Overview of the Content of Health Supervision for Young Children: Reports From Parents and Pediatricians

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ABSTRACT. *Objective.* **To describe the content of anticipatory guidance provided to parents of infants and toddlers and to identify primary areas of unmet need as reported by both parents and pediatricians.**

Methods. **Parent data were obtained from the National Survey of Early Childhood Health, a nationally representative sample of parents of 2068 US children aged 4 to 35 months. Pediatrician data were obtained from the Periodic Survey of Fellows, a national survey of members of the American Academy of Pediatrics.**

Results. **Parents and pediatricians tend to agree on the relative ranking of which topics are most frequently addressed. Parents and pediatricians both report that the traditional topics of preventive care—immunizations, feeding issues, and sleep patterns—are most frequently discussed, whereas topics that were more recently introduced into pediatric care related to developmental needs and family context are less commonly addressed. Parent-reported discussion of these topics include reading (discussed for 61% of children 19-35 months) and child care (discussed for 26% of children 19-35 months). Parent reports of some unmet need—defined as topics not discussed that the parent believes would have been helpful to them—affect 36% of children aged 4 to 9 months and 56% of children aged 10 to 35 months and are highest for the topics of discipline strategies and toilet training. Other specific areas of unmet need reported by at least 15% of parents are burn prevention, child care, reading, vocabulary development, and social development. Rates of unmet need vary with family characteristics and health system factors, including maternal education, race/ethnicity, and length of well-child visits.**

Conclusion. **Parents and pediatricians report high rates of discussion on many topics that are critical to healthy development in the first years of life. They also identify areas of need that largely address health supervision on developmental topics. Findings indicate that additional research is needed to understand issues related to specific topic areas as well as the dynamics of personal and system factors that determine what is discussed.** ***Pediatrics*** **2004;113:1907–1916;** ***children, health supervision, preventive care, anticipatory guidance.***

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ABBREVIATIONS. AAP, American Academy of Pediatrics; NSECH, National Survey of Early Childhood Health.

Providing anticipatory guidance during health supervision visits in early childhood is a defining component of pediatric primary care practice. Although the process of providing guidance has changed little over many years, the topics that are addressed have evolved in response to the changing nature of childhood risks and the changing needs of parents for specific information. Traditional topics that focus on eating and feeding, sleeping, discipline, and development continue to be core recommendations for anticipatory guidance. More recently, topics such as child care, television viewing, and early literacy promotion have emerged. These issues reflect changing information, social norms, and child-rearing contexts, and they respond to parent needs as well as new and emerging prevention strategies.

Given the growing number of topics that might be addressed, what should be discussed in the limited amount of time available in health supervision visits? The medical community has addressed that question through guidelines developed by pediatricians and other child specialists regarding age-appropriate topics to discuss with parents. This is embodied in the American Academy of Pediatrics's (AAP's) Guidelines for Health Supervision[1] and the Maternal and Child Health Bureau's Bright Futures.[2] Factors that influence decisions about the content of the guidelines include available evidence of the effectiveness of guidance on topics, importance of the issue for children's health, professional consensus on priority issues, and perceived need and interest among parents. Recent reviews of the evidence on the effectiveness of anticipatory guidance in pediatric care report mixed findings.[3–5] Injury prevention and promotion of reading are the topics that have been most rigorously studied and are also where there is the strongest evidence for effectiveness of anticipatory guidance. Many traditional topics of well-child care have not been studied thoroughly, reflecting the challenges of designing and conducting research on interventions that are rooted in long-standing consensus that they are valuable.

Given the limited evidence, one indicator of where priority should be given is parent report of need and interest in receiving more information. To date, there has been sparse research on what is actually discussed with parents and how that corresponds to

parents' perceived needs and interests. Several topic-specific studies and local surveys of pediatricians have found variation in the types of topics discussed with parents, for example, regarding injury prevention.[6–9] There are few studies of the range of recommended anticipatory guidance topics because most studies focus on how well pediatric providers address a particular topic of interest. One exception is a recent nationally representative survey of pediatricians that found that for each of 3 age groups (2–5 years, 6–12 years, and 13–18 years), 84%, 81%, and 86% of pediatricians, respectively, indicated that they always counseled on at least 1 of 9 preventive health topics, but very few counseled on all topics. For children aged 2 to 5, the most commonly discussed topics were nutrition (71%), weight (49%), car restraints (48%), and physical activity (41%). Firearms were the least discussed topic at 15%.[10] Although these studies provide some information about the content of well-child care, there is much less information available on the parent's perspective. The few parent reports that have been published suggest a substantially lower level of delivery of anticipatory guidance. One study found in a nationally representative sample that 36% of parents had not discussed any of a list of 6 recommended age-appropriate topics with their child's clinician and that between 22% and 55% of those parents reported that they could use more information on these topics.[11,12]

This study describes the content of anticipatory guidance provided to parents of infants and toddlers as reported by both parents and pediatricians. Parent reports of the topics discussed and not discussed with their child's physician or other health provider are described. On several key points, we add a comparative perspective from pediatricians on the basis of a corresponding national survey of pediatricians. We address a set of related questions: How long are visits, and how do parents and pediatricians perceive the adequacy of visit length? Do parents have an opportunity to address their questions? What health supervision topics do parents report are more and less frequently discussed? Would parents find the topics that they report not discussing helpful to address? Which topics do pediatricians report that they discuss with most parents? Which family and health system characteristics are associated with parent report of unmet needs in health supervision? What are the characteristics of pediatricians who report addressing more topics during health supervision visits?

METHODS

Parent Data: National Survey of Early Childhood Health

Parent reports of health supervision received were drawn from the National Survey of Early Childhood Health (NSECH), a telephone survey of 2068 children aged 4 to 35 months, with an over sample of black and Hispanic children. Random-digit dialing was used to identify households with young children. Methods for this survey, including a detailed description of the weighting procedures used, are presented elsewhere.[13,14] The protocol for the NSECH was reviewed and approved by the Institutional Review Boards of the AAP, the University of California at Los Angeles, and the Centers for Disease Control and Prevention. The interview completion rate (completed interviews among households identified with age-eligible children) was 79.2%. The Council of American Survey Research Organizations response rate, which accounts for interview completion as well as households with potentially eligible children that were not reached, was 65.6%.

Respondents were the parent or guardian who is most knowledgeable about the child's health care; most (87%) were mothers, with 11% fathers and 1% other guardians. They were asked a series of questions related to well-child visits and receipt of anticipatory guidance. Parents reported the number of minutes spent with the child's provider during the most recent well-child visit, perceived adequacy of visit length, and whether they were able to ask all of their questions in the last well-child visit. Parents also reported whether the child's doctor or health provider discussed specific anticipatory guidance topics in the past 12 months (or since birth for children younger than 1 year). Topics were tailored to 3 different age groups of children (4–9 months, 10–18 months, and 19–35 months) and covered the areas of immunizations, growth and nutrition, sleep patterns/problems, injury prevention, development, language development, discipline, and child care (see Table 1).

The topics in the NSECH were partially derived from similar questions that were included in the Promoting Healthy Development Survey created by the Foundation for Accountability,[15] as well as by a review of the literature on anticipatory guidance with the goal of including a parsimonious set of topics that cover key domains of child and family function and risks.[13] When the parent reported that a topic was not discussed, a follow-up question, "Would a discussion have been helpful to you?" was asked, providing a measure of unmet need for that topic. We report the percentage of parents who discussed each topic and the percentage of parents who did not discuss a particular topic but would have found a discussion helpful. We also report the percentage of young children with an unmet need across the health supervision topics evaluated, defined as children for whom at least 1 topic was not discussed that would have been helpful to the parent if dis-

TABLE 1. Content of Care Topics Reported by Parents and Pediatricians, by Child Age

Category	4–9 Months (10 Items)	10–18 Months (11 Items)	19–35 Months (12 Items)
Immunizations	Immunizations	Immunizations	Immunizations
Growth and nutrition	Food/feeding, breastfeeding	Food/feeding, sleeping with a bottle, weaning from a bottle	Food/feeding
Sleep patterns/problems	Night waking and fussing, sleeping positions	Night waking and fussing	Bedtime routines
Injury prevention	Using a car seat, burn prevention	Using a car seat	Using a car seat, dangerous situations
Development	—	Toilet training	Toilet training, washing/dressing self Gets along w/others
Language development	Value of reading, how child communicates	Value of reading, vocabulary development	Value of reading, vocabulary development
Discipline	—	Guidance on discipline	Guidance on discipline
Child care	Child care arrangements	Child care arrangements	Child care arrangements

cussed. For 2 items, "not applicable" responses were excluded from the measure frequencies: When asked about sleeping with a bottle, a total of 25 parents of young children (3.7% of children aged 10–18 months, weighted) say that the question is not applicable because the child does not use a bottle. When asked about weaning, 19 parents (3.8% of children aged 10–18 months, weighted) say that the question is not applicable because the child does not use a bottle.

Frequency of discussion was analyzed for each age-specific topic. χ^2 analyses were conducted to examine variations in children who had at least 1 unmet need for anticipatory guidance according to social and economic characteristics of the family and selected health care characteristics: child's race/ethnicity (white non-Hispanic, black non-Hispanic, Hispanic English speaking [Hispanic child whose parent completed the interview in English]), Hispanic Spanish speaking [Hispanic child whose parent completed the interview in Spanish], annual household income (<$17 500, $17 501–$35 000; $35 001–$60 000; >$60 000), maternal education (<high school, high school graduate, >high school graduate), child's current health insurance status (private, public, public and private, or uninsured), length of last well-child visit (analyzed in categories of visit length quartiles), number of well-child visits (in past 12 months or since birth if under 12 months), and type of location usually used for well-child care (private office/group practice, community health center/public clinic, hospital clinic, or emergency department/urgent care). Data were weighted to represent US children aged 4 to 35 months. Stata (Stata Corp, College Station, TX) was used for data analysis and to account for the complex survey design.

Pediatrician Data: Periodic Survey of Fellows

Data were collected from pediatricians through the AAP's Periodic Survey of Fellows between March and August 2000. The survey was the 46th in the series and was developed to complement parent report questions in the NSECH. Parallel questions about the content of anticipatory guidance topics were constructed for the survey to permit comparisons of the NSECH data with a national sample of pediatric providers. The Periodic Survey was an 8-page, self-administered, forced-choice questionnaire that was sent to a random sample of 1640 US members of the AAP. Pediatric residents were included in the sampling, but retired and emeritus members were excluded. After 6 mailings, a response rate of 67% was achieved.

Each questionnaire was accompanied by an introductory letter from the Executive Director of the AAP and a postage-paid return envelope. Characteristics of responding pediatricians are provided in Table 2. The characteristics of responders were similar to the AAP membership at the time on gender, age, and geographic region (data not shown). Results presented in this study are limited to the 811 responding pediatricians who provide health supervision to children 0 to 35 months.

Pediatricians reported on the number of visits that they provide in a typical week for children in 3 age groups (0–9 months, 10–18 months, and 19–35 months), the average number of minutes that they spend with the child during typical preventive care visits for children under 36 months, and perceived adequacy of preventive visit length for children under 36 months in their practice. Pediatricians were presented with 3 age-specific lists of topics identical to those used in the NSECH and were asked, "With what proportion of parents have you discussed the following topics at least once," during visits with children in the specified age group. Categorical response options were 0%, 1%–24%, 25%–49%, 50%–74%, 75%–99%, or 100% of parents. This study evaluates the average number of topics that pediatricians report discussing with at least 75% of parents of children in the appropriate age group.

χ^2 tests were used to examine the variation in the number of topics addressed according to personal and practice characteristics of the responding pediatrician: gender, age, practice location, practice type, proportion of patients with public insurance, proportion of patients in managed care, resident training status, length of time spent between pediatrician and parents during health supervision visits, and number of health supervision visits provided per week for children under 36 months.

Variations in total topics discussed were analyzed separately for each child age group because the number of topics studied differs for each age group. Given the methodologic differences in measuring content of care from the perspectives of parents and pediatricians, percentages cannot be compared directly.

TABLE 2. Characteristics of Pediatricians Who Responded to Periodic Survey 46

Variable	(n = 1100)
Pediatric residents, %	17.2
Provide direct patient care, %	92.9
Average hours in direct patient care	38.2
>50% time in general pediatrics, %	72.3
>50% of patients in managed care, %	78.3
Average % of patients covered by	
Private health insurance	51.8
Public health insurance	41.3
Uninsured	6.2
Practice setting, %	
Solo/2 physician	14.0
Group/staff HMO	44.6
Hospital/clinic	41.4
Practice area, %	
Inner city	25.3
Urban, not inner city	29.9
Suburban	34.7
Rural	10.2
Geographic region, %	
Northeast	28.9
Midwest	22.5
South	30.8
West	17.9
Gender, %	
Male	47.3
Female	52.7
Mean age, y	42.4

HMO indicates health maintenance organization.

RESULTS

Nearly all young children aged 4 to 35 months (95%) had received a health supervision visit in the last 12 months. On average, pediatricians reported that they provided 35 health supervision visits a week to children <36 months of age. Table 3 compares parent and pediatrician views on components of well-child visits. Parents and pediatricians reported similar average length of time that providers spent with parents during well-child visits (mean: 17.7 and 18.3 minutes, respectively). Approximately 87% of parents and 79% of pediatricians reported that visits were about the right length. Nearly all parents reported that they asked all of their questions at the last well-child visit.

TABLE 3. Parent and Pediatrician Reports on Health Supervision Visits for Children <36 Months

	Parent Report (NSECH)	Pediatrician Report (Periodic Survey 46)
Average no. of minutes in well-child visit	17.7 min (95% CI: 17.1–18.4)	18.3 min (95% CI: 17.9–18.8)
View that visit length is "about the right amount of time"	87% (95% CI: 85.5–89.5)	79% (95% CI: 77.1–80.9)
Parents ask all of their questions	94% (95% CI: 92.9–95.8)	NA

CI indicates confidence interval; NA, not applicable.

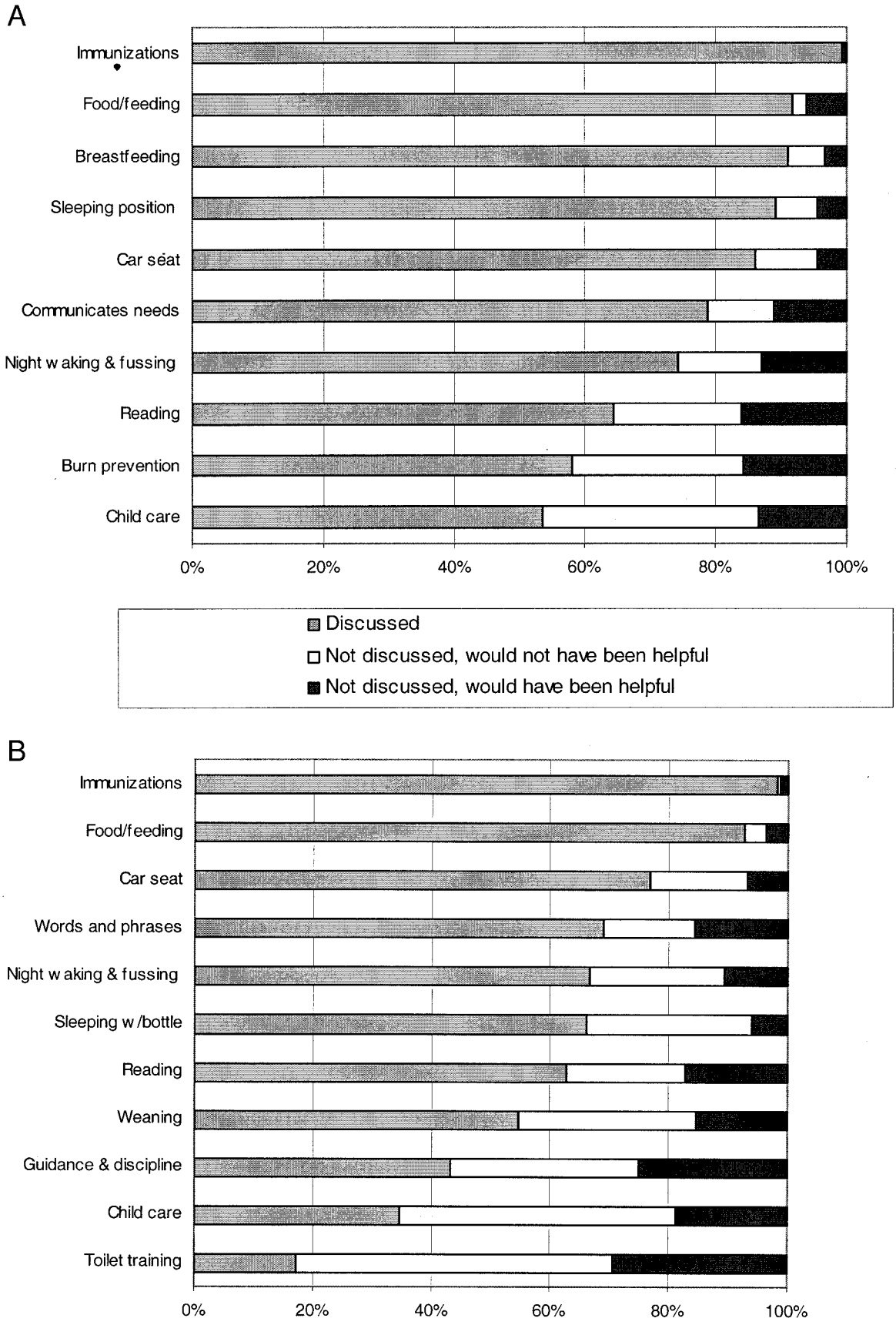

Fig 1. A, Parent report of health supervision for children aged 4 to 9 months. B, Parent report of health supervision for children aged 10 to 18 months. C, Parent report of health supervision for children aged 19 to 35 months.

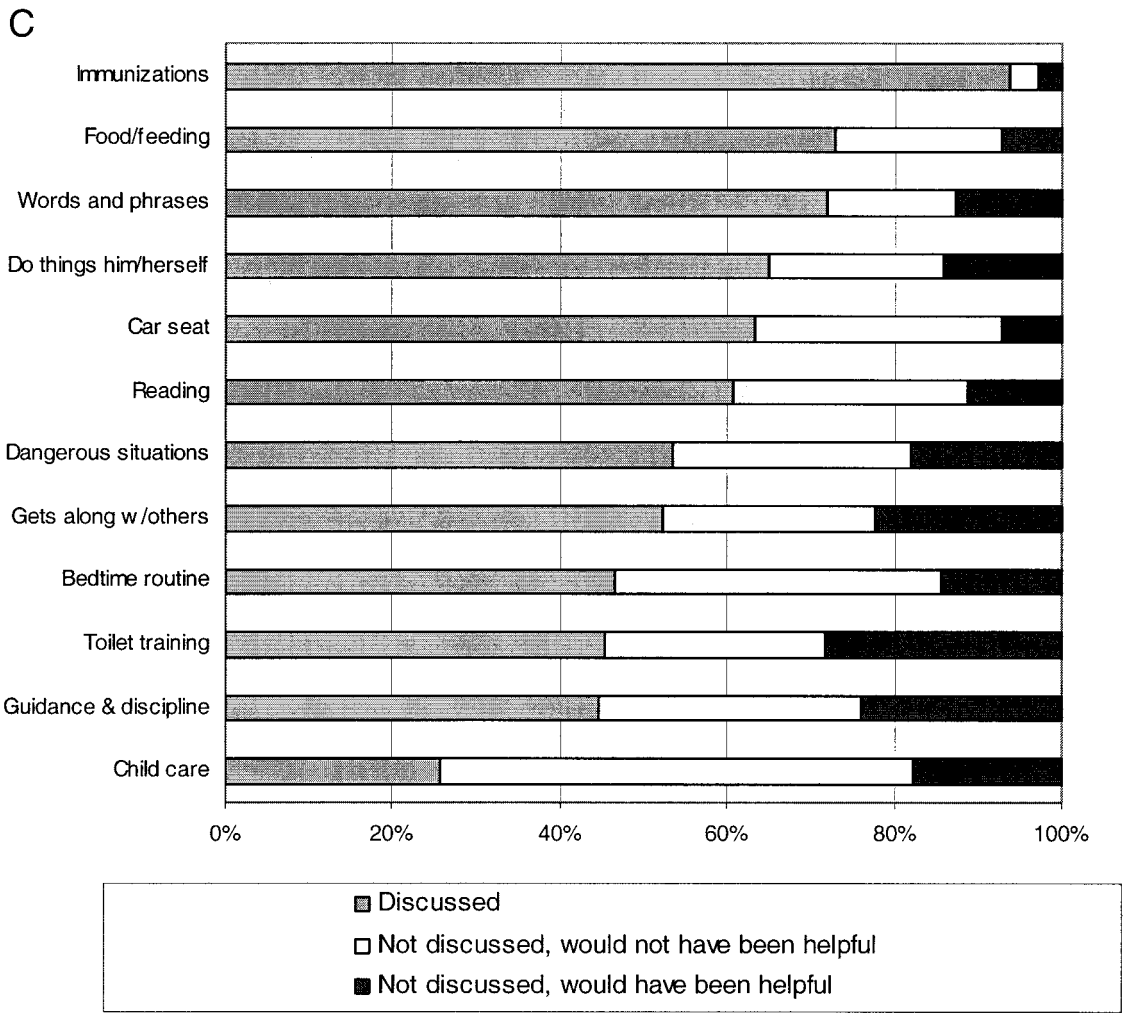

Fig 1. Continued

Parent Reports of Topics Discussed

In Fig 1 and Table 4, the content of care that parents reported receiving is presented by child age group: 4 to 9 months, 10 to 18 months, and 19 to 35 months. Across all 3 age groups, at least 94% of parents reported that they had discussed immunization issues with their child's health provider over the past 12 months. Similar high rates of reported discussion were found related to food and feeding issues: 92% for children 4 to 9 months, 93% for children 10 to 18 months, and 73% for children 19 to 35 months. In general, parents of older children were less likely than parents of the youngest children to report that topics had been discussed.

In the 4- to 9-month age group, the least discussed topics were child care (54%), burn prevention (58%), and reading (64%). In the youngest age group, the number of unmet needs (parents who did not receive anticipatory guidance on a topic but thought a discussion would be helpful) was generally low, although at least 10% of parents reported an unmet need for 1 or more of the following topics: child care, burn prevention, reading, night waking and fussing, and how a child communicates needs. In the 10- to 18-month age group, the least discussed topics were toilet training (17%), child care (35%), and guidance and discipline techniques (43%). Parents in this age group reported a greater number of unmet needs than parents of the youngest children. At least 15% of parents reported that they did not discuss 1 or more of the following topics and would have found such a discussion helpful: toilet training, guidance and discipline, child care, reading, words and phrases, and weaning. In the 19- to 35-month age group, the least discussed topics were child care (26%), guidance and discipline techniques (45%), toilet training (45%), and bedtime routines (47%). Parents in this age group also reported a greater number of unmet needs than parents of the youngest children, with 15% or more reporting that they did not discuss the following topics and would have found such a discussion helpful: toilet training, guidance and discipline, getting along with others, dangerous situations, and child care.

Pediatrician Report of Topics That They Address

The percentages of pediatricians who reported discussing specific topics with 75% or more of patients by child age group are provided in Table 4. For all 3 patient age groups, the most frequently addressed topics according to pediatricians were immunizations and issues related to food and feeding. Nearly

TABLE 4. Percent of Parents and Pediatricians Who Reported Health Topic Discussed by Child Age*

	Parent Report (NSECH)	Pediatrician Report (Periodic Survey 46)
Immunization		
4–9 mo	99.2	93.6
10–18 mo	98.1	92.7
19–35 mo	93.7	79.2
Food/feeding		
4–9 mo	91.8	93.0
10–18 mo	92.8	91.1
19–35 mo	72.8	82.6
Feeding habits		
4–9 mo (breastfeeding)	91.1	70.1
10–18 mo (weaning)	52.6	72.7
Night waking and fussing		
4–9 mo	74.4	52.8
10–18 mo	66.6	52.3
Sleep patterns/problems		
4–9 mo (sleeping position)	89.2	82.4
10–18 mo (sleeping with bottle)	63.7	68.6
19–35 mo (bedtime routine)	46.5	53.9
Communication		
4–9 mo (how child communicates needs)	78.8	41.9
10–18 mo (words and phrases)	68.9	80.3
19–35 mo (words and phrases)	72.0	75.5
Injury prevention		
4–9 mo (burn prevention)	58.1	45.4
19–35 mo (avoiding dangerous situations)	53.5	72.3
Car seats		
4–9 mo	86.2	77.4
10–18 mo	76.8	73.2
19–35 mo	63.3	69.8
Reading		
4–9 mo	64.4	47.6
10–18 mo	62.8	55.1
19–35 mo	60.7	57.0
Child care		
4–9 mo	53.5	46.4
10–18 mo	34.6	42.8
19–35 mo	25.6	40.6
Guidance and discipline		
10–18 mo	43.2	63.7
19–35 mo	44.6	60.3
Toilet training		
10–18 mo	17.2	47.4
19–35 mo	45.3	73.9
Development		
19–35 mo (getting along with others)	52.2	40.7
19–35 mo (doing things himself/herself)	64.9	43.7

* Proportions provided by parents and pediatricians cannot be compared directly: Parent data represent percent of parents who said that a topic was discussed in the past year. Pediatrician data represent those who reported that the topic was discussed at least once with at least 75% of parents of children in the respective age group. Parents of children 4 to 35 months were surveyed; pediatricians were asked about care for patients 0 to 35 months.

all pediatricians discussed immunizations with at least 75% of children aged 0 to 9 months (94%) and with patients 10 to 18 months (93%). Somewhat fewer pediatricians (79%) discussed immunizations with parents of children aged 19 to 35 months. Nearly all pediatricians (93%) discussed food and feeding issues with at least 75% of children aged 0 to 9 months, whereas 91% discussed with parents of children 10 to 18 months and somewhat fewer (83%) discussed with parents of children aged 19 to 35 months. The injury prevention topic of car seats was also frequently discussed with parents of children in each age group (77%, 73%, and 70%, respectively for the age groups).

Fewer than half of pediatricians discussed the following topics with at least 75% of parents of children 0 to 9 months: how the child communicates needs (42%), burn prevention (45%), and child care (46%). For children in the 10- to 18-month age group, the least discussed topics were child care (43%) and toilet training (47%). For children in the 19- to 35-month age range, the topics least discussed were child care (41%), getting along with others (41%), and the child's doing things for him- or herself (44%).

Factors Related to Unmet Need Reported by Parents

Across all topics, 37% of parents of children aged 4 to 9 months reported at least 1 unmet need among the specified health supervision topics, compared with 56% for children 10 to 18 months and 57% for children 19 to 35 months. As Table 5 indicates, unmet need was related to social and economic characteris-

TABLE 5. Parent Reports of Unmet Needs for Anticipatory Guidance by Family Characteristics and Health Care Use

	Any Unmet Need*					
	4–9 months, % (*n*)		10–18 months, % (*n*)		19–35 months, % (*n*)	
Unmet needs, total	36.5 (179)		56.3 (399)		56.5 (558)	
Child's race/ethnicity						
White non-Hispanic	29.1 (42)	$P < .001$	50.3 (113)	$P < .001$	51.3 (163)	$P < .001$
Black non-Hispanic	37.5 (46)		64.5 (96)		63.1 (118)	
Hispanic-English†	46.5 (41)		64.8 (84)		57.1 (111)	
Hispanic-Spanish†	64.2 (45)		76.3 (93)		80.4 (154)	
Annual household income						
≤$17 500	38.9 (46)	NS	66.6 (103)	$P < .05$	72.8 (196)	$P < .001$
$17 501–$35 000	25.8 (45)		60.6 (118)		60.9 (167)	
$35 001–$60 000	32.7 (33)		58.4 (76)		49.5 (83)	
>$60 000	40.3 (27)		42.6 (59)		37.5 (56)	
Maternal education						
Less than high school	43.8 (47)	NS	70.5 (98)	$P < .01$	77.8 (149)	$P < .001$
High school	32.6 (57)		59.2 (131)		53.4 (178)	
More than high school	36.3 (75)		48.5 (170)		48.4 (231)	
Current child health insurance						
Private	37.8 (70)	NS	48.6 (166)	$P < .01$	48.1 (218)	$P < .001$
Public	35.4 (71)		57.9 (121)		67.1 (174)	
Both + other	33.5 (26)		71.0 (73)		58.1 (85)	
Uninsured	42.1 (12)		79.4 (39)		73.4 (81)	
Usual source of care						
Private/group practice	35.7 (125)	NS	53.4 (259)	$P < .05$	53.1 (369)	NS
CHC/public clinic	33.9 (32)		63.0 (81)		64.7 (114)	
Hospital clinic	52.0 (16)		78.4 (41)		57.6 (37)	
Total well-child visits (past year/since birth)						
Below median‡	33.4 (89)	NS	52.9 (185)	NS	55.0 (186)	NS
Median or above‡	39.5 (90)		59.9 (204)		57.6 (354)	
Length of last well-child care visit, min						
Very low (0–5 min)	61.8 (17)	$P < .05$	77.7 (31)	NS	88.9 (57)	$P < .001$
Low (6–14 min)	43.9 (43)		56.6 (99)		61.7 (129)	
Medium (15–20 min)	30.1 (82)		54.8 (185)		48.7 (219)	
High (21 plus min)	32.9 (31)		52.9 (76)		49.3 (97)	

NS indicates not significant; CHC, community health center.
* χ^2 tests for association between each family characteristic and presence of unmet need, ie, topic was not discussed and parent reported that it would have been helpful to discuss. Percentages represent weighted data; sample sizes are unweighted numbers.
† Hispanic-English denotes Hispanic children whose parent completed the interview in English; Hispanic-Spanish denotes Hispanic children whose parent completed the interview in Spanish.
‡ Median for total well-child visits in past year/since birth is 4 visits for children 4 to 9 months, 5 visits for children 10 to 18 months, and 2 visits for children 19 to 35 months.

tics of the family as well as health care factors. The largest variations were associated with the child's race or ethnicity, with black and Hispanic parents—particularly Hispanic parents who completed the interview in Spanish—reporting higher rates of unmet need. For example, in the 4- to 9-month age group, 29% of parents of white non-Hispanic children reported an unmet need, compared with 64% of Hispanic Spanish-speaking parents. For the older age groups, household income, maternal education, and child's current insurance status were related to unmet need, indicating that children of lower economic status are at greater risk of not receiving guidance on all health supervision topics. Although unmet need was not related to number of well-child visits, it was associated with visit length. For most young children, unmet need was highest for children with shorter visit length.

Factors Related to Higher Rates of Reported Counseling by Pediatricians

Pediatrician reports of the percentage of topics discussed with at least 75% of parents were equivalent across age groups: 65% of the 10 topics among children 0 to 9 months, 67% of the 11 topics for children 10 to 18 months, and 62% of the 12 topics for children 19 to 35 months. As indicated in Table 6, a number of individual and practice characteristics were associated with pediatrician reports of topics discussed with the majority of parents. For example, for patients 10 to 18 months, male pediatricians reported discussing an average of 6.9 of the 12 topics with at least 75% of parents, whereas female pediatricians reported discussing an average of 7.7 topics. Pediatricians in practices with higher proportions of patients with publicly funded health insurance reported addressing fewer topics. Pediatricians who provide care in hospital clinics and public clinics reported discussing fewer topics. There were no differences by age, but pediatric residents reported addressing a fewer number of topics. The analyses were run separately with pediatric residents removed, and no differences were found (data not shown).

For the youngest and the older children, pediatricians who reported that their typical health supervision visits are at or above the median reported length (18 minutes) discussed a greater number of topics than pediatricians whose reported average visit length was below the median. For children 10

TABLE 6. Pediatrician Report of Average Number of Topics Discussed With 75% of Patients by Individual and Practice Characteristics

	0–9 months (*n*)		10–18 months (*n*)		19–35 months (*n*)	
Average no. of topics discussed*	6.5 (803)		7.4 (797)		7.5 (798)	
Gender						
Male	6.3 (366)	$P < .05$	6.9 (362)	$P < .001$	7.0 (362)	$P < .01$
Female	6.7 (429)		7.7 (427)		7.8 (428)	
Age						
≤41	6.5 (436)	NS	7.3 (433)	NS	7.4 (433)	NS
>41	6.5 (349)		7.4 (346)		7.5 (347)	
Practice location						
Inner city	6.4 (189)	$P < .05$	7.0 (187)	$P < .001$	7.2 (187)	$P < .001$
Urban, not inner city	6.2 (205)		6.8 (201)		6.8 (202)	
Suburban	6.8 (301)		7.0 (301)		8.1 (301)	
Rural	6.2 (97)		7.4 (97)		7.2 (97)	
Practice type						
Solo/2 person	6.6 (118)	$P < .01$	7.3 (118)	$P < .001$	7.3 (118)	$P < .01$
Group/staff model HMO	6.7 (382)		7.8 (381)		7.9 (381)	
Hospital/clinic/medical school	6.0 (227)		6.7 (224)		6.7 (225)	
Other	6.5 (61)		7.5 (59)		7.7 (59)	
Patient insurance type						
<25% public insurance	6.9 (303)	$P < .01$	7.8 (302)	$P < .01$	7.9 (302)	$P < .05$
25–50% public insurance	6.2 (174)		7.3 (172)		7.2 (172)	
>50% public insurance	6.3 (222)		7.0 (221)		7.1 (222)	
Insurance type						
≥50% managed care	6.6 (541)	NS	7.4 (539)	NS	7.6 (540)	NS
<50% managed care	6.4 (158)		7.3 (156)		7.2 (156)	
Training status						
Resident	6.0 (166)	$P < .001$	6.5 (166)	$P < .001$	6.7 (167)	$P < .001$
Postresident	6.6 (629)		7.6 (623)		7.7 (623)	
Minutes in average health supervision visit						
<18 (median)	6.2 (353)	$P < .01$	7.2 (352)	NS	7.2 (353)	$P < .05$
≥18	6.7 (450)		7.5 (445)		7.7 (445)	
No. of weekly HS visits for patient 0–9 mo						
<12 (median)	6.4 (356)	NS				
≥12	6.6 (355)					
No. of weekly HS visits for patients 10–18 mo						
<10 (median)			6.9 (340)	$P < .001$		
≥10			7.7 (367)			
No. of weekly HS visits for patients 19–35 mo						
<7 (median)					7.0 (358)	$P < .001$
≥7					7.9 (350)	

HS indicates health supervision.
* Total topics discussed are from a base of 10 topics for children age 0 to 9 months, 11 topics for children age 10 to 18 months, and 12 topics for children 10 to 35 months.

months old and above but not for the youngest children, pediatricians who provided at least the median number of health supervision visits per week discussed a greater number of topics.

DISCUSSION

Nearly all young children who are younger than 3 years in the United States receive some health supervision visits. For pediatricians, health supervision visits for children younger than 3 are a major portion of their practice, with 35 such visits provided per week by the typical pediatrician who cares for this age group. We found that both parents and pediatricians reported high rates of general satisfaction with visit length. Parents and pediatricians also tend to agree on the relative ranking of which topics are most frequently addressed. The traditional topics of well-child care—immunizations, feeding issues, and sleep patterns—are most frequently discussed. We also found substantial variation across the topics discussed. Topics that were more recently introduced into pediatric care related to developmental needs and family context, such as reading and child care, are less commonly addressed.

Parent-reported rates of unmet need—topics not discussed but that parent would have found a discussion helpful—are particularly useful indicators of areas where more attention might be given. The most common unaddressed topics identified by parents are guidance on discipline strategies and toilet training. These topics are also where we found some of the largest gaps between what parents report being discussed and what pediatricians report they are discussing, suggesting that such discussions did not make an impression on parents or that pediatricians believe that they discuss these topics but do it less frequently than they recall. Other areas of unmet need reported by at least 15% of parents are burn prevention, child care, reading, vocabulary development, and social development. These findings suggest areas where more topic-specific investigation would be useful to understand better parents' concerns and how they might be addressed in pediatric care. Parent reports of unmet need may also be useful predictors of parents' overall ratings of satisfaction and valuation of preventive care. In another national survey, parents who discussed more anticipatory guidance topics with a clinician were more

likely to report receiving excellent care. Parents who report that they could use more information on a larger number of topics are much more likely to report that they would be willing to pay for extra care, a marker of how strongly they valued anticipatory guidance.[11]

The data from parents indicate that there are several variations in what is discussed on the basis of family characteristics and health system factors. For infants younger than 10 months, there are no disparities in unmet need on the basis of economic factors, but for the older children, greater unmet need is associated with lower income, lower maternal education, and public insurance or lack of insurance. Race and ethnicity are also related to unmet need, with black and Hispanic parents more likely to report unmet needs. These disparities are consistent with findings from other data coming from the NSECH survey; for example, minority parents tend to report lower satisfaction with well-child care.[16] Hispanic parents who responded to the survey in Spanish were particularly likely to report unmet need. These results indicate that families who are less proficient in English are missing out on desired counseling and education in pediatric visits. This finding is consistent with previous studies of health care access for Hispanic children.[17] As the proportion of Hispanic children grows in the US population, it becomes ever more critical to understand the dynamics of what does and does not happen in their pediatric visits. Clearly, more research and policy discussion are needed in this important area. Even for providers who are marginally bilingual, discussing complicated and culturally influenced issues such as child development and discipline are difficult to achieve in another language.

The data from pediatricians also indicate practice variations in what is discussed. Consistent with previous studies, female pediatricians are more likely than male pediatricians to report that they provide anticipatory guidance on particular topics.[6,8,10,18] In parallel with the reports from parents, pediatricians who serve a higher proportion of lower income families tend to report that they discuss fewer topics. The relationship of content of care to the family's socioeconomic status raises several questions and points to additional research that is needed to understand the potential disparities. These data likely reflect a complicated set of highly interrelated factors among the health care system, family characteristics, child's health status, and the specific topical area. For example, are fewer topics discussed with low-income families because of the time and resource pressures in practices that care for these children? Are parents of low-income children requiring longer discussion of certain topics and consequently not getting to other less pressing topics in their health supervision visits? The differences may reflect how practices respond to the needs of families in their particular community, and the number of topics discussed may not be a good indicator of quality of care.

Although most parents and pediatricians report that the length of health supervision visits is sufficient, we also found, on the basis of both parent and pediatrician report, that shorter visits are associated with fewer topics discussed and higher rates of unmet need. This suggests that although parents report that they are relatively satisfied with the length of their visits, more time may be necessary. Another survey of AAP members found that 47% of primary care pediatricians expressed concern about time and that these pediatricians reported less overall preventive counseling than pediatricians who believed that they had adequate time with patients.[19] However, perceptions of having adequate time did not predict physician counseling as strongly as the physicians perceived importance of counseling and perceived self-efficacy in providing counseling.

There are limitations to this study. The contrast of reports between parents and pediatricians provides a way to assess whether parents and pediatricians agree on which topics are most and least discussed. However, because the questions were asked in different formats, the rates at which specific topics are discussed cannot be compared directly. The physician reports in this study do not include information from providers who are not pediatricians or are not members of the AAP. These reports are still generalizable to the majority of physicians who care for young children because most health supervision visits for children under 3 are provided by pediatricians. According to the 2000 National Ambulatory Medical Care Survey, 82% of well visits for children 0 to 5 were provided by pediatricians.[20]

In conclusion, this study shows that there is substantial variation in the topics discussed in well-child care, with more traditional topics getting more coverage than topics related to development and safety. Several factors, not measured in this study, could explain why some topics are less frequently discussed. For example, pediatricians may not have been as thoroughly trained in topics more recently added to guidelines for health supervision. Other topics may represent issues that require outside services that are not available or are difficult to access in a particular community.

This study provides additional evidence of the value that parents place on health supervision visits and anticipatory guidance for their young children. Parents and pediatricians report high rates of discussion on many topics that are critical to healthy development in the first years of life. They also identify areas of unmet need and point to additional research needed to understand issues related to specific topic areas as well as the dynamics that determine what is discussed in these visits. Physicians are among the only professionals who see nearly all preschool children, and thus they remain in a unique position to address the questions and concerns of parents of infants and toddlers.

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