65% physicians recently in practice vs. 53% physicians with more experience, $P = .002$) and childproofing the home (95% physicians in training vs. 73% physicians recently in practice vs. 73% physicians with more experience, $P = .001$).

PROVIDER SATISFACTION

The physicians' satisfaction with care they provided to families was assessed on a four-point Likert scale, with 1 representing very dissatisfied and 4 very satisfied. Providers generally were satisfied with the amount of time they had to discuss specific content areas with new parents during well baby visits. These areas included the baby's overall health and acute health problems, growth, behavior, development, and parents' response to their new parenthood. More experienced pediatricians were more satisfied than those recently in practice with the time available for discussing health issues ($P < .05$; Fig. 1).

Physicians also were satisfied to very satisfied with their abilities to meet new parents' needs in these same areas. More experienced physicians were more satisfied with their ability to meet new parents' needs regarding their baby's health and growth ($P < .05$; Fig. 2). Satisfaction remained nearly as high for providers' perceptions of their staffs' comparable abilities, with no differences by level of physician experience (Fig. 3).

FIG. 1 Satisfaction with amount of time for discussion, by topic. Respondents were asked to rate their satisfaction on a scale from 1 (very dissatisfied) to 4 (very satisfied).

FIG. 2 Satisfaction with ability to meet new parents' needs, by topic. Respondents were asked to rate their satisfaction on a scale from 1 (very dissatisfied) to 4 (very satisfied).

BARRIERS

Physicians identified several factors that affected their ability to deliver the best-quality well baby care to patients (Table II). The most common were concerns related to shortages of support staff, excessive paper work, limited referral sources for families with psychosocial problems, limited staff to address the needs of parents about child development, lack of time to teach parents, and lack of time

FIG. 3 Satisfaction with ability of staff to meet new parents' needs. Respondents were asked to rate their satisfaction on a scale from 1 (very dissatisfied) to 4 (very satisfied).

TABLE II Percentage of Physicians Reporting Barriers to Providing Well Baby Care

	Length in Practice			Total (n = 209)
	In Training (n = 88)	Recently in Practice (n = 69)	More Experienced (n = 52)	
Practice and administration				
Shortage of support staff*	53	75	74	65
Limited staff to address needs of parents*	43	70	57	56
No time for follow-up of families	35	49	32	39
Too much paperwork	62	69	67	65
No time to teach parents	45	65	53	54
No time to answer parents' questions†,‡	28	43	23	32
Managed care				
Problems with reimbursement*	10	35	26	23
Restrictions on the number of well child visits*	12	11	11	11
Restrictions on referral for special services for children	18	42	38	32
Restrictions on developmental testing	11	20	23	17
Other systems issues				
Limited referral sources for families with psychosocial problems†,‡	49	71	52	57
Low reimbursement rates for Medicaid families	13	28	21	20

* $P < .01$.† $P < .05$.‡Difference significant between physicians recently in practice and more-experienced physicians ($P < .05$).

for follow-up of families. Surprisingly, less than one-quarter noted problems with managed care with regard to reimbursement, restrictions on the number of well child visits, or restrictions on developmental testing. Similarly, less than one-quarter cited low reimbursement for Medicaid families. However, 32% reported that managed-care restrictions on referrals for special services for children interfered with optimal well baby care.

Differences in barriers to delivering newborn care were explored by level of experience of the physicians. Larger proportions of physicians recently in practice cited problems with reimbursement from managed care, limited referral sources, managed-care restrictions on referrals for special services, and limited staff to address the needs of parents. Smaller proportions of those in training cited difficulties with selected practice-related concerns, managed care, and other systems issues. Due to concern that residents in training may not have adequate experience or be exposed to these barriers, comparisons also were made limiting the comparison to those recently in practice and those more experienced. In these analyses, the physicians recently in practice were more likely to cite limited

referral sources for families with psychosocial problems ($P < .05$) and lack of time to answer parents' questions ($P < .05$) as barriers to providing optimal well baby care.

DISCUSSION

Our study findings indicate that selected practices of pediatricians with regard to newborn care vary depending on length of time in practice. The fact that more experienced physicians spend less time in well baby visits may reflect ongoing relationships with families and greater efficiency rather than decreased breadth of topics covered under anticipatory guidance. This efficiency may be achieved, in part, by the availability of support staff who are more capable, since those more experienced were less likely than those recently in practice to identify staff limitations as barriers to delivering quality well baby care.

Overall, it appears that pediatricians devote considerable portions of well baby visits to anticipatory guidance and to time answering parents' questions and are satisfied with their ability to meet parents' needs. While this may be encouraging with regard to meeting consumer demand and reflect recent changes in pediatric education, several findings arouse concern. First, despite growing attention to the impact of behavioral and social issues on children's health, family risk assessments and formal developmental testing are not conducted universally on infants in the first 2 months of life. However, it is possible that these physicians devote greater attention to infant development beyond 2 months of age. Second, a larger proportion of providers discuss safety with parents as opposed to developmental or mental health concerns or high-risk behaviors. Whether this reflects prior training emphases on injury prevention, time constraints, providers' discomfort with mental health issues and domestic violence or child abuse, perceived parental unwillingness to discuss particular topics, or reluctance to raise particular issues due to limited referral sources for identified problems is unclear. It also is possible that increased attention is focused on developmental assessments beyond 2 months of life.

Numerous limitations to delivering excellent baby care were identified. These barriers were identified to be systems factors rather than deficits in physician training. It is likely that physicians in training noted fewer barriers overall due to their limited exposure to these issues as residents. Physicians recently in practice were more likely than their more experienced colleagues to identify these limitations on their ability to deliver optimal care. This suggests that pediatric practices will need to address issues of time constraints and efficiency in order to enhance the delivery of quality newborn care. Without retooling pediat-

ric practice, it is possible that relevant issues will not be addressed and that pediatricians will be dissatisfied with the care they provide. Moreover, failure to remedy the situation creates yet another missed opportunity to meet the needs of parents of newborns who are eager to learn more about their children's development.

These analyses focus on self-reported behaviors of pediatricians. As such, several limitations should be noted. First, the data are restricted to responses from physicians, the vast majority of whom are pediatricians. Additional surveys were administered to nurse practitioners, nurses, and other clinical staff; these results are forthcoming. Second, there were multiple respondents from some sites, and results may not be generalizable to all pediatricians. (However, a range of practice types was selected, increasing the likelihood of generalizability of the results.) Moreover, it is unclear if willingness to participate in Healthy Steps identified a group of pediatricians more likely to emphasize children's development during pediatric care or more likely to have identified deficits in their current practices. Third, our response rate falls short of 100%. If physicians not completing the questionnaire were less likely to focus on early development of children, then our results may underestimate the deficits in current practice. Fourth, our respondents provided information on self-reported behaviors that were neither observed firsthand nor confirmed by parents. Additional data collection efforts are focusing on parents' needs and evaluation of services received.

Despite these limitations, this study provides important insights into the activities of pediatricians regarding early child development and the physicians' perceived satisfaction with their ability to meet parents' needs. While the results suggest considerable satisfaction with the ability of physicians to meet the needs of parents, topics related to development and social problems were discussed less frequently with parents than safety issues, and developmental assessments of newborns were not widely performed.

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