Comprehensive Geriatric Assessment Recommendations: Adherence of Family Practice Residents

Richard L. Reed, MD, MPH, Evan W. Kligman, MD, and Barry D. Weiss, MD
Tucson, Arizona

A study was performed to determine whether family practice residents followed recommendations made by a comprehensive geriatric assessment clinic. Of 109 consecutive consultations, 27 patients had follow-up visits with family practice residents who participated in the assessment and who subsequently served as their primary care physicians. Adherence of residents to 437 clinic recommendations was monitored for 90 days by medical record review.

Although recommendations to begin or increase a medication were followed 85.4% of the time, residents followed recommendations to stop or decrease medications less than 65% of the time. Recommendations to order a specific laboratory test or x-ray examination were acted on 70.3% of the time. Preventive recommendations were followed only 54.3% of the time.

Residents' adherence to team-based care plans varied widely by type of recommendation. Special efforts are needed to increase compliance with comprehensive geriatric assessment clinic recommendations, particularly those for preventive services. **J FAM PRACT 1990; 31:389-392.**

Comprehensive geriatric assessment is a new and important component in the care of the frail elderly.[1] Geriatric assessment clinics are now operating in many academic institutions[2] and are increasingly being used to teach geriatric medicine to family practice residents in both university and community-based programs.[3,4] In spite of considerable evidence to suggest the efficacy of comprehensive assessment, few primary care physicians use such services.[5] In addition, among those primary care physicians who do use comprehensive geriatric assessment, studies indicate that the recommendations formulated during comprehensive geriatric assessment are not always followed. This lack of adherence is of concern, as evidence indicates that assessment must be connected with treatment to be effective.[6]

At the University of Arizona Health Sciences Center, an educational model for teaching comprehensive geriatric assessment to family practice residents was designed for second- and third-year residents who served as medical consultants on an interdisciplinary geriatric assessment team. The effects of this model were evaluated by determining the degree to which the family practice residents adhered to the recommendations formulated by the geriatric assessment team. Before the initiation of the study, adherence was hypothesized to be greater for diagnostic and pharmacologic recommendations than for preventive recommendations.

METHODS

This study was conducted in the comprehensive geriatric assessment clinic of the University of Arizona Department of Family and Community Medicine. This clinic provides comprehensive assessment by an interdisciplinary team composed of two board-certified geriatrician-family physician faculty members, a second- or third-year family medicine resident, a medical social worker, a nurse, a clinical pharmacist, and a nutritionist. Patients

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From the Family Medicine Section, Department of Family and Community Medicine, and the Division of Restorative Medicine, University of Arizona College of Medicine, Tucson. Requests for reprints should be addressed to Richard Reed, MD, MPH, Department of Family and Community Medicine, 1450 N Cherry, Tucson, AZ 85719.

were evaluated by all members of the team with the resident functioning as the medical consultant under supervision of the faculty geriatrician. After the patient was interviewed and examined, a meeting was held in which a comprehensive care plan was made. Specific recommendations were recorded by the resident using a structured format, and were reviewed for completeness by the faculty physician.

A subgroup of patients were either self-referred or were referred to the geriatric assessment clinic by family members or social service agencies. In addition to seeking geriatric assessment, these patients also sought a primary care physician. This subgroup of patients subsequently received follow-up care from the resident who initially evaluated them in the assessment clinic. These patients were the subject of this study. It was expected that the resident would implement the care plan developed for the patients in the comprehensive geriatric assessment clinic as well as provide ongoing care for the patients' new medical problems.

The dictated summaries of each comprehensive geriatric assessment encounter were retrospectively reviewed by one of the investigators (R.L.R.). These summaries included basic demographic information, medical problems encountered, medications taken, and recommendations made by the comprehensive geriatric assessment team. The medical records of these patients were also reviewed to determine adherence with the recommendations within 90 days of the last geriatric assessment clinic visit. Adherence was determined by the presence of evidence in the medical record that the recommendation had been executed.

RESULTS

One hundred nine patients were seen in the geriatric assessment clinic from February 1, 1987, to August 1, 1988. Of this group, 27 patients met the criteria of having their subsequent follow-up care assumed by the family practice resident who had evaluated the patient while working as a member of the assessment team.

The mean age (± SD) of these 27 patients was 76.7 ± 7.9 years. The majority of the subjects were female (70%) and white (78%). The referral sources included self or family (67%) and other sources (33%). The patients had a mean of 5.7 ± 1.8 problems identified during the visit. The problems seen in 10% or more of the patients are listed in Table 1. Evaluation of arthritis was the most frequently recorded diagnosis, with hypertension, back pain, and arrhythmia being the next most common problems. In addition, the patients reported taking a mean of 5.6 ± 3.1 medications per patient at the time of the evaluation.

TABLE 1. MOST FREQUENT DIAGNOSES MADE AT TIME OF ASSESSMENT

Diagnosis	Percent of Patients With Diagnosis	Percent of Total Diagnoses
Arthritis	33.3	5.8
Hypertension	33.3	5.8
Back pain	29.6	5.2
Arrhythmia	25.9	4.5
Dementia	21.2	3.8
Weight loss	18.5	3.2
Incontinence	18.5	3.2
Depression	14.8	2.6
Coronary artery disease	14.8	2.6
Constipation	14.8	2.6
Mobility problems	14.8	2.6
Glaucoma	11.1	1.9
Extremity pain	11.1	1.9

Ten different residents were involved in evaluating the 27 patients. Of this group, they were equally distributed between the second and third year of residency training. There was a mean of 2.2 ± 1.3 follow-up visits per patient during the 90-day period of this study.

The number and type of recommendations are noted in Table 2. There was a mean of 6.9 ± 2.3 recommendations made per patient. The percentage of recommendations adhered to by resident providers is also noted.

Overall, pharmacologic recommendations were most frequently adhered to (78.0%). Recommendations to initiate medications, however, were adhered to more closely (85.4%) than recommendations to eliminate medications (64.3%). Preventive recommendations were adhered to the least frequently (54.3%). Immunizations had a higher adherence rate than preventive procedures such as Papanicolaou smear, mammogram, or sigmoidoscopy.

DISCUSSION

This study presents an evaluation of a new educational model for teaching comprehensive geriatric assessment. In this model, a family medicine resident participates in a team-based evaluation of patients for whom they subsequently assume their care. Potential advantages of this model include active resident participation in the comprehensive geriatric assessment team and the ability of the resident to see the long-term results of implementing the comprehensive geriatric assessment plan.

Membership in the comprehensive geriatric assessment team, with active involvement in creating a care plan and responsibility for recording this information in the medical record, should result in a high degree of adherence with

TABLE 2. ADHERENCE TO RECOMMENDATIONS, BY TYPE

Recommendation Type	Total Recommendations No. (%)	Percent Done
Diagnostic		
Obtain diagnostic procedure	19 (4.4)	79.0
Obtain laboratory test or radiologic examination	52 (11.9)	76.9
Obtain consultation	57 (13.0)	61.4
All diagnostic recommendations	128 (29.3)	70.3
Pharmacologic		
Begin or increase medication	41 (9.4)	85.4
Stop or decrease medication	56 (12.8)	64.3
All pharmacologic recommendations	97 (22.2)	78.0
Other		
Monitor condition	73 (16.7)	83.6
Other recommendations	38 (8.7)	73.7
Review old records	31 (7.1)	45.2
All other recommendations	142 (32.5)	72.5
Preventive		
Influenza vaccine	6 (1.4)	66.7
Pneumonia vaccine	12 (2.8)	66.7
Tetanus vaccine	11 (2.5)	55.0
Mammogram	15 (3.4)	46.7
Fecal occult blood	7 (1.6)	85.7
Sigmoidoscopy	5 (1.1)	20.2
Papanicolaou smear	14 (3.2)	42.8
All preventive recommendations	70 (16.0)	54.3
All recommendations	437 (100)	69.1

the recommendations. Nevertheless, this result was not uniformly the case. Although adherence with recommendations primarily reflects the actions of the primary physicians, beliefs and preferences of the patient may also play a role in the medical decision making.

A curious dichotomy was noted when investigating medication recommendations. Residents were much more likely to add new medications than delete them. This preference for new medications may be due, in part, to patients' reluctance to eliminate certain medications such as sedative-hypnotic medications. The lower level of adherence with recommendation to eliminate medications also suggests a reluctance by residents to change long-standing drug regimens. Overall, pharmacologic recommendations had the highest rate of adherence.

Illness-related evaluation, such as ordering laboratory studies and imaging procedures, was also frequently implemented by the resident. These findings are somewhat different from those found in a study of hospital inpatient geriatric assessment,[7] which noted that social interventions and recommendations related to falls and instability were the most likely to be complied with by rotating house staff and supervising attending physicians at the Durham Veterans Administration Medical Center.

Plans to review old records were executed less than one half of the time. The criteria for evidence of review was limited to receipt of these records. An assumption was made that records received were subsequently reviewed by the resident physician, although actual review of these records may not have occurred in some situations. The low proportion of medical records reviewed may have been due to logistic problems in obtaining the records.

The finding that recommendations for preventive procedures were followed the least frequently was expected. The reasons for the low degree of adherence may include the resident's lack of belief in their efficacy or a belief that these procedures are not urgent to undertake. Another possibility may be a belief by residents that the elderly do not need these preventive procedures. Other procedures such as flexible sigmoidoscopy may have not been tolerated by the patient or were felt to be excessively expensive. Overall, this group of recommendations had the lowest rate of adherence.

This study provides some new insights into the assess-

ment process. In this training setting, overall adherence to recommendations was about 70%. Physician compliance with recommendations for diagnostic testing was clearly demonstrated. Alterations in therapeutic regimens, however, particularly removal of medications, were done less frequently. Preventive recommendations were undertaken the least frequently, which probably reflects the general preference of patients and physicians to focus primarily on disease-related problems. Intensive educational programs are needed to modify attitudes toward a more preventive approach to comprehensive geriatric care.

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