Patients' Perspectives on the Quality of Medical Care

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Murray's[1] article on patients' satisfaction with care under prepaid and fee-for-service arrangements in this issue exemplifies the increasing attention being given to patients' perspectives regarding quality of care. There are good reasons to go to the patient when evaluating the quality of system performance: patients can provide information about access to care and the interpersonal style of providers not available from any other source. Although less is known about the validity of their judgments of quality in relation to the actual technical process, strong evidence exists that patients' judgments about technical quality influence enrollment, disenrollment, and doctor-shopping decisions, among other behaviors.[2] Thus, as much as anything else, the success of competing systems of care will be affected by patients' perspectives regarding the quality of care delivered.

Murray sampled families of university employees who had chosen either a prepaid or fee-for-service plan. Both options covered comprehensive benefits; the fee-for-service plan required payment of a monthly premium and a $100 deductible (after which care was free), while the prepaid plan was free. Patients in both plans used the same providers, whose incentives to control costs differed across the two plans.

Murray examined patients' satisfaction with access to care, availability of resources, continuity, finances, humaneness (or interpersonal aspects), and technical quality as well as overall satisfaction two years after the prepaid plan began. Patients who had chosen the prepayment plan rated the technical quality of their care less favorably and were less satisfied with their care in general than those who chose the fee-for-service plan. Satisfaction of the two groups did not differ significantly for the other five features of care rated.

Murray's finding with regard to patients' perceptions of technical quality is generally consistent with findings reported to date.[3–8] These findings, however, have been difficult to interpret because conclusions have been based on comparisons between different providers treating patients in different settings under different financial arrangements.[4,9] Unlike previous studies, the same providers treated all patients in Murray's study. Thus observed differences cannot be explained by differences in provider populations or institutional settings; instead, differences in financial incentives to providers appear to account for the differences in technical quality perceived by the patients.

It is not surprising that Murray found differences between plans in overall satisfaction along with those for technical quality. Physician conduct, including technical and interpersonal aspects of practice style, is given greatest weight by patients when rating their overall satisfaction.[10]

The access concept includes such features of care as appointment waits and office waits, queuing mechanisms that are known to vary across prepaid and fee-for-service delivery settings[2,9–12] and to produce significant differences in patients' ratings across prepaid and fee-for-service groups.[4,6–8] Unlike past studies, however, the institutional setting was the same for both groups in Murray's study, which may account for the absence of differences in ratings of access to care. Another explanation, which was not considered, is that the aggregate access scale on which Murray relied masked offsetting differences in ratings of different aspects of access across plans. Analysis and interpretation of separate access ratings should be done before relying on an aggregate score.

On the strength of accumulating evidence linking differences in patients' ratings of quality of care to the care actually provided,[2] practice styles probably varied across the prepaid and fee-for-service plans studied. Except for comments regarding less frequent use of ancillary services for hypertensive patients under prepaid than fee-for-service arrangements, Murray's report leaves the reader with no clues as to whether prepayment compromised either accepted standards of diagnosis and treatment or health outcomes. Without such information and without data on the costs of care under the two plans, there is no basis for

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judging whether any compromises in quality might be worth any cost savings realized.

Given the growing number of providers who practice with both prepaid and fee-for-service compensation, there will be many opportunities to replicate and extend Murray's study. To date, the success of competing systems of care has too often been equated solely with their success in controlling costs. The acceptability of these systems to patients, as studied herein, must be considered along with the health benefits they produce and their acceptability to providers. We urge providers to take advantage of opportunities to participate in such studies.

Acknowledgment

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FACULTY AND RESIDENT PRACTICE PATTERNS

To the Editor:

We read with interest the article by Zweig and Williamson in the November issue of The Journal (*Zweig S, Williamson HA Jr: Adverse effects of faculty practice on diagnostic content of residents' outpatient experience. J Fam Pract 1987; 25:491–496*). Although we agree with the authors that investigation of the impact of faculty practice upon the content of residents' experience is important, we have some concerns regarding the manner in which the practices were compared and with some of the conclusions drawn from the study.

As noted by the authors, much more than simply the presence of practicing faculty distinguished the two practices from one another. The Fulton practice had been in existence for nine years prior to the initiation of the study. The Fayette practice, by contrast, was only two years old, with residents working in the practice for only one year. The extremely young nature of the Fayette practice may account for a number of theoretical reasons for the difference in numbers of chronic patients.

Not being accustomed to a new practice, did patients with chronic diseases seek out the more mature physicians? Being concerned about building the new practice, did faculty members spend additional time and attention with chronic disease patients, thereby inadvertently attracting those patients into the faculty member's practice?

If either of these possibilities were true, it does not necessarily ensure that the difference in resident-faculty practice patterns will remain static. One cannot help but wonder whether a similar study done at the Fulton site from 1975 to 1977 (one year after that practice had started) would have shown fewer chronic patient visits per resident than either the faculty or residents experienced at the Fayette site? Would a study at the Fayette site from 1991 to 1993 show even better numbers with respect to chronic disease visits than are currently found at the Fulton site?

Second, we are concerned that the data regarding the mean number of visits per resident may have been affected by the size of the county populations from which each practice drew its patients. Could the much smaller population of Howard County—where the Fayette practice is located—be partially responsible for the decreased numbers of patient visits? In the absence of data regarding other physicians in the area, one might wonder whether the Fulton practice—drawn from a county three and one-half times larger than Howard County—might be expected to generate greater total visits based upon population differences alone.

Listed in Table 1 are the resident practice comparisons that were provided in the article. Utilizing the population data also provided in the article, we have reevaluated the number of patients per resident on the basis of patient visits per 10,000 population.

If both the Fayette and Fulton communities are underserved, then the Fulton residents' apparent advantage in seeing chronic disease patients may be as much due to a markedly larger pool of chronic diseased patients to draw from as it is due to an absence of faculty practitioners. If this is true, one wonders whether the presence of a part-time faculty practice in Fulton would have had very little impact on the number of visits per resident, since faculty practitioners would also be drawing from a larger chronic disease patient pool.

Assuming, for the moment, that the differences between the faculty chronic disease mix and the resident chronic disease mix at Fayette are the result of faculty presence within the practice, and not practice age or location, we would agree that many of the explanations offered by the authors are quite plausible; however, one additional important explanation that is not mentioned is the possibility of differences in scheduled follow-up visits between practicing faculty and residents.

The experience in our own residency program has indicated that resident physicians tend to schedule follow-up appointments for patients with a given chronic disease less frequently than practicing faculty members. Residents have expressed feelings that frequent follow-up of patients whose chronic diseases are

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TABLE 1. COMPARISON OF FAYETTE AND FULTON RESIDENT PRACTICE OUTPATIENT EXPERIENCES BY DIFFERENT PATIENTS AND BY VISITS

	Mean Number per Resident per Year		Mean Number per Resident per Year per 10,000 Population	
	Fayette	Fulton	Fayette	Fulton
Different patients with the following chronic diseases				
Arthritis	9.3	9.9	9.51	3.02
Asthma/COPD	3.9	4.7	3.98	1.43
Diabetes	2.2	5.6	2.25	1.71
Heart disease	4.1	6.3	4.19	.92
Hypertension	10.1	15.1	10.33	4.61
Total	26.8	32.4	27.4	9.88
Visits made by patients with the following chronic diseases				
Arthritis	11.3	17.5	11.55	5.34
Asthma/COPD	4.7	8.7	4.81	2.65
Diabetes	3.4	14.0	3.48	4.27
Heart disease	6.8	14.3	6.95	4.36
Hypertension	17.3	29.3	17.69	8.94
Total	41.0	68.6	41.92	20.92

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well controlled and relatively asymptomatic may be exploiting such patients, as opposed to faculty opinion, which holds that frequent follow-up visits serve as an effective prophylaxis against acute flare-ups of the chronic disease.

If such differences in follow-up exist between faculty and resident practice patterns in the Fayette practice, it is possible that the chronic disease patients who are managed by the residents require more acute visits than those patients managed by faculty members. Because of the additional time spent at the practice location, faculty members would have a higher probability of seeing residents' patients in an acute situation and risk having the patient select (against the urging of the faculty member) the faculty member for follow-up again. Data regarding the scheduling of follow-up appointments for patients with chronic diseases in the Fulton practice, Fayette faculty practice, and Fayette resident practice would be useful in seeking to explain the differences in practice patterns found by the authors.

Finally, we are unable to agree with the authors that the difference in percentage of pregnancy-related care provided by the Fayette and Fulton resident practices (10 percent vs 12 percent, respectively) constitutes a true qualitative difference in educational experience.

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The preceding letter was referred to Drs. Zweig and Williamson, Jr, who respond as follows:

We appreciate the letter from Drs. Frey and Milligan regarding our recent article in The Journal. The explanations they offer for differences in the faculty and residents' experience at the faculty-associated practice in Fayette were certainly plausible and are mentioned in the Discussion section of our paper.

The newness of the practice may indeed be important in explaining some of these differences, but this fact does not detract from the educational significance of our conclusions. With regard to the Fulton residents' apparent advantage in seeing chronic disease patients due to a "markedly larger pool of chronic disease patients," one need only to inspect Figure 4 and calculate that there were 3,244 chronic disease encounters recorded in Fayette (or 18 percent of the total encounters), compared with 2,051 (or 15 percent of the total encounters), in Fulton. Thus, the residents in Fayette actually had a greater opportunity to see patients for chronic disease care than did the Fulton residents.

The point regarding the difference in faculty and resident tendencies to schedule follow-up appointments for chronic disease patients is an interesting one that was not addressed in this study. We were concerned primarily with comparing the two resident practices, and there was no reason to believe residents in the same program would schedule patients for follow-up differently.

We agree with Drs. Frey and Milligan that there is significant risk of residents' patients selecting a faculty member for follow-up after discovering that that faculty member may be more accessible. Unfortunately, this points to another one of the adverse effects of faculty practice on the residents' outpatient experience. We hope that increased awareness of this potential problem will help resolve some of the deficits noted in our own program and will cause others to attend to the risks we described as well.

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SCREENING FLEXIBLE SIGMOIDOSCOPY

To the Editor:

I wish to compliment Dr. Frame for his contribution to the recent article, "Screening Flexible Sigmoi-

doscopy: Is it Worthwhile? An Opposing View,"[1] in which he argues that it is premature to recommend that all family physicians offer screening sigmoidoscopy to all patients aged 50 years and over. I agree with him that there is a paucity of data to support such a recommendation. I also agree with him wholeheartedly that those family physicians who have the interest should not only be doing sigmoidoscopic screening but should also be analyzing their results critically.

I do, however, have two specific points of disagreement with his article. First, much has been made of the large study of rigid sigmoidoscopic examinations by Gilbertsen[2] in which he found an 85 percent reduction in rectal cancer from the expected rate. I agree that this study is weakened by the lack of a true control group and by the possibility that the results were biased by the "volunteer effect." Frame, however, incorrectly states that "no mention of overall cancer mortality including lesions originating in the proximal bowel" was made.

In the article cited, Gilbertsen states: "In particular, cancers of other sites have been observed to develop at very nearly the anticipated frequency in our study patients. Especially pertinent is that this has been the case with the higher-lying intestinal cancers, those beyond the reach of the proctosigmoidoscope; although some improvement in outlook for survival has occurred in our patients with such cancers, the anticipated frequency of appearance of the higher-lying colon cancers continues to be observed." Unfortunately, no numerical data are provided to substantiate this statement.

Pertinent to the discussion of feasibility, Frame suggests that the workload imposed on family physicians who performed sigmoidoscopic screening would "require reorienting the priorities and direction of their practice." In support of this contention he calculates that a physician with 1,000 patients over the age of 50 years "who works 200 days per year would have to do five sigmoidoscopies every working day to initially screen the population and then two examinations daily just for subsequent screening."

The first part of this calculation is accurate only if one intended to screen the entire 1,000 patients in one year. It is more likely that a physician would "amortize" the screening and stretch it out over several years. I calculate that, if the screening were introduced over five years (which is a reasonable screening interval in my opinion), the physician would need to do one sigmoidoscopic screening examination daily.

My personal experience has been that a single sigmoidoscopic screening examination in the morning at the beginning of office hours has not interfered with the usual daily routine. I do not understand the second part of Dr. Frame's calculation in which he states that two examinations daily will be required. If he screens all his eligible patients in the first year, then no screening will need be done for three to five years, except for that cohort of 49-year-olds who become 50 years old each year.

If the 2,000 patients in his hypothetical practice are evenly distributed from age 1 to 49, then only 40 patients will become newly eligible each year (and presumably 40 elderly patients will die, assuming a steady state). My own calculation is that a single daily sigmoidoscopic screening examination will be required in the long run. I believe this is an attainable goal for a motivated physician, and it need not interfere with office routine.

As Dr. Frame so clearly points out, we have a long way to go before we will know everything we should know about the efficacy of sigmoidoscopic screening. I am more sanguine than he, however, in regard to the issue of feasibility. A cooperative, multi-site primary care study of feasibility and comparison of outcome between practitioners and nonpractitioners of sigmoidoscopic screening may be the closest we can get to a controlled trial in the near future, and would be welcomed.

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2. Gilbertsen VA: Proctosigmoidoscopy and polypectomy in reducing the incidence of rectal cancer. Cancer 1974; 34:936–939

BULEMIA IN FAMILY PRACTICE

To the Editor:

In Table 2 in the article by Zinkand et al *(Zinkand H, Cadoret RJ, Widmer RB: Incidence and detection of bulemia in a family practice population. J Fam Pract 1984; 4:555–560)* there are no percentages given for responses to question 32 (take laxatives) and very low percentages for question 33 (avoid foods with sugar in them), which suggests that the percentages for question 32 were displaced down a line and those for question 33 were omitted.

Given the large differences between men and women in eating attitudes and behavior,[1] it is a pity that Table 2 did not separate out results for men and women, or even present results for women only, as it is otherwise difficult to make any comparisons with results from other studies.

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Reference

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The preceding letter was forwarded to Heidi Zinkand, who responds as follows:

In response to the Letter to the Editor from Dr. J. Elisabeth Wells with regard to the article "Incidence and Detection of Bulimia in a Family Practice Population" by Drs. Cadoret and Widmer and myself:

Thank you for pointing out this error in Table 2. The percentages for response to question 32 were indeed displaced down a line and are found

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behind question 33. The percentages for question 33 should read: controls 57.5%, and positives 68.6%. Table 2 did not separate results for men and women because of the small sample size of the men in the positive group (n = 4). Presenting results for women only would also have been an appropriate option.

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FLUORIDE SUPPLEMENTATION

To the Editor:

The recent article in The Journal regarding fluoride supplementation *(Rigilano JC, Friedler EM, Ehemann LJ: Fluoride prescribing patterns among primary care physicians. J Fam Pract 1985; 21:381–385)* indicated the need for a major journal to address prescribing of this nutrient. However, several additional points seem worthy of discussion, particularly regarding the conclusion that "fluoride supplements for breast-feeding infants are correctly prescribed by 80 percent of pediatricians and 54 percent of family physicians."

First, "correct" prescribing is defined more narrowly by the authors than by the American Academy of Pediatrics (AAP). Hence, family physicians may have prescribed fluoride within guidelines acceptable to the AAP, and yet be labeled as prescribing "incorrectly."

Regarding fluoride supplementation, the AAP acknowledges "the frequency of caries was identical in a study comparing infants who were breast-fed to those who were fed powdered cow's milk formula diluted with naturally fluoridated water. Other studies in naturally fluoridated communities also suggest that, after weaning, the fluoride obtained from an optimally fluoridated water supply is sufficient to decrease the prevalence of caries in permanent teeth." The issue of when to begin supplementation "is not of paramount importance when breast feeding is only maintained for a few months; however, with more than 6 months of exclusive breast feeding, fluoride administration seems advisable."[1] "Incorrect" prescribing, therefore, should be failure to provide fluoride supplementation at 6 months of age for an exclusively breast-fed child. As noted in the article, ready-to-feed formulas are also low in fluoride (about 0.1 mg/L), and it could be argued convincingly that infants exclusively receiving these products should receive fluoride supplementation. However, the AAP Committee on Nutrition recommends "initiating fluoride supplementation according to the fluoride content of the drinking water in formula-fed infants."[1]

Second, as a former Air Force family physician, I am aware that some family physicians in the military do not practice family practice. Instead, they may perform functions such as staffing "sick call" clinics and emergency rooms, where they have no responsibility for preventive health care, even though they treat children in these settings. It appears the authors assessed whether the physicians surveyed provided care to children, but not whether the physicians participated in well-child or preventive health care.

Further it seems premature to recommend fluoride supplementation in pregnancy based on current knowledge. Confirmation of therapeutic efficacy, as well as sufficient evidence of safety, should be demanded prior to institution of any therapy.

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Reference

1. Nutrition in oral health. In Pediatric Nutrition Handbook. Elk Grove Village, Ill; American Academy of Pediatrics, 1985, pp 165–174

The preceding letter was referred to Dr. Rigilano, who responds as follows:

We appreciate Dr. Fox's interest in our article regarding fluoride supplementation.

We do consider that "correct" flu-

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