Patient Satisfaction with Time Spent with Their Physician

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BACKGROUND. We examined the variables related to patient satisfaction with the time spent with their family physician during the office visit.

METHODS. Research nurses directly observed consecutive patient visits to 138 family physicians in 84 practices. Analyses examined sequential models of the association of patient and physician characteristics, visit type and length, and time use during visits, with patients' satisfaction with the amount of time spent with their physician.

RESULTS. Among 2315 visits by adult patients returning questionnaires, patient satisfaction with the time spent with their physician was high and strongly linked to longer visits ($P < .001$). After controlling for visit duration, greater patient satisfaction with time spent was associated with older patient age, white race, better perceived health status, visits for well care, and visits with a greater proportion of the visit spent chatting. The physician's discussion of test results or findings from the physical examination was associated with greater satisfaction with time spent for visits longer than 15 minutes, but with less satisfaction with time spent for shorter visits.

CONCLUSIONS. Physicians can enhance patient satisfaction with the amount of time spent during an office visit by spending a small proportion of time chatting about nonmedical topics, and by allowing sufficient time for exchange with the patient if feedback is necessary.

KEY WORDS. Physician's practice characteristics; patient satisfaction; office visits; time management. *(J Fam Pract 1998; 46:133-137)*

With the recent growth of managed care organizations, physicians have been challenged to see more patients per office session while maintaining patient satisfaction. Recent reports show that physicians spend less time with each patient during the office visit.[1-3]

Previous research has found a correlation between the length of the outpatient visit and patient's overall satisfaction with their visit.[4,5] Patient satisfaction, in turn, has been shown to be positively associated with adherence to treatment plans,[6,7] better treatment outcomes,[8,9] and continued enrollment with a physician and health care organization.[10,11]

This study examined the complex relationship of patient visit characteristics and patient satisfaction with the length of their visit. First, we asked whether sociodemographic and visit characteristics influence patient satisfaction with the duration of the visit. Second, we examined whether there is a relationship between the actual duration of the visit and patient satisfaction, and, if so, whether that relationship holds after controlling for significant sociodemographic and visit characteristics. Finally, we used direct observation to evaluate how time spent during the visit affects patient satisfaction with the length of the visit.

METHODS

The study methods have been described in detail elsewhere.[12,13] Briefly, 138 family physicians in northeast Ohio participated in a study of the content of family practice from October 1994 to August 1995. Each physician was observed while providing outpatient care by a team of two research nurses on 2 separate days. Consecutive patients seen on observation days were informed about the study in the waiting room before meeting with their physician, and were enrolled if they gave verbal consent.

The research nurses collected data on the content and context of the office visit, using the following measures: (1) direct observation of the patient visit, using a checklist of services delivered and the Davis Observation Code

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(DOC); (2) a patient exit questionnaire; and (3) medical record review. The nurse observers used a modified version[13] of the DOC to note the occurrence or nonoccurrence of each of 20 different behavioral categories during every 15-second interval of each patient visit.[14] The actual length of each visit was calculated from the DOC by summing the number of time intervals. The DOC measured the percentage of each visit devoted to chatting, structuring the interaction, counseling, history-taking, eliciting family information, negotiation, assessing health knowledge, providing feedback on the results of the physician's evaluation (evaluation feedback), physical examination, responding to patient questions, assessing patient compliance, delivering preventive services, health education, health promotion, planning treatment, performing procedures, and discussing or advising about exercise, smoking behavior, nutrition, and substance use.[14]

Patient demographic information was collected from the direct observation checklist, the medical record review, and the patient exit questionnaire. The visit type, classified as well care, acute illness, or chronic illness, was assessed by the research nurse and recorded on the direct observation checklist. Patients' functional health status was measured by a 5-item index[15] modified from the 6-item general health survey.[16] The dependent variable in this analysis, satisfaction with time spent with the physician, was a single item taken from the Medical Outcomes Study (MOS) 9-item Visit Rating Scale.[17] Specifically, the question asked the patient, "In terms of your satisfaction, how would you rate the amount of time you spent with the person you saw?"

Analyses excluded patients younger than 18 years old, those without at least one prior visit to the observed physician, and those who did not complete the patient exit questionnaire. Patients without prior visits were excluded because of the difference in nature of a visit with a new patient and that of an established patient.[18] The univariate association of variables with satisfaction with time spent were analyzed using chi-square tests for categorical variables and analysis of variance for continuous variables. Variables found to be associated at the $P < .05$ level were included in multivariable regression analyses designed to examine the independent effects of different categories of variables on patient satisfaction with time spent. Three incremental regression models were examined. In the first regression analysis, patient and visit characteristics (other than visit duration) were analyzed. Next, the actual length of the visit was added. Finally, the DOC behaviors were added. Additional analyses were performed to explore the contribution of possible interaction effects. Interaction terms included: patient sex and patient age, patient sex and physician sex, visit type and length of visit, and DOC behaviors and length of visit.

RESULTS

The characteristics of the physician and patient samples have been described elsewhere.[12,13] The physician sample was demographically similar to the membership of the American Academy of Family Physicians, but it represents the recent trend in having more residency-trained and female physicians. Inclusion criteria for this inquiry were met by 2315 patients. Seventy-four percent of the enrolled patients completed an exit questionnaire. Nonresponders were similar to responders, but were slightly younger and more likely to be nonwhite.[13]

Overall, patients were satisfied with the amount of time spent with their physician, 80% rating their satisfaction as very good (31%) or excellent (49%). Only 20% rated their satisfaction as good (16%), fair (4%), or poor (1%). The mean satisfaction rating was 4.24 (where 1=poor, 5=excellent), with a standard deviation of 0.88.

Univariate relationships with the satisfaction measure

TABLE 1

Associations Among Patient, Physician, and Visit Characteristics and Satisfaction with Time Spent with the Physician (N=2315)

Variable	Satisfaction* Mean or *r*	*P*
Patient Characteristics		
Sex		
Male	4.25	NS
Female	4.23	
Race		
White	4.26	.013
Nonwhite	4.10	
Education Level		
High School Graduate or Less	4.22	NS
Greater than High School Graduate	4.25	
Age	0.101	<.001
Health Status	0.056	.008
Physician Characteristics		
Sex		
Male	4.25	NS
Female	4.32	
Age	0.006	NS
Visit Characteristics		
Visit Type		
Acute	4.20	.01
Chronic	4.26	
Well Care	4.41	
Other	4.21	
Visit Length	0.155	<.001

NS denotes not significant.

*Measured on a 5-point Likert scale, where 1 = poor, 5 = excellent.

are depicted in Table 1. Patients who were white, older, or healthier were more likely to be satisfied with the amount of time spent with their physician. Patient sex, patient education level, and physician demographics were not significantly associated with the satisfaction measure. The actual duration of the visit was strongly correlated with patient satisfaction. Visits for well care were more likely to be associated with greater satisfaction with time spent than visits for illness.

Only two of the twenty DOC behavior categories showed significant associations at the .003 level, the significance level adjusted for multiple comparisons. The first behavior, *chatting*, defined as "discussing topics not related to the current visit, small talk, or humor," was positively correlated with greater patient satisfaction ($P < .001$). *Evaluation feedback*, defined as "the physician tells the patient about results of history, examination, labs, etc.," exhibited a negative correlation ($P = .003$). Two additional behaviors, *planning treatment* ("the physician prescribes medication, diagnostic or treatment plan other than behavior change") and *nutrition* ("any questions or discussion about nutrition"), were significant at the .05 level, the preselected level for inclusion in the multivariable analysis.

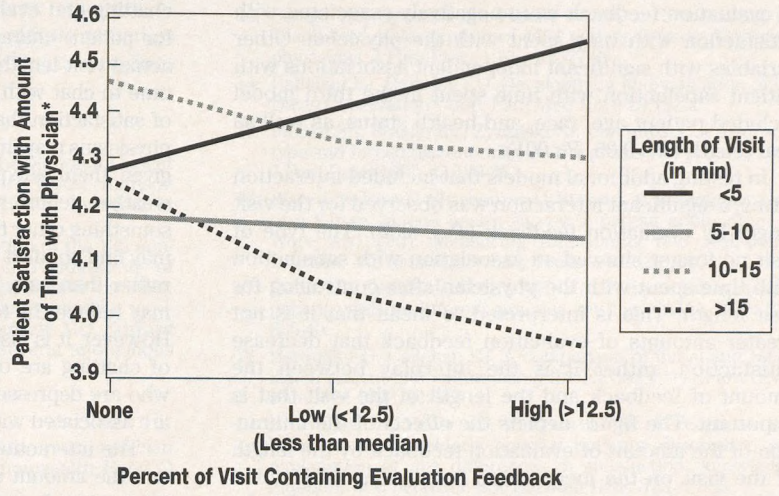
Regression analyses were undertaken to assess the significance of the relationship between patient characteristics, visit characteristics, time-use behaviors, and the patient's satisfaction with the amount of time spent with their physician. Three sequential multivariable models were examined, each building on the variables examined in the previous model. The first model included the patient characteristics that were univariately associated with satisfaction, as well as the type of the visit (R^2=0.02, P<.001). Patient age, health status, and visits for acute or chronic illnesses remained significantly associated with satisfaction in the first multivariable model.

The second model included the variables from the first model, as well as visit length. Visit length added significant predictive information to the model (incremental R^2=0.02, P<.001). The type of visit was no longer associated with satisfaction with time spent with the physician once visit length was entered into the model. Patient age, race, and health status were significantly associated.

Finally, the third model included the behaviors from the DOC that were univariately associated with satisfaction, specifically chatting, feedback on evaluation results, planning treatment, and advice on diet. Table 2 shows the results of the third multivariable regression model. Chatting and feedback on evaluation results were

FIGURE

The interaction between the time spent on evaluation feedback and the actual length of the office visit, and its effect on patient satisfaction with the time spent with their physician.



*Measured on a 5-point Likert-type scale, where 1=poor and 5=excellent.

TABLE 2

Multivariable Regression of Satisfaction with Time Spent with the Physician on Patient and Visit Characteristics and DOC Behaviors (n=2303)*

Variable	b	Beta	P
Patient characteristics			
Age	0.00	0.09	<0.001
Race	0.14	0.05	.025
Health status	0.09	0.08	<0.001
Visit characteristics			
Acute visit	0.03	0.01	NS
Chronic visit	-0.00	-0.00	NS
Other visit	-0.03	-0.00	NS
Visit length	0.02	0.15	<0.001
Time-use behaviors			
Chatting	0.56	0.06	.003
Feedback on evaluation results	-0.45	-0.05	.017
Planning treatment	-0.03	-0.00	NS
Advice on diet	0.72	0.04	NS

DOC denotes Davis Observation Code.
* Subjects without Davis Observation Code data were excluded from all multivariable regression analyses.

significantly associated with satisfaction with time spent with the physician in the multivariable model (P=.003 and P=.017, respectively). Time spent chatting was positively associated with satisfaction while greater amounts of evaluation feedback were negatively associated with satisfaction with time spent with the physician. Other variables with significant independent associations with patient satisfaction with time spent in the third model included patient age, race, and health status, as well as visit length (R^2=0.05, P<.001).

In testing additional models that included interaction terms, a significant interaction was observed for the visit length by evaluation feedback (P < .005). The type of visit no longer showed an association with satisfaction with time spent with the physician after controlling for visit length. This is interpreted to mean that it is not greater amounts of evaluation feedback that decrease satisfaction, rather it is the interplay between the amount of feedback and the length of the visit that is important. The figure depicts the effects of the interaction of the amount of evaluation feedback by the length of the visit on the mean score for patient satisfaction with the length of the visit. The satisfaction score for visits of less than 5 minutes dropped as the percentage of the visit devoted to evaluation feedback increased, while visits longer than 15 minutes showed the opposite trend. Thus, evaluation feedback was associated with decreased patient satisfaction with time spent with the physician during shorter visits, but greater satisfaction with time spent during longer visits.

DISCUSSION

This study used unique direct observation measures and patients' self-reports of satisfaction to examine patient satisfaction with the duration of the visit. Many of the hypotheses generated from the literature on global visit satisfaction were confirmed to be important for patient satisfaction with the length of the visit as well. For example, older patients were more satisfied with the amount of time they spent with their physician. This coincides with findings on studies of global satisfaction[19,20] and indicates that older patients may be more appreciative of time spent or may be more accepting of the time constraints faced by physicians. Our results also confirm previous general satisfaction study findings that patients with poorer perceived health status were less satisfied with the amount of time they spent with their physician,[21-24] as were nonwhite patients.[23,25]

The actual visit length demonstrated the strongest association with satisfaction with time spent. This intuitive finding serves as added validation of the outcome variable; ie, the longer the visit, the more patients are satisfied with the time spent with their physicians. The univariate association of greater satisfaction with time spent for well care visits was eliminated when controlling for visit length, indicating that it is the longer duration of well care visits that accounts for their greater satisfaction with time spent.

The physician behaviors associated with satisfaction with time spent were the percentage of the visit spent on chatting and evaluation feedback. Even after controlling for patient characteristics, reason for the visit, and the actual visit length, a visit in which the physician took the time to chat with the patient demonstrated a higher level of satisfaction than visits with little or no chatting. Thus, physicians may improve patients' sense that the doctor has given them adequate time by simply talking about the weather, telling a joke, or invoking conversation about something other than the health of the patient. The patient may find comfort in being communicated with as a person, rather than as a patient. In addition, even brief chatting may reduce the feeling of being rushed through the visit. However, it is also important to recognize that low levels of chatting are often characteristic of visits by patients who are depressed, and emotional distress or depression are associated with lower levels of patient satisfaction.[26,27]

The interaction between the actual length of the visit and the amount of time spent on evaluation feedback is interesting. In a short visit, the more time the physician spends discussing laboratory results, conclusions generated from the history, or the results of the physical examination, the less satisfied the patient seems to be with the length of the visit. One possible explanation for this phenomenon is that during very brief visits the physician may present such feedback too quickly and at a level that the patient does not understand, resulting in the patient feeling confused and dissatisfied. It is also possible that during very brief visits, spending a lot of time delivering feedback diminishes the amount of time spent on other issues perceived by patients as more important. However, when the visit length is longer, increased amounts of feedback enhance patient satisfaction with the visit. During these visits there is more time for comprehensible explanation, and providing this feedback on the results of the examination seems to enhance satisfaction with the amount of time spent with the physician.

CONCLUSIONS

While there is much literature concerning overall patient satisfaction, with which the length of the visit is often associated, no previous studies have specifically focused on patient satisfaction with the amount of time they spend with their physician. This study provides evidence that many factors associated with overall patient satisfaction are also associated with satisfaction with the visit length, and that there are specific physician behaviors that enhance or detract from such satisfaction.

The results show that it is within the physician's power to affect patients' satisfaction with the length of the visit. This can be accomplished not only by keeping the patients in the examination room longer, but by

spending a small amount of time chatting with patients to demonstrate caring for them as human beings, as well as patients. In addition, longer visits appear to be warranted for encounters that contain large amounts of feedback to the patient. These may be simple remedies for the common patient complaint that "my doctor does not spend enough time with me."

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REFERENCES

1. Collins KS, Schoen C, Sandman DR. Survey of physician experiences with managed care. Commonwealth Fund Q 1996; 2:1-2.
2. Deckard GJ. Physician responses to a managed care environment: a perceptual paradox. Health Care Manage Rev 1995; 20:40-6.
3. Baker LC, Cantor JC. Physician satisfaction under managed care. Health Affairs 1988; (suppl) 258-70.
4. Morrel DC, Evans ME, Morris RW, Roland MO. The 'five minute' consultation: effect of time constraint on clinical content and patient satisfaction. BMJ 1986; 292:870-5.
5. Hughes D. Consultation length and outcome in two groups of general practices. J R Coll Gen Pract 1983; 33:143-7.
6. Lochman JE. Factors related to patient satisfaction with their medical care. J Community Health 1983; 9:91-109.
7. Linn MW, Linn BS, Stein SR. Satisfaction with ambulatory care and compliance in older patients. Med Care 1982; 20:606-14.
8. Hall JA, Dornan MC. Meta-analysis of satisfaction with medical care: description of research design and analysis of overall satisfaction levels. Soc Sci Med 1988; 27:637-44.
9. Kaplan SH, Greenfield S, Ware JE. Assessing the effects of physician-patient interactions on the outcomes of chronic disease. Med Care 1989; 27:S110-27.
10. Marquis MS, Davies AR, Ware JE. Patient satisfaction and change in medical care provider: a longitudinal study. Med Care 1983; 21:821-9.
11. Robbins JA, Bertakis KD, Helms LJ, Azari R, Callahan EJ, Creten DA. The influence of physician practice behaviors on patient satisfaction. Fam Med 1993; 25:17-20.
12. Stange KC, Zyzanski SJ, Smith T, et al. How valid are medical records and patient questionnaires for physician profiling and health services research? A comparison with direct observation of patient visits. Med Care 1998. In press.
13. Stange KC, Zyzanski SJ, Flocke SA, et al. Illuminating the 'black box': a description of 4454 patient visits to 138 family physicians. J Fam Pract 1998; 46:377-89.
14. Callahan EJ, Bertakis KD. Development and validation of the Davis Observation Code. Fam Med 1991; 23:19-24.
15. Flocke SA, Stange KC, Zyzanski SJ. The impact of insurance type and forced discontinuity on the delivery of primary care. J Fam Pract 1997; 45:129-35.
16. Ware J, Nelson E, Sherbourns C, Stewart A. Preliminary tests of a 6-item general health survey: a patient application. In: Ware ASJ (ed). Measuring functioning and well-being. Durham, NC: Duke University Press, 1992: 291-307.
17. Rubin HR, Gandek B, Rofers WH, et al. Patient's ratings of outpatient visits in different practice settings. JAMA 1993; 270: 835-40.
18. Bertakis KD, Callahan EJ. A comparison of initial and established patient encounters using the Davis Observation Code. Fam Med 1992; 24:307-11.
19. Breemhaar B, Visser AP, Kleijnen JGVM. Perceptions and behavior among elderly hospital patients: description and explanation of age differences in satisfaction, knowledge, emotions and behavior. Soc Sci Med 1990; 31:1377-85.
20. Comstock LM, Hooper EM, Goodwin JM, Goodwin JS. Physician behaviors that correlate with patient satisfaction. J Med Educ 1982; 57:105-112.
21. Joos SK, Hickman DH, Borders LM. Patients' desires and satisfaction in general medicine clinics. Public Health Rep 1993; 108:751-9.
22. Zapka JG, Palmer RH, Hargraves JL, Nerenz D, Frazier HS, Warner CK. Relationships of patient satisfaction with experience of system performance and health status. J Ambul Care Manage 1995; 18:73-83.
23. Zastowny TR, Roghman KJ, Hengst A. Satisfaction with medical care: replications and theoretic reevaluation. Med Care 1983; 21:294-322.
24. Hulka BS, Kupper LL, Daly MB, Cassel JC, Schoen F. Correlates of satisfaction and dissatisfaction with medical care: a community perspective. Med Care 1975; 13:648-58.
25. Kaplan SH, Ware JE. The patient's role in health care and quality assessment. In: Goldfield N, Nash DB, eds. Providing quality of care: the challenge to clinicians. Philadelphia, Pa: American College of Physicians; 1989:25-69.
26. Callahan EJ, Bertakis KD, Azari R, Robbins JA, Helms LJ, Miller J. The influence of depression on the physician-patient interaction in primary care. Fam Med 1996; 28:346-51.
27. Callahan EJ, Jaén CR, Crabtree BF, Zyzanski SJ, Goodwin MA, Stange KC. The impact of recent emotional distress and diagnosis of depression or anxiety on the physician-patient encounter in family practice. J Fam Pract 1998; 46:410-18.