Comparison of Primary Care Resident Physicians' Practice Styles During Initial and Return Patient Visits

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New adult patients ($n = 212$) were randomly assigned to 58 primary care resident physicians. Physician practice styles during initial and return visits were analyzed using the Davis Observation Code. Compared with initial patient visits, return visits were shorter, but more work-intensive. Return visits displayed significantly less technically oriented behavior (including history taking, physical examination, and treatment planning) and fewer discussions regarding use of addictive substances; however, there was more emphasis on health behaviors and active involvement of patients in their own care. These physicians' practice style differences between initial and return patient visits suggest that physician-patient familiarity affects what happens during the medical interview.

KEY WORDS: physician practice style; physician-patient relationship; interactional analysis.

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Understanding factors that affect the process of medical care delivery is an important focus for health services research. Although it has been demonstrated that physician-patient familiarity can influence the medical encounter and its outcomes, there is no consistent body of literature examining the impact of the number of previous medical encounters with a patient on the practice style of primary care physicians. Few studies have been sensitive to the type of visit studied (initial vs return).^{1,2} A review of recent papers examining physician-patient interaction revealed that more than half failed to identify the type of patient visit studied or reported mixed data from both initial and return visits.³⁻¹⁴

Preliminary evidence has been found for differences in physician practice style in initial compared with subsequent patient visits.¹ The purpose of the present study is to further explore primary care physician practice styles as the physician-patient relationship evolves. Increased familiarity with the same patient over time is expected to impact the physician-patient interaction so that established

patient visits will be shorter and display less technically oriented behavior, including history taking, physical examination, or treatment planning. Return visits are also expected to be more focused on health behavior issues.

The data presented here are derived from a larger study designed to explore the impact of primary care physicians' practice styles on patient outcomes and utilization of medical care resources.^{15,16}

METHODS

Between the years 1990 and 1993, nonpregnant adults were randomly assigned to resident physicians in either the Family Practice Clinic or General Medicine Clinic at a university medical center. Five-hundred-and-nine patients came to their scheduled initial appointment, providing consent in compliance with protocols from the institutional human subjects review committee. After the initial appointment, 297 patients did not return during the 1-year study period or did not see the initial provider again in subsequent visits. The 212 patients included in the study each had an initial and at least one return visit. Study patients returned for a median of 4 additional visits after their initial appointment. Study protocols called for physician-patient encounters to be videotaped at specific intervals during the year in order to examine the relationship as it evolved. The first visit was videotaped for all 212 patients. The next patient visit occurring after 4 months, and the first visit occurring after 8 months of care during the year, were also videotaped. This methodology resulted in 41% of the total number of return visits being videotaped. Some patients were seen at other times, with those encounters not videotaped because the visits did not take place at the scheduled intervals. Physicians were free to schedule visits at any time; initial and return visits were scheduled for 40 and 20 minutes, respectively.

Only senior resident physicians (second and third year) were included in order to evaluate physicians with established practice skills and patterns, rather than beginning clinicians. Sixteen family practice and 42 internal medicine residents were enrolled, with each seeing an average of 1.83 study patients (range, 1-9 patients). Residents provided general consent to videotape and were unaware which visits were being recorded.

Physician practice styles were analyzed by coding the videotapes of the physician-patient encounters using the Davis Observation Code (DOC).¹⁷ This reliable and valid interactional analysis system has been used to detect physician practice style differences in a variety of previous studies.^{1,17-20} Observers recorded the occurrence or non-occurrence of each of 20 clinically significant behaviors

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during successive 15-second observation intervals of the medical encounter. For the initial visit, the number of intervals during which each coded behavior was observed was expressed as a percentage of the total of all coded behaviors noted during that visit. After the initial encounter, each of the 20 DOC codes was calculated across all return visits for every patient and then was represented as the percentage of total observed codes during those return visits. Approximately 20% of the videotapes were coded by a second observer, with a stratified κ coefficient of agreement of 91.6%. Six clusters of physician practice behaviors have been identified to characterize practice style based on an evaluation of the clinical and statistical relation among the 20 DOC codes (Table 1).¹⁵ Student's *t* test analysis was used to compare initial and return visit practice styles.

RESULTS

The study population was 36.3% male and 63.7% female. Its ethnic distribution was 69.3% white and 30.7% nonwhite (including 17.0% African American, 7.6% His-

panic, 2.3% Asian, and 3.8% Native American). Mean age was 45.2 years, and median education was 12 years.

The mean length of return medical encounters (20.10 minutes) was significantly shorter than that of initial visits (38.32 minutes), $p = .0001$. In addition, the number of individual DOC codes per 15-second interval was analyzed to determine if, despite the shorter length of time, the visits of established patients were more work-intensive. New visits averaged 1.71 codes per interval, while return medical encounters averaged 1.84 codes per interval, a difference that is statistically significant ($p = .0001$).

A comparison of practice styles during initial versus return visits is shown in Table 2. Return patient medical encounters were characterized by significantly fewer technically oriented physician behaviors and significantly fewer discussions regarding the use or abuse of alcohol, tobacco, or other addictive substances. Compared with initial visits, physician practice style during return visits displayed a greater emphasis on health behavior issues and stressed the active involvement of patients in their own medical care. Initial and return visits did not differ significantly in time spent on preventive services or counseling.

Table 1. Six Clusters of Physician Practice Behaviors and the Davis Observation Codes Included in Each Cluster

Codes in Each Cluster	Abbreviated Definitions of Codes
Technical cluster	
Structuring interaction	Discussed what is to be accomplished in current interactions
History taking	Physician inquiring about or patient describing details related to the current chief complaint or to prior illness
Family information	Discussing family medical or social history, and/or current family functioning
Physical examination	Any aspect of physical examination of patient
Evaluation feedback	Physician telling patient about results of history, physical, lab work, etc.
Planning treatment	Physician prescribing a medication, diagnostic, or treatment plan
Treatment effects	Physician inquiring about or patient describing result of ongoing therapeutic intervention
Procedure	Any treatment or diagnostic procedure done in office
Health behavior cluster	
Compliance	Discussing previously requested behavior
Health education	Physician presenting information regarding health to patient
Health promotion	Physician asking for change in patient's behavior in order to increase or promote health
Nutrition	Any question or discussion about nutrition
Exercise	Any question or discussion about exercise
Addiction cluster	
Substance use	Any question or discussion of drinking alcohol or use of other substances
Smoking behavior	Any question about or discussion of smoking or other use of tobacco
Patient activation cluster	
Health knowledge	Physician asking or patient spontaneously offering what patient knows or believes about health and disease
Patient question	Patient asking question
Chatting	Discussion of topics not related to current visit
Preventive service cluster	
Preventive service	Physician discussing, planning, or performing any screening task associated with disease prevention
Counseling cluster	
Counseling	Physician discussing interpersonal relations or current emotional state of patient or patient's family

Table 2. Comparison of Mean Practice Style Between Initial and Return Visits with Established Patients (n = 212)

Physician Behavior Cluster	Mean Percentage (SD) of Coded Activity*		Mean Difference	p Values
	During Initial Visit	During Return Visit		
Technical	70.00 (8.74)	61.84 (10.86)	−8.16 (11.41)	.0001
Health behavior	14.25 (6.70)	22.02 (9.35)	7.77 (10.52)	.0001
Addiction	3.05 (2.64)	2.01 (3.12)	−1.04 (2.72)	.0001
Patient activation	7.52 (4.48)	8.44 (4.73)	0.92 (5.23)	.0110
Preventive service	4.08 (3.31)	4.15 (4.42)	0.07 (5.34)	.8555
Counseling	1.08 (2.89)	1.52 (3.71)	0.44 (4.48)	.1510

*Coded according to the Davis Observation Code.

DISCUSSION

The present study demonstrated differences in resident physician practice styles in new compared with return medical encounters in which the patient saw the same primary care physician over the course of the study. Medical visits were shorter and more time-efficient for established patients, with more coded behaviors per time interval. Return visits were less focused on medical and social history taking, physical examination, and treatment planning. There was also less need for the physician to explain how the interaction would be structured. Moreover, during return visits, discussions concerning therapy centered less on evaluation feedback and planning treatment and more on compliance.

During return visits, residents emphasized long-term goals such as health promotion and education and addressed the patient's nutrition and exercise. Interpersonal dynamics also changed, with the patient taking a more active role.¹⁵

Despite growing evidence for significant differences between initial and return visits, there have been only sporadic attempts to consider how the number of previous visits impacts the medical interaction.^{1,2,21} This research has demonstrated the influence of physician-patient familiarity on such variables as patients' recall of medication regimens and utilization of health care services.^{2,21} These findings suggest that failure to distinguish between initial and follow-up visits may limit the conclusions one can reach about some health care interventions.^{11,12} For example, the effect of using previsit questionnaires to identify patient concerns and to influence the medical encounter and subsequent patient satisfaction may be difficult to assess without distinguishing whether the patients studied are seeing the physician for the first time or are established patients who may have already addressed similar issues with their physicians.¹¹ Likewise, the impact of educational interventions, such as training physicians in specific communication skills, is unclear if physician-patient familiarity and the number of previous visits are not controlled.¹²

Our study has a number of limitations that impact the generalizability of its results. The primary care physicians participating were senior residents in their second

or third year of training. Physicians in community practice may interact differently with their patients. In addition, only 212 of the 509 patients returned for care over the 1-year study period and received their care from the same provider as in the initial appointment. These patients may or may not be comparable to those patients not returning for care or not seeing the same provider in subsequent appointments. Finally, it was not within the scope of this article to relate patient health or satisfaction outcomes to physician behavior. In previous work, we found that a practice style emphasizing counseling was predictive of improved patient health status, and improved patient satisfaction was predicted by a style of care stressing patient activation.¹⁵ The focus here was to compare what takes place in initial versus return patient visits.

In conclusion, there are significant physician practice style differences among resident physicians in initial patient visits compared with the patients' subsequent return visits. Because interactions with new versus established patients differ considerably, future studies should distinguish the type of visit studied and explore how the length of the physician-patient relationship affects both the process and outcomes of medical care.

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