

# How Do Family Physicians Provide Anticipatory Guidance during Well-Child Visits?

Rodney Young and John Boltri

**Introduction:** Anticipatory guidance is an important part of well-child care, yet little is known about the way family physicians provide this guidance. This study describes the methods that family physicians use to provide anticipatory guidance during well-child visits.

**Methods:** A questionnaire was mailed to 1000 family physicians. Respondents rated 6 anticipatory guidance methods on frequency of use. The questionnaire addressed method of documentation, use of forms or guidance prompts, visit frequency for total, well-child, and other pediatric visits, and demographic information; *t* tests and ANOVA were applied ( $P < .05$  significant).

**Results:** There were 495 questionnaires returned for a response rate of 49.5%. Respondents were more likely to provide anticipatory guidance verbally than by handout (Likert scale where 1 = never and 9 = always, mean 7.8 vs 4.2,  $P < .0001$ ). Physicians using well visit forms more commonly initiate guidance discussions (7.6 vs 6.8,  $P = .0002$ ), address concerns (8.2 vs 7.5,  $P = .0001$ ), and provide handouts (4.3 vs 3.3,  $P = .0002$ ). Physicians in academic or multispecialty practices used handouts more often than private practitioners (5.0 vs 3.6,  $P = .0003$ , 5.1 vs 3.6,  $P = .0002$ , respectively) as did those with  $\geq 7$  well-child visits per week compared with  $< 7$  visits per week (4.8 vs 3.8,  $P = .0028$ ).

**Conclusions:** Family physicians primarily provide anticipatory guidance verbally. Use of well visit forms or other prompts are associated with better provision of anticipatory guidance. (J Am Board Fam Pract 2005;18:440–4.)

Anticipatory guidance is an important part of the well-child visit, yet little is known about the methods used by family physicians to provide this care. Family physicians play a major role in caring for children, accounting for over 20% of all well-baby visits to US physicians.<sup>1</sup> Their role is even greater in non-metropolitan areas where nearly half of all infants receive their well-child care from family physicians.<sup>2</sup> Providing anticipatory guidance on a broad range of topics can be time consuming and logistically difficult.<sup>3</sup> Issues of prevention and guidance are often given limited attention because of the broad agenda of the well-child visit.<sup>4,5</sup>

Previous studies have evaluated pediatricians' anticipatory guidance preferences<sup>6</sup> as well as parental expectations.<sup>7</sup> The overall performance of the health system in providing anticipatory guidance and the methods used by pediatricians to provide this care have also been studied.<sup>8,9</sup> Recognizing the need to improve developmental and behavioral care for young children, pediatricians have explored such intensive interventions as the Healthy Steps for Young Children Program.<sup>10</sup> To our knowledge, the anticipatory guidance practices of family physicians caring for children have not been studied. Family physicians face challenges that differ from those of their pediatric colleagues because of the broader range of age and pathology in a family practice setting. Knowledge of the anticipatory guidance methods used in family practice would provide a more comparable basis for self-evaluation by family physicians. This study describes the way that US family physicians provide anticipatory guidance during well-child visits.

## Methods

The study population of 1,000 practicing US family physicians was drawn from the membership records of the American Academy of Family Physicians

Submitted, revised, 31 March 2005.

From Family and Community Medicine, Texas Tech University Health Sciences Center, Amarillo, TX 79106 (RY); and Mercer University School of Medicine, Macon, GA 31207 (JB).

**Funding:** This study was supported by Grant 5-D45PE56003 from the Division of Medicine of the Health Resources and Services Administration (HRSA). Its contents are solely the responsibility of the author and do not necessarily represent the views of HRSA. This material is provided in part through a grant from the Texas Higher Education Coordinating Board.

**Conflict of interest:** none declared.

**Corresponding author:** Dr. Rodney Young, Family and Community Medicine, Texas Tech University Health Sciences Center, 1400 S. Coulter, Suite 2700, Amarillo, TX 79106.

(AAFP). Physicians who had indicated on a standard membership survey that their primary professional activity was office-based direct patient care, including the care of children, were eligible for inclusion. All others were excluded. There were 28,198 family physicians that met these criteria. Based on a power analysis and estimates of non-response, 1,000 were randomly selected for inclusion. The Amarillo Institutional Review Board approved the study.

A 19-item questionnaire was developed to ask family physicians what methods they use to provide anticipatory guidance to parents and families during well-child visits, using published examples of anticipatory guidance methods used by pediatricians.<sup>3,5-11</sup> The initial questionnaire was pilot tested on 6 practicing family physicians, revised, and then retested on 20 practicing family physicians. Postage-paid reply envelopes were consecutively numbered to allow clerical staff to track response rates. The reply envelopes were destroyed on return, and the completed questionnaires stored collectively to ensure the confidentiality of the respondents. The surveys were distributed in December 2002, with a second mailing sent to those not responding within 4 weeks. Participation was voluntary, and there were no financial or other inducements.

Physicians were asked to estimate the frequency with which they use 6 different types of anticipatory guidance previously described in the pediatric literature.<sup>9,11</sup> These included response to parents' questions, physician-initiated guidance discussions, provision of age-specific multitopic guidance handouts, provision of topic-specific handouts, videotapes, and group well-child visits. A 9-point Likert scale was used, where 1 = never and 9 = always. Respondents were also given the opportunity to write in any other methods that they use to provide anticipatory guidance.

The questionnaire also asked how they document well-child visits and whether written or electronic reminders are used to prompt the physician to provide anticipatory guidance. If the respondent identified that standard forms are used, they were asked to select the source of the forms from a list that included the following choices: commercial form suppliers, government agencies, professional organizations, locally developed forms, or other sources. Demographic information including primary practice setting, physician gender, relative

population of the practice community, and age of the physician's youngest child were also ascertained. Finally, estimates of total visits of all ages, well-child visits, and other pediatric visits to their office were obtained.

Data were entered by computerized scanning of response forms. Many of the bubble forms were completed with check marks rather than bubbling in the response. Each of these forms was verified by hand for accuracy, and 20% of the other responses were randomly selected for hand verification. Frequency distributions, *t* tests, and analysis of variance were used to evaluate the data. A pair wise comparison was used to determine whether there were significant differences in the type of guidance provided. We compared always/usually (7 to 9), sometimes (4 to 6), and never/rarely (1 to 3). The customary  $P < .05$  was defined a priori to be statistically significant. Analyses were conducted using JMP version 4.0.4 (SAS Institute).

## Results

A total of 334 physicians responded to the initial mailing, and an additional 161 responded to the second mailing, for an overall response rate of 49.5%. Demographic information and relative frequency of total patient visits, early childhood visits, and well-child visits are reported in Table 1. There was a wide distribution of practice setting and total number of daily visits. Of the physicians responding, two thirds were men (compared with 68.5% of AAFP members<sup>12</sup>), whereas 39% were in a rural setting (compared with 25.1% of AAFP members<sup>13</sup>). The number of pediatric visits ranged from 0 to >20 per week. Of the physicians in rural areas, 58% reported seeing >10 children per week under the age of 5 years compared with 43% of physicians in urban areas.

A total of 81% of respondents indicated that they use standardized forms to document well-child visits, with 91% of forms being specific for the age of the patient. Of the forms in use, 58% were developed locally (within the respondents office or institution), with smaller percentages obtained from commercial suppliers or government agencies (13% each). A total of 7% of respondents obtained the forms through a professional organization, such as the American Academy of Pediatrics, and 75% of physicians responding indicated that they have written or electronic reminders that

**Table 1. Demographic Information\***

	Percentage of Respondents
Primary practice setting	
Private practice, solo	17
Private practice, group	47
Academic	14
Multispecialty group	10
Other	12
Total number of daily visits (all ages)	
<18	14
18–24	39
25–30	28
31–35	10
>35	9
Number of visits per week for children younger than age 5 years	
0	7
1–5	20
6–10	24
11–15	21
16–20	12
>20	16
Number of visits per week that include well-child care for children younger than age 5 years	
0–3	43
4–6	31
7–10	14
11–14	7
>15	5

\*n = 495.

prompt them to provide age-appropriate anticipatory guidance.

Compared with their counterparts who do not use forms, physicians who use well-child visit forms (written or electronic) were significantly more likely to initiate discussions of guidance issues (mean score on the 9-point Likert scale 7.6 vs 6.8,  $P = .0002$ ), solicit and address specific concerns (8.2 vs 7.5,  $P = .001$ ), and provide both multitopic handouts (4.3 vs 3.0,  $P = .0005$ ) and specific topic handouts (4.5 vs 3.3,  $P = .0002$ ). Users of well-child visit forms were more likely to distribute multitopic handouts if the forms were developed by a professional organization (4.8) or by their own

office or institution (4.7) compared with those using forms developed by commercial (3.3) or government sources (3.6,  $P = .0033$ ). Similarly users of well-child visit forms were more likely to distribute specific topic handouts if the forms were developed by a professional organization (5.2), or by their own office or institution (4.8) compared with those using forms developed by commercial (3.8) or government sources (3.6,  $P = .0009$ ). Compared with physicians who do not use prompts, the use of prompts that remind physicians to provide anticipatory guidance was associated with higher physician-initiated guidance counseling (7.7 vs 6.8,  $P < .0001$ ), and increased use of both multitopic handouts (4.3 vs 3.3,  $P = .0065$ ) and specific topic handouts (4.5 vs 3.7,  $P = .0049$ ).

Relative frequencies of reported use of the 6 methods of providing anticipatory guidance included in the questionnaire are depicted in Table 2. In general, respondents were most likely to address anticipatory guidance issues through discussion, with 79% always or usually bringing up topics themselves and 88% always or usually soliciting and addressing specific concerns as needed. Printed anticipatory guidance handouts, either covering multiple topic areas or specific topics, were the next most commonly used method, although there was considerable variability among respondents with only 28% indicating they always or usually give multitopic handouts and only 23% always or usually give specific handouts. The largest single response for frequency of use of either multitopic or specific topic handouts was “never,” 53% and 44%, respectively. Videotapes and group well-child visits were rarely used by any subset of family physicians. No other specific methods of providing anticipatory guidance were reported in the space provided.

Compared with physicians in private practice, physicians in academic or multispecialty groups were more likely to use multitopic handouts (mean

**Table 2. Methods of Anticipatory Guidance Used by Family Physicians during Well-Child Visits**

	Initiates Discussion n = 438	Elicits Questions n = 438	Multitopic Handout n = 435	Specific Handout n = 437	Provides Videotape n = 437	Group Visits N = 426	<i>P</i> *
Always/usually	79.2%	88.1%	28.0%	23.1%	3.0%	3.8%	.053
Sometimes	15.7%	7.1%	19.1%	32.7%	2.5%	1.9%	.042
Rarely/never	5.1%	4.8%	52.9%	44.2%	94.5%	94.3%	.03

\* *P* indicates all groups different from each other at that value.

response 3.6 vs 5.0,  $P = .0003$  and 3.6 vs 5.1,  $P = .0002$ , respectively) but not specific topic handouts (4.1 vs 4.9,  $P = .0553$  and 4.1 vs 4.9,  $P = .1070$ , respectively). Compared with physicians with 6 or fewer well-child visits per week, physicians who had at least 7 well-child visits per week were more likely to use both multitopic (4.8 vs 3.8,  $P = .0028$ ) and specific topic (5.0 vs 3.9,  $P = .0003$ ) guidance handouts. Female physicians were more likely than their male counterparts to use multitopic guidance handouts (4.6 vs 4.1,  $P = .0031$ ). This trend did not meet statistical significance for handouts covering specific topics ( $P = .069$ ), or for any other measure of anticipatory guidance. No significant differences were identified between rural and non-rural practice settings. Physician's who have children of their own younger than age 11 were more likely to initiate discussions on anticipatory guidance than those with no children (7.8 vs 7.0,  $P = .0024$ ).

## Conclusions

In this sample of US family physicians, verbal counseling, either physician- or parent-initiated, was the primary method used to provide anticipatory guidance during well-child visits, with printed materials being used much less commonly. Although spoken advice can be a powerful tool in helping parents acquire knowledge, prior research has shown that parents often have difficulty remembering and understanding what was said.<sup>14-16</sup> Specific, concrete suggestions, such as placing an infant on their back to sleep, can be effectively delivered verbally, but general advice is better assimilated by parents when provided in other formats.<sup>9,17</sup>

Our study found that physicians who use standard forms or other prompts also report higher use of both verbal and written methods of providing anticipatory guidance. There are numerous sources of standardized age-appropriate forms available to clinicians through government agencies, professional organizations, commercial suppliers, and some payers. Despite this, over half of respondents who use forms to document well-child visits report that they have either developed the forms themselves or chosen forms developed within their office or institution. Physicians who create their own forms were also more likely to use printed handouts. Regardless of their source, use of well-child visit forms and anticipatory guidance prompts are

clearly associated with higher self-reported rates of anticipatory guidance provision by family physicians. Structured well-child encounter forms have also been shown to improve both documentation and observed provider performance of essential visit components.<sup>18,19</sup>

We sought to determine whether physicians who are themselves parents of young children are more likely to provide anticipatory guidance than those with older or no children. Although there was a difference observed for the single variable of physician-initiated counseling, there were no other significant differences in those physicians' anticipatory guidance patterns when compared with physicians without young children.

There are several limitations to this study that should be considered. The response rate of 49.5% was somewhat lower than anticipated, although with almost 500 overall responses from a potential population of 28,198, it is very likely that the results obtained would not have significantly changed if the response rate had been modestly higher.<sup>20</sup> Furthermore, it is likely that those physicians most interested in anticipatory guidance would be more prone to return this questionnaire, creating a responder bias that would favorably affect the results. It is therefore possible that, despite the finding of relatively uncommon use of anticipatory guidance methods other than discussion at the time of the visit, the results reported here may overestimate the true reality.

This study was designed to provide a descriptive baseline for family physicians to use in evaluating their own anticipatory guidance practice patterns. The scope and length of the survey were kept to a minimum in an effort to increase response. By design, only 6 common means of providing anticipatory guidance to parents were addressed. Family physicians may use other methods that were not evaluated, although very few respondents indicated this, and none chose to elaborate on that response.

This study called on clinicians to estimate their actual practice patterns. As a result, some degree of recall bias is likely reflected in the data because self-reports may not necessarily reflect true behavior.

A greater percentage of physicians practicing in rural areas responded to this survey compared with the overall population of family physicians in the AAFP database. We believe this reflects responder bias because more rural physicians also reported

seeing more young children in their offices per week than their urban counterparts.

The majority of respondents in this study spend a relatively small proportion of their office time on well-child care. A total of 42% conduct 3 or fewer well-child visits per week and another 32% see fewer than 7 per week. Despite this, the number of responses from physicians who provide more well-child care was still adequate to allow for comparison.

Finally, although it is clear that family physicians rely on verbal counseling and advice to provide anticipatory guidance, no specific data were gathered about time spent in accomplishing this goal, or the range of topics covered during guidance discussions. It is not known whether those physicians who rarely or never make use of other methods of providing anticipatory guidance spend more time in face to face counseling.

Further work is needed to explore the reasons why family physicians provide anticipatory guidance primarily using verbal counseling, and to identify any barriers to the use of handouts or other methods that may supplement and reinforce the counseling provided during the visit. Because much of the previously published work on the effectiveness of various methods of providing anticipatory guidance did not involve family physicians, it may be worthwhile to address this issue in a family practice population.

---

We thank Cindy Passmore, MA, and Ron Bradshaw, MD, CPA for help with the survey design and statistical analysis, Jan Pumphrey and Gerry Ault for data collection assistance, and Eric MacLaughlin, PharmD for reviewing the manuscript.

## References

1. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics, 2001. Available from: [www.aafp.org/x24578.xml](http://www.aafp.org/x24578.xml).
2. Guirguis-Blake J, Fryer GE, Deutchman M, Green LA, Dovey SM, Phillips RL. Graham Center one-pager no. 15: Family physicians increase provision of well-infant care despite decline in prenatal services. November 2002. Available from: [www.aafppolicy.org/x390.xml](http://www.aafppolicy.org/x390.xml).
3. Galuska DA, Fulton JE, Powell KE, et al. Pediatrician counseling about preventive health topics: results from the Physicians' Practices Survey, 1998–1999. *Pediatrics* 2002;109:E83–3.
4. Cheng TL, DeWitt TG, Savageau JA, O'Connor KG. Determinants of counseling in primary care

- pediatric practice: physician attitudes about time, money and health issues. *Arch Pediatr Adolesc Med* 1999;153:629–35.
5. Wright MS. Pediatric injury prevention. Preparing residents for patient counseling. *Arch Pediatr Adolesc Med* 1997;151:1039–43.
6. Stickler GB, Simmons PS. Pediatricians' preferences for anticipatory guidance topics compared with parental anxieties. *Clin Pediatr* 1995;34:384–7.
7. Schuster MA, Duan N, Regalado M, Klein DJ. Anticipatory guidance: what information do parents receive? What information do they want? *Arch Pediatr Adolesc Med* 2000;154:1191–8.
8. Bethell C, Peck C, Schor E. Assessing health system provision of well-child care: the promoting healthy development survey. *Pediatrics* 2001;107:1084–94.
9. Glascoe FP, Oberklaid MD, Dworkin PH, Trimm F. Brief approaches to educating patients in primary care. *Pediatrics* 1998;101:e10. Available from: <http://www.pediatrics.org/cgi/content/full/101/6/e10>.
10. Minkovitz CS, Hughart N, Strobino D, et al. A practice-based intervention to enhance quality of care in the first 3 years of life: The healthy steps for young children program. *JAMA* 2003;290:3081–91.
11. Busey S, Schum TR, Meurer JR. Parental perceptions of well-child care visits in an inner-city clinic. *Arch Pediatr Adolesc Med* 2002;156:62–6.
12. American Academy of Family Physicians membership survey data. Available from: <http://www.aafp.org/x951.xml>.
13. American Academy of Family Physicians membership survey data. Available from: <http://www.aafp.org/x763.xml>.
14. Rosenberg EE, Pless IB. Can effective parent education occur during emergency room visits? *Fam Med* 1993;25:598–601.
15. Chande VT, Wyss N, Exum V. Education interventions to alter pediatric emergency department utilization patterns. *Arch Pediatr Adolesc Med* 1996;150:525–8.
16. Gablehouse BL, Gitterman BA. Maternal understanding of commonly used medical terms in a pediatric setting [abstract]. *Am J Dis Child* 1990;144:419.
17. Spiers PS, Guntheroth WG. Recommendations to avoid the prone sleeping position and recent statistics for sudden infant death syndrome in the United States. *Arch Pediatr Adolesc Med* 1994;148:141–6.
18. Madlon-Kay DJ. Use of a structured encounter form to improve well-child care documentation. *Arch Fam Med* 1998;7:480–3.
19. Kaszuba Duggan A, Starfield B, DeAngelis C. Structured encounter form: the impact on provider performance and recording of well-child care. *Pediatrics* 1990;85:104–13.
20. Krejcie RV, Morgan DM. Determining sample size for research activities. *Educ Psychol Meas* 1970;30:607–10.