

# Satisfaction With Health Care for Young Children

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**ABSTRACT.** *Objectives.* The aims of this study are to 1) assess parent satisfaction with well-child care for their young child and 2) identify how global satisfaction ratings and parent reports on the processes of care vary with child and family characteristics, health care received, and health system factors.

*Methods.* The National Survey of Early Childhood Health is a telephone survey that used a stratified random-digit-dial sampling design to achieve a nationally representative sample of 2068 children and 4 to 35 months. Parents provided global ratings of satisfaction with their child's well-child visits (range 0–100) and reported their satisfaction with information provided and the time spent with the provider. A subsample of parents whose child has a particular provider for well-child care ( $n = 930$ ) also reported their likelihood of recommending their provider.

*Results.* The mean global satisfaction rating is 86.9 (standard error: 6.1). Approximately 94% of parents of young children reported information satisfaction, 88% reported time satisfaction, and 79% would recommend their child's provider. Bivariate analysis shows lower satisfaction for uninsured children but few differences associated with insurance type or health care setting. In multivariate analyses including child and family factors and health system factors, Hispanic, Spanish-speaking mothers of young children have lower odds than non-Hispanic white mothers of reporting information (odds ratio [OR]: 0.32; 95% confidence interval [CI]: 0.13–0.79) and time satisfaction (OR: 0.44; 95% CI: 0.21–0.90). Parents of children who experienced missed or delayed care have lower odds of time satisfaction (OR: 0.27; 95% CI: 0.16–0.46) and have lower global satisfaction. Greater length of well-child visits is consistently associated with greater satisfaction on all 4 measures.

*Conclusion.* Although most parents reported relatively high levels of satisfaction with well-child care, shorter length of well-child visits and experiencing missed or delayed care are the 2 factors consistently associated with lower satisfaction using each of the measures. Efforts to improve satisfaction ratings might focus on improving the delivery of well-child care and ensuring that parents get the time they need. *Pediatrics* 2004; 113:1965–1972; *quality of care, child health, satisfaction.*

ABBREVIATIONS. CAHPS, Consumer Assessment of Health Plan Satisfaction; NSECH, National Survey of Early Childhood Health; MHI-5, 5-item Mental Health Index; CI, confidence interval; OR, odds ratio.

Consumer reports of health care quality are an increasingly important source of information for both consumer and purchaser decision making.<sup>1–4</sup> One widely used measure of quality is patient satisfaction with care.<sup>4–8</sup> Satisfaction ratings reflect patient expectations of care<sup>9,10</sup> and provide implicit ratings of patients' judgment about the overall delivery of health services.<sup>11–13</sup>

Rather than measure the technical quality of care, satisfaction ratings measure the patient's cognitive evaluation and emotional reaction, which may be influenced by perception of quality, convenience, physical environment, and anticipated outcome of health care.<sup>7</sup> Satisfaction is known to be associated with patient behavior, including adherence to treatment plans and use of preventive health services.<sup>8,13</sup> Although satisfaction with care is frequently measured using a global rating of overall care, reports on specific experiences with care are also used to assess particular components of the caregiving process. A challenge in using overall ratings of satisfaction as a measure of quality is the difficulty in interpreting differences in satisfaction across health plans and providers.<sup>14</sup>

Health supervision that focuses on health promotion and developmental services composes the core of well-child care visits. Although there is growing interest in the measurement of patient satisfaction with health care, population-based measures of satisfaction that focus on the well-child care and health supervision received by young children have not been available nationally. The commonly used Consumer Assessment of Health Plan Satisfaction (CAHPS) includes a pediatric component that asks parents to describe experiences with processes such as provider communication and staff helpfulness,<sup>6</sup> but it does not focus on well-child care and health supervision for young children. Previous population-based studies that evaluated parent satisfaction with children's health care have combined acute and well-child care into global ratings of all health care.<sup>5,6,15</sup> A recent national study suggested that there are specific gaps in provision of well-child care to young children,<sup>16,17</sup> whereas state- and health plan-level data show that parents of young children do not believe that they always get the information that they need.<sup>18</sup>

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The National Survey of Early Childhood Health (NSECH) includes a global rating of satisfaction with well-child care and parent reports about the adequacy of time and adequacy of information received during health supervision visits. This study examines parents' satisfaction with the preventive health services provided to their children and assesses how global satisfaction and parent reports on processes of care vary with characteristics of the child and family, parent reports of health needs, health care use, and other characteristics of the health system where they receive care.

## METHODS

### Study Design and Sample

Data are from the NSECH, which was conducted in 2000 by the National Center of Health Statistics as a module of the State and Local Area Integrated Telephone Survey. The NSECH used a stratified random-digit-dial sampling design to achieve a nationally representative sample of 2068 parents of children aged 4 to 35 months. Households that had a black or Hispanic eligible child were oversampled to improve the precision of estimates for these subgroups.

Thirty-minute structured telephone interviews were conducted in either English or Spanish. Respondents were the adult primarily responsible for the child's health care and were mostly mothers (87%), with a smaller number of fathers (11%), grandparents (2%), and other guardians (<1%). Sampling weights adjust for multiple-telephone households, for unit nonresponse, for noncoverage of nontelephone households, and for the oversampling of minority children. Detailed descriptions of the NSECH study design and summary statistics are presented elsewhere.<sup>19,20</sup>

### Satisfaction Measures

Parents' satisfaction with their child's health supervision visits is measured in 4 ways. Global satisfaction with well-child care is measured by asking parents to rate the child's check-ups during the previous 12 months (or since birth if the child was younger than 12 months) using a number from 0 to 10, where 0 indicates the worst and 10 the best possible health care. Parents are asked to "include all the doctors, nurses, and other health providers that [the child] may have seen." Responses are converted to a 0 to 100 scale.

Reports of information satisfaction are obtained by asking parents, "During [the child's] last checkup, did you ask all the questions you wished to ask?" Parents who reported "yes" are considered to have received the information that they needed from their child's provider.

Reports of time satisfaction are obtained by asking parents whether they had "too much time," "about the right amount of time," or "not enough time" with the provider during their child's last checkup. Parents who reported "about the right amount of time" are considered to have adequate time. The small numbers of parents who reported having "too much time" (0.8%) are excluded.

Another overall satisfaction measure is obtained from parents who reported that their child has a particular provider for well-child care (45.7%;  $N = 930$ ). Parents are asked, "How likely or unlikely [they] would be to recommend [the child's] health care provider to [their] friends or family?" Responses of "very likely" are compared with those who reported "somewhat likely," "somewhat unlikely," or "very unlikely." Children without a particular provider for well-child care (54%;  $N = 1138$ ) are excluded from this measure.

### Covariates

Study covariates include sociodemographic characteristics of the child and family, child health status and parent well-being, health care setting and insurance, and health care use and processes of care. Child and family characteristics include child age, maternal race/ethnicity (with Hispanic parents categorized as more acculturated or less acculturated based on English or Span-

ish interview language), maternal education (less than high school vs high school or above), and maternal age (<20 years vs  $\geq 20$  years). Child health is evaluated using an overall health status measure. Children who were reported to be in "excellent" or "very good" health are compared with children in "good," "fair," or "poor" health. Parent well-being is assessed using the 5-item Mental Health Index (MHI-5),<sup>21,22</sup> which is a measure of general psychological well-being. The MHI-5 consists of the following questions: How much of the time during the last month have you: 1) been a very nervous person, 2) felt calm and peaceful, 3) felt down-hearted and blue, 4) felt so down in the dumps that nothing can cheer you up, and 5) been a happy person? Responses are measured on a 6-point Likert-type scale ranging from "all of the time" to "none of the time." An average score (range: 0–100) representing overall emotional well being is calculated from these 5 items with reverse scoring for items 2 and 5.

The child's health insurance at the time of the interview is categorized as 1) private (50.9%;  $N = 935$ ), 2) public (27.7%;  $N = 630$ ), 3) public and private or other type of insurance (14.3%;  $N = 324$ ), and 4) uninsured (7.0%;  $N = 178$ ). Approximately 42.6% of insured children ( $N = 841$ ) are considered to be in managed care on the basis of parent report that the child's health insurance requires both referral or approval for specialty care and signing up with a certain doctor or clinic for routine care. Uninsured children are categorized as not in managed care. Usual location of care is categorized as private or group practice (74.3%;  $N = 1435$ ), community health center/public clinic (17.2%;  $N = 373$ ), or hospital clinic (6.0%;  $N = 156$ ). The small percentage of children (4.3%) who were reported as having no usual source of care or receiving care from an emergency department or urgent care/walk-in clinic are excluded from this measure. Approximately 45.7% ( $N = 930$ ) of children are categorized as having a regular provider on the basis of parent report of having a particular person (doctor or nurse) for well-child care.

Parents reported the number of well-child care visits received in the last 12 months (or since birth if the child was younger than 12 months). The number of visits ranges from 0 to a maximum of 11 (with visits exceeding 11 topcoded by National Center of Health Statistics), and the mean number of well-child visits is used in these analyses. Parents also reported whether the child did not receive any needed care in the past 12 months ("missed care") and whether the child had a delay in getting needed medical care in the past 12 months ("delayed care"). These reports are combined into a measure of "missed or delayed care." Approximately 5.1% of children ( $N = 119$ ) had missed care, 11.0% ( $N = 239$ ) had delayed care, and 12.5% ( $N = 275$ ) had either missed or delayed needed care. The amount of time that the parent reported spending with the child's provider during the last well-child visit is categorized as 10 or fewer minutes (33.0%;  $N = 564$ ), 11 to 15 minutes (11.0%;  $N = 186$ ), 16 to 20 minutes (25.6%;  $N = 538$ ), and 21 or more minutes (21.0%;  $N = 429$ ), on the basis of inspection of the data and approximate quartiles. Mean visit length is 17.7 minutes.

### Analysis

Results are weighted to represent US children aged 4 to 35 months, and complex survey estimation procedures are used to account for survey design effect (Stata 7.0). Mean global satisfaction ratings are evaluated across covariate categories using analysis of variance. Bivariate associations between covariates and the 3 dichotomous satisfaction measures (information satisfaction, time satisfaction, and recommending the provider) are evaluated using  $\chi^2$  tests of independence. Two sample  $t$  tests are used to identify mean differences in global satisfaction scores across categories of the dichotomous measures (time satisfaction, information satisfaction, recommending the provider), and  $\chi^2$  test is used for associations among the dichotomous measures. One satisfaction measure (recommending the child's provider) is reported only for the subgroup of children with a regular provider.

Models for multivariate logistic regression (for dichotomous outcomes) and ordinary least squares regression (for mean satisfaction ratings) included all covariates associated with at least 1 of the three satisfaction measures in bivariate analysis at  $P < .10$ . Selected tests of coefficients in the model are used to examine possible differences in satisfaction that are associated with increments of visit length.

## RESULTS

Most parents of young children were satisfied with well-child care. The mean global satisfaction rating is 86.9 (standard error: 6.1). Approximately 94% of parents of young children reported asking all of their questions during the last checkup, and 88% reported adequate time with the provider during the last well-child visit.

### Frequency and Bivariate Associations for Global, Time, and Information Satisfaction

Table 1 presents bivariate associations between covariates and satisfaction measures. Maternal race/ethnicity, maternal education, and maternal age are associated with information satisfaction and whether the parent would recommend the provider but are not associated with global satisfaction or time satisfaction. Parents of young children who were in excellent or very good health reported higher satisfaction on all 4 measures. Parent well-being (measured by mean MHI-5 scores) is significantly higher for parents who reported time and information satisfaction, and the correlation coefficient between MHI-5 scores and global satisfaction is statistically significant, showing that mothers who reported higher emotional well-being also reported higher satisfaction with care (data not shown).

Health insurance is associated with information satisfaction, time satisfaction, and recommending the provider but not with global satisfaction ratings. Parents of children in managed care gave lower global satisfaction ratings than parents of insured children who are not in managed care and also reported lower time and information satisfaction. More parents of children with a regular provider reported information satisfaction, but there is no association with the other satisfaction measures. Parents of children who had missed or delayed medical care in the past year also reported lower satisfaction on all measures.

Length of the last well-child visit is associated with all satisfaction measures. Figure 1 shows that all 4 satisfaction measures increased between the first 2 quartiles of visit length: parents who reported visits of 10 and fewer minutes and parents who reported visits of 11 to 15 minutes ( $P < .05$ ). Satisfaction increased between the second and third quartiles of visit length (11–15 minutes vs 16–20 minutes) for all measures ( $P < .05$ ) with the exception of recommending the provider. Parents with visits of 21 minutes or longer (~75th percentile and above) did not have greater satisfaction than parents with visits of 16 to 20 minutes on any of the measures.

### Association Between Measures of Satisfaction

Table 2 shows that parents who reported asking all of their questions at well-child visits more frequently reported satisfaction with visit length (91.5%) than those who were not able to ask all questions (33.6%;  $P < .001$ ). Parents who were satisfied with information reported higher global satisfaction ratings than other parents (87.8 vs 73.1;  $P < .001$ ), and parents who were satisfied with the length of their visits also

report higher global satisfaction than other parents (89.4 vs 69.0;  $P < .001$ ).

Comparison of the satisfaction measures among the subgroup of children with complete information on all 4 measures ( $N = 930$ ) shows that global satisfaction is higher among parents who would recommend their child's provider. Information, time, and global satisfaction are higher for parents who are very likely to recommend a provider than among those who are not.

### Multivariate Results

Table 3 presents multivariate findings for the 4 satisfaction measures. Global satisfaction is similar for young children with non-Hispanic white or Hispanic mothers but slightly lower for children with black mothers ( $\beta = -2.71$ ; 95% confidence interval [CI]:  $-5.27$  to  $-0.15$ ) than for children with non-Hispanic white mothers. In contrast, time and information satisfaction are lower for children with Hispanic mothers but similar for children with black and non-Hispanic white mothers. Multivariate findings for the subset of children with a particular clinician show that as with information and time satisfaction, children with Spanish-speaking Hispanic mothers have lower odds of the child's provider being recommended (odds ratio [OR]: 0.35; 95% CI: 0.16–0.78) than children with non-Hispanic white mothers.

Odds of information satisfaction are lower for children whose mother is younger than 20 years (OR: 0.30; 95% CI: 0.15–0.62) than for children with an older mother but no different on other measures of satisfaction. Maternal education is not associated with any satisfaction measure. Parents of children in better health have twice the odds of time satisfaction (OR: 2.11; 95% CI: 1.16–3.83) and have higher information satisfaction and global satisfaction than parents of children in poorer health.

Participation in managed health care is associated with lower odds of information satisfaction (OR: 0.45; 95% CI: 0.22–0.93) and time satisfaction (OR: 0.54; 95% CI: 0.33–0.89) and with lower global satisfaction ( $\beta = -2.79$ ; 95% CI:  $-4.59$  to  $-0.98$ ). Parents of children with a particular clinician have higher odds of information satisfaction but do not have higher global satisfaction or higher odds of time satisfaction than parents of children without a particular clinician. Health insurance type and provider setting are generally not associated with the satisfaction measures.

Greater well-child care visit length is associated with higher satisfaction for all measures. Parents of children with visits of 11 to 15 minutes, 16 to 20 minutes, or longer than 20 minutes have higher global satisfaction and greater odds of information and time satisfaction compared with children with visits of 10 or fewer minutes. Pairwise comparison of ORs for visit length categories in the multivariate regression shows that parents who reported a well-child visit of 16 minutes or longer (~50th to 75th percentiles in visit length) have higher odds of time satisfaction (OR: 11.0; 95% CI: 5.28–22.83) than parents with well-child visits of 11 to 15 minutes (OR:

**TABLE 1.** Bivariate Association Between Covariates and Satisfaction Measures

	Information Satisfaction		Time Satisfaction		Global Satisfaction (0–100, Mean)		Would Recommend Provider	
	%	<i>n</i>	%	<i>n</i>	score	<i>n</i>	%	<i>n</i>
Total	94.5	1853	88.2	1679	86.9	1969	79.0	926
Demographics								
Child age, mo								
4–9	95.7	399	88.8	365	86.5	421	73.4	143
10–18	95.7	624	87.4	571	86.6	662	79.8	245
19–35	93.5	830	88.5	753	87.3	886	80.7	305
Mother’s race/ethnicity								
Non-Hispanic white	95.4*	747	89.4	696	87.7	784	82.3‡	329
Non-Hispanic black	95.9	416	90.3	369	84.8	414	76.9	143
Hispanic/English	92.3	302	84.8	274	86.3	321	71.2	124
Hispanic/Spanish	89.4	335	81.1	284	87.3	373	48.0	65
Other	92.4	67	85.1	56	83.4	67	82.6	28
Mother’s education								
Less than high school	91.5*	386	85.0	339	84.9	416	60.4‡	92
High school or more	95.3	1467	89.1	1350	87.5	1553	82.4	604
Mother’s age								
<20 y	89.2*	133	85.3	119	84.2	146	60.3‡	40
≥20 y	94.9	1712	88.4	1562	87.1	1815	80.2	653
Child well-being								
Global health status								
Excellent/very good	95.2*	1525	89.5†	1405	87.6*	1603	81.8†	602
Good/fair/poor	90.9	328	81.4	284	83.3	366	63.2	94
Health system								
Health insurance								
Private	94.8†	844	89.0*	784	87.6	891	84.6†	387
Public	96.1	576	89.1	520	86.9	607	73.1	164
Private and public/other	95.6	292	89.0	261	85.0	309	71.3	108
Uninsured	84.4	140	77.6	123	86.2	161	67.8	37
Managed care								
No	96.7*	911	91.3†	841	88.0†	1047	80.0	286
Yes	93.4	758	85.8	683	85.3	809	78.8	357
Health care setting								
Doctor or nurse in private practice	94.6	1308	88.4	1202	87.4	1374	82.0‡	506
Community health center	95.2	325	87.5	286	85.8	356	75.1	116
Hospital clinic	96.4	134	85.0	119	83.2	146	51.0	37
Particular provider								
Yes	96.7†	862	89.8	800	87.6	905	79.0	926
No	92.7	984	86.9	881	86.4	1055	—	0
Health care seeking and experiences								
Visit length, min								
≤10	89.3‡	498	74.5‡	403	83.0‡	563	70.7†	158
11–15	95.3	512	92.1	476	86.8	537	80.7	191
16–20	98.7	420	95.8	401	89.2	429	84.5	164
>20	97.5	408	98.9	397	91.3	423	85.0	160
Well-child care visits in last 12 mo								
1–2	94.7	607	91.4	560	88.3*	650	83.7	191
3–4	93.7	645	86.0	584	85.6	681	75.6	262
5+	95.1	561	86.7	510	86.4	595	77.6	211
Missed or delayed care								
Yes	87.8‡	226	69.5‡	180	77.7‡	259	82.7‡	788
No	95.5	1623	90.1	1505	88.3	1706	59.6	140

\*  $P < .05$ .

†  $P < .01$ .

‡  $P \leq .001$  ( $\chi^2$  or analysis of variance).

4.46; 95% CI: 2.70–7.38;  $P < .05$ ). Time and global satisfaction but not information satisfaction are greater for those with visit length of 20 minutes or longer (approximately above the 75th percentile) than for those with visit length of 16 to 20 minutes ( $P < .05$ ). The mean visit length of 16 to 20 minutes compared with 11 to 15 minutes is associated with greater time and information satisfaction ( $P < .05$ ), but this visit length increment does not affect global satisfaction or likelihood of recommending the provider.

Parents of children with missed or delayed care in the past year have lower odds of time satisfaction

(OR: 0.27; 95% CI: 0.16–0.46) and a 9-point drop in global satisfaction ratings, but odds of information satisfaction are similar to other children. Odds of recommending the child’s provider are also lower for children with missed or delayed care (OR: 0.35; 95% CI: 0.19–0.64) than for other children.

## DISCUSSION

In this national study of young children, parents generally reported high levels of satisfaction with well-child care visits. Most parents gave high global ratings and also reported having enough time with the provider and being able to ask all of their ques-

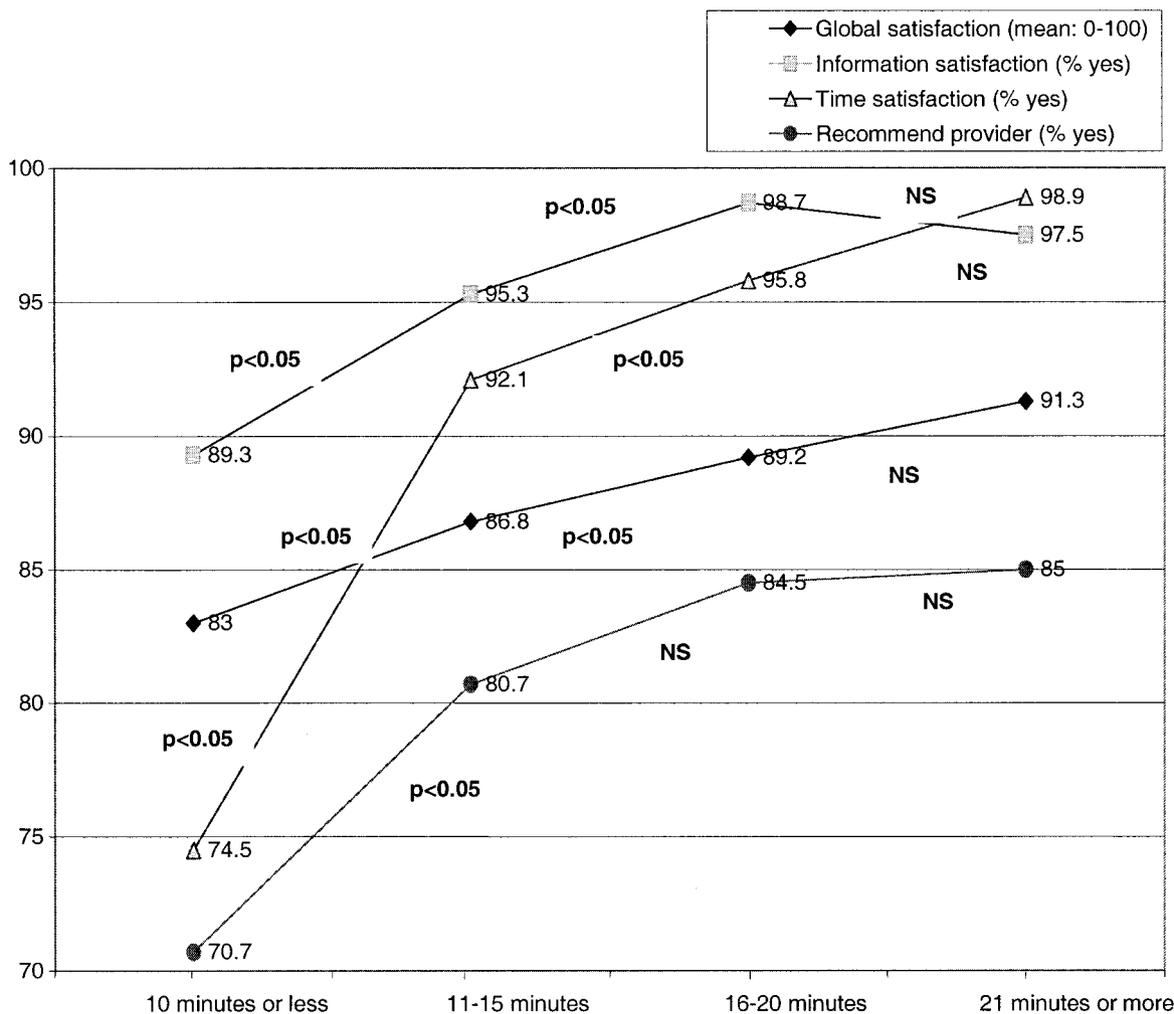


Fig 1. Distribution of all 4 satisfaction measures in relationship to the reported length of the last well-child visit. P values are shown for significant differences across different visit time lengths.

tions. Although few demographic and health care setting factors are consistently associated with the satisfaction measures studied here, reported length of the last well-child visit is associated with all satisfaction measures. The strong association between global ratings of satisfaction with the measures of time and information satisfaction also suggests that global satisfaction is sensitive to the process of care received by young children. The NSECH also included a satisfaction measure—recommending a health care provider to family or friends—reflecting an active endorsement of the child’s health care rather than a more passive rating of general satisfaction. Whether a parent would recommend his or her child’s provider is associated with the other satisfaction measures, as well as with visit length and missed or delayed care.

The time spent in face-to-face contact with the clinician may have a strong influence on satisfaction. This association holds even adjusting for child’s health status, demographics, insurance, and health care setting, as well as total well-child visits and delayed/missed care. There also seems to be a dose response with visit length, for which longer visits generally are associated with a corresponding in-

crease in satisfaction. Earlier studies of pediatricians’ reports also find that longer visits are associated with greater likelihood of discussing preventive health topics during well-child care visits.<sup>23–25</sup>

We could not determine whether the association of visit length and satisfaction is attributable to better interpersonal quality and communication with clinicians who provide longer visits, more comprehensive care resulting from longer visit length, or both. Future studies will need to explore the relationship of time spent in visits with the content of care provided and the quality of interpersonal communication. It is important to understand how well parent perceptions of time adequacy and their ability to ask questions about topics that are important to them relate to the amount of information that providers are able to convey in well-child visits.

Parents of insured children who receive care in managed care arrangements reported lower satisfaction on 3 of the 4 measures. Earlier studies that combined adult and pediatric care suggest that those in managed care report lower satisfaction with services and provider–patient interactions<sup>26–28</sup> with similar findings for children.<sup>29</sup> In the Medical Expenditure Panel Survey, parents’ satisfaction with their

**TABLE 2.** Association Among Measures of Satisfaction

Study Covariates	Information Satisfaction		Time Satisfaction		Mean Global Satisfaction Ratings (0–100)	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Information satisfaction						
All questions asked	—	—	91.5*	1652	87.8*	1851
Not all questions asked	—	—	33.6	34	73.1	110
Time satisfaction						
About the right amount	98.0*	1652	—	—	89.4*	1687
Not enough time	69.2	173	—	—	69.0	249
Likelihood of recommending provider						
Very likely	98.2*	659	95.7*	639	91.2*	676
Somewhat likely or unlikely	90.6	202	68.0	162	74.9	228

Shows percentages with information, time, and global satisfaction based on reports on each of these measures. Satisfaction measures by likelihood of recommending the provider are based on the subgroup with a regular provider.

\*  $P \leq .001$ .

child's overall health care is uniformly high and does not vary with managed care participation.<sup>15</sup> The differences in findings between the Medical Expenditure Panel Survey and the NSECH might result from the stricter definition of managed care used in NSECH (both sign-up requirements and referral constraints). Uninsured children lag behind insured children in parents' time satisfaction and information satisfaction and whether parents would recommend their provider, but including health care process measures causes the bivariate associations to disappear in multivariate analysis.

Hispanic parents, particularly those who selected to respond in Spanish, gave lower satisfaction ratings. Previous studies examining the relationship between satisfaction ratings and race/ethnicity are inconsistent. In some CAHPS studies of adults who rated their own care, Hispanics gave equivalent overall satisfaction ratings as adults of other race/ethnicity,<sup>5</sup> whereas in pediatric CAHPS data, reports of care (eg, timeliness, provider communication, getting needed care) were found to be substantially lower for Hispanics while global ratings showed little difference by race/ethnicity.<sup>6</sup> This is a critical area that needs more investigation. Variation in reported satisfaction across racial and ethnic groups may result from disparities in access and quality of care received by Hispanic families as a result of cultural and linguistic barriers.<sup>30,31</sup> Other explanations are the varying methods used across studies to measure satisfaction and possible cultural differences in the ways people respond to questions about health and health care.<sup>5,32</sup>

In the NSECH, parents of children with poorer health status gave lower satisfaction ratings on multiple measures, which is consistent with previous studies of adult health care<sup>5,7,11,33,34</sup> and CAHPS ratings from health plans nationally.<sup>6</sup> In our study, this association is independent of visit length or missed/delayed care and holds for overall satisfaction as well as time satisfaction and provider recommendation. Allocating more time through longer scheduled well-child visits for children in poorer health might effectively address a greater need for time and information among their parents.

### Limitations

There are several limitations in this study. The ratings of care are based on different time frames; global satisfaction is based on care received over the past year, and reports of time and information satisfaction refer only to the last well-child care visit. In addition, the measure of whether parents would recommend their child's provider is asked only of the 46% of parents whose young child has a regular clinician. Because these are parents who had an ongoing relationship with their provider and who also reported generally higher levels of satisfaction on the 3 other measures, the different rates of recommendation may actually underestimate what might have been obtained if the entire sample had been asked this question.

Because of sample sizes, this analysis could not separate out the effects of race and ethnicity beyond black, Hispanic, and non-Hispanic white race/ethnicity. Other studies have suggested that Asian/Pacific Islander parents may differ from others in satisfaction with their child's health care.<sup>6</sup>

Another limitation is that the high rates of satisfaction lead to ceiling effects with relatively little variation in measures that can be explained by demographic and health care factors. The measure with the greatest dispersion—whether parents would recommend their provider—is a new measure of a parent's active endorsement of his or her child's health care provider that unfortunately is available only for part of the sample. Additional studies will be necessary to determine which aspects of care this measure uniquely captures.

### CONCLUSIONS

What are the implications of these results for pediatricians who are interested in improving parents' satisfaction with their care? One of the most consistent findings is the strong association of all satisfaction measures with the amount of time spent in the last well-child visit. Although many clinicians may be able to efficiently conduct a well-child visit in 10 or fewer minutes, our results suggest greater levels of parent satisfaction when visits are 11 to 15 minutes and additional increases when visits are between 16

TABLE 3. Multivariate Predictors of Satisfaction

Study Covariates	Information Satisfaction (OR [95% CI])	Time Satisfaction (OR [95% CI])	Global Satisfaction Ratings (0-100, Means) ( $\beta$ [95% CI])	Would Recommend Provider (OR [95% CI])
<b>Demographics</b>				
Maternal race/ethnicity				
Non-Hispanic white	1.00	1.00	1.00	1.00
Non-Hispanic black	0.90	1.01	-2.71*	0.99
Hispanic/English	0.43*	0.53*	-1.27	0.62
Hispanic/Spanish	0.32*	0.44*	0.98	0.35*
Other	0.56	0.49	-4.66*	1.16
Maternal education less than high school	0.88	0.97	-1.78	0.59
Maternal age less than 20 years	0.30†	0.90	-0.78	0.58
Child and parent well-being				
Child in excellent or very good health	1.26	2.11*	2.86*	2.07*
Parent well-being (MHI-5 score)	1.02*	1.00	0.05	1.01
<b>Health system</b>				
Health insurance				
Private	1.00	1.00	1.00	1.00
Public	2.04	1.13	1.41	0.61
Private and public/other	1.59	1.07	-0.33	0.49*
Uninsured	0.54	0.52	0.72	0.74
Managed care				
None	1.00	1.00	1.00	1.00
Yes	0.45*	0.54*	-2.79†	1.01
<b>Health care setting</b>				
Private/group practice	—	1.00	1.00	—
Community health center	1.51	1.05	-2.32	0.85
Hospital clinic	2.32	0.97	-2.94	0.28†
Particular provider	1.85*	1.39	1.60	—
<b>Health care seeking and experience</b>				
No. of well-child visits	1.06	0.91*	-0.15	0.98
Time with provider during last visit, min				
≤10	1.00	1.00	1.00	1.00
11-15	2.73†	4.46†	3.17†	2.02†
16-20	8.40†	10.98†	5.22†	3.13†
>20	7.98†	31.43†	8.66†	3.95†
Missed or delayed care				
No	1.00	1.00	1.00	1.00
Yes	0.64	0.27†	-8.76†	0.35†
<b>Model Statistics</b>				
F (df, n)	5.21†	9.35†	9.33†	5.42†

Logistic regression used for the information satisfaction and time satisfaction, whereas linear-regression used for global satisfaction ratings. Analysis of the likelihood of recommending provider was limited to children with a regular provider ( $n = 930$ ).

\*  $P < .050$ .

†  $P < .010$ .

‡  $P < .001$ .

and 20 minutes. Because each extra minute spent by the physician is associated with a cost, the results suggest a tradeoff between cost and the quality perceived by parents that must be considered by physicians, practices, health care plans, and payers. Recent studies show that the average length of pediatric encounters has not decreased and in fact increased between the 1970s and the 1990s.<sup>35</sup> The growing number of recommended health supervision topics to be covered<sup>36</sup> may increasingly cause many pediatricians to believe that they do not have enough time to cover all recommended topics, yet in a recent survey of pediatricians, the majority (79%) reported that well-child visits are adequate in length.<sup>25</sup>

Balancing patient needs with time constraints presents dilemmas for the busy pediatric clinician. Although longer visits provide more opportunity for information exchange, there are a number of ways to improve the efficiency of the information provided. One strategy to enhance the content and quality of visits without substantially lengthening them is to improve information provided and to be more responsive to parents' stated needs. Examples include checklists of parental concerns, such as the Parent Evaluation of Developmental Status<sup>37</sup> and The Injury Prevention Program<sup>38</sup> to help the provider be more responsive and target issues that are of the greatest concern to the parent.

Because this is one of the first studies about parental satisfaction with well-child care using a nationally representative sample of children, it is important for additional studies to corroborate these findings. Although parent satisfaction with well-child care has not been well studied, the use of more consistent and comparable measures of satisfaction is likely to improve practice and ensure that services provided are optimally responsive to parent and child needs.

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