

**428: INAPPROPRIATE ADMISSIONS TO GERIATRIC SERVICES: COMPARISON BETWEEN THE ORIGINAL AND A NEWLY DEVELOPED GERIATRIC EXTENSION TO THE APPROPRIATENESS EVALUATION PROTOCOL**

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**Objective:**

To develop a geriatric complement to the Appropriateness Evaluation Protocol (AEP) and to evaluate the proportion of inappropriate admissions to three services caring for elderly patients.

**Methods:**

Elderly patients compose a majority of the admissions to many hospital services, and assessing the rate of appropriateness with standard protocols contributes to quality assurance.

The AEP protocol developed in 1991 by Gertman and Restuccia, was designed for acute care settings, and includes 18 criteria for assessing whether an admission is appropriate.<sup>1,2</sup> By consensus among geriatricians, 25 additional criteria were added before starting the study. Interrater agreement was determined by independent assessment of 30 admissions, it amounted to 100% for inappropriate admissions according to the geriatric extension (kappa coefficient 1.00) and 96.7% (kappa 0.74) for the original.

During a two month period of the year 2000, the expanded protocol was applied to consecutive admissions of the Internal Medicine Rehabilitation Clinic (A: N=262), the Center for Continuous Care (B: N=218) and the Geriatric Hospital (C: N=213), three medical services of the University hospitals of Geneva, Switzerland, which provide acute and middle term care, mainly for patients aged above 65 years.

**Results:**

Table 1: Number and rate of inappropriate admissions

Hospital services	A		B		C		Total		P
	N	%	N	%	N	%	N	%	
Geriatric protocol	15	5.7	17	7.8	29	13.6	61	8.8	0.009
Original protocol	158	60.3	142	65.1	93	43.7	393	56.7	0.000

Table 1 shows that the rate of inappropriate admissions goes from 6% to 14% according to the geriatric expansion of the AEP, whereas they range from 44% up to 65% with the original AEP. The differences among services are statistically significant with both versions, but the two services with the best scores according to the AEP geriatric version are also those who score the worst with the classical AEP. It is worth noting that for 47% of the justified admissions more than one criterion was used.

The most frequent criteria applied, when the admission is justified by the geriatric but not by the original AEP are follow-up treatments like rehabilitation post orthopedic surgery (22% to 57%), hospital palliative care (0% to 23%), pains needing hospital care (11% to 22%), acute worsening of chronic conditions (3% to 12%), and falls needing investigation (5% to 8%).

**Conclusions:**

The results of this study demonstrate that the geriatric extension to the AEP protocol is better suited to describe the appropriateness of admission to rehabilitation and geriatric services. These newly validated geriatric criteria also show that multiple factors explain the admission appropriateness, which reveals the high fragility of this population. This geriatric extension allows an objective comparison of the admitted populations and therefore can help to characterize the specificity of the services studied. The identification of the causes having led to an inappropriate admission will facilitate the elaboration of corrective measures.

**References:**

- Gertman, P. M. and J. D. Restuccia (1981). "The appropriateness evaluation protocol: a technique for assessing unnecessary days of hospital care." *Med Care* **19**(8): p855-71.
- Perneger, T. V., P. Chopard, et al. (1997). "Risk factors for a medically inappropriate admission to a Department of Internal Medicine." *Arch Intern Med* **157**(13): 1495-500.