

## 327: IMPROVEMENT OF MEDICAL RECORDS QUALITY AND OF APPROPRIATENESS OF HOSPITAL STAY

Attena F., Agozzino E., Troisi M.R., Argenzio D., Chignoli V., Agostino F., Fucci F., Oriente P., Panico G.

### Objective:

Improving compilation quality of medical records and appropriateness of hospital stay.

### Methods:

The study has been developed in four stages:

**1** - Organization of meetings with medical staff in order to show the purpose of the research and to plan it. Quality of medical records has been valued by a schedule organized in sections (see table) containing 34 items grouped in indicators of completeness, clarity, truthfulness, traceability. Assessment of admission days and days of stay was conducted with the PRUO (Protocollo di Revisione d'Uso dell'Ospedale), the Italian version of the AEP (Appropriateness Evaluation Protocol).

**2** - Four trained research assistants, who are not employed in the hospital, examined and analyzed 255 medical records randomly selected from the first half of the 1999.

**3** - Organization of meetings with medical staff in order to show the results of the first evaluation and to identify the reasons of: *a.* poor quality medical records; *b.* inappropriateness of admission days and days of stay. The staff devised guidelines to improve the quality of medical records and also promoted a process analysis in order to find the reason of main causes of inappropriateness. The staff thus made a reorganization of procedures that caused inappropriate admissions and days of stay.

**4** - The four research assistants performed a new analysis of 255 randomly selected medical records of the first half of 2001 in order to verify usefulness of quality improvement intervention.

**Table 1** – Comparison of medical records quality before and after the intervention of quality improvement

Section	Indicators		before	after		Indicators		before	after
Title page	Items compiled /total items	<b>C</b>	65.8	80.3*	Informed consent	<b>Informed consent (IC):</b>			
	<b>Presence of:</b>					Request of IC where indicated	<b>C</b>	44.7	60.8*
	Hospitalization reasons	<b>C</b>	99.6	99.2		For transfusion	<b>C</b>	0.8	0.8
	Words or phrases unclear	<b>CI</b>	52.9	15.3*		For HIV	<b>C</b>	4.7	2.4
Patient's history	Familial history	<b>C</b>	27.8	43.5*		For anesthesian	<b>C</b>	31.8	40.8
	Early patient history	<b>C</b>	54.5	56.9		For diagnosis and therapy	<b>C</b>	4.7	17.3*
	Recent patient history	<b>C</b>	59.6	81.6*		For discharge against doctors indication	<b>C</b>	7.8	2.0
	History for allergies	<b>C</b>	32.5	76.5*		Presence of patient signature	<b>Tr</b>	38.0	42.4
	Words or phrases unclear	<b>CI</b>	44.7	21.6*		Presence of phisician signature	<b>Tr</b>	19.2	31.0*
Physical exam	Fisical exam	<b>C</b>	49.4	52.5		Readable phisician signature	<b>Tr</b>	15.3	20.4
	Summary of fisical exam	<b>C</b>	18.0	10.6		Undersigned medical report attached	<b>Tr</b>	84.9	98.6*
	Physician signature	<b>Tr</b>	9.4	9.4		<b>Presence of:</b>			
	Readable signature	<b>Tr</b>	13.3	8.6	Phisician signature	<b>Tr</b>	54.1	82.7*	
	Words or phrases unclear	<b>CI</b>	29.4	12.5*	Words or phrases unclear	<b>CI</b>	11.0	2.0*	

Clinical record	Days of stay described/days of stay	<b>C</b>	21.8	84.9*	<b>Discharge</b>	Diagnosis	<b>C</b>	83.1	96.9*
	Signature/day of stay described	<b>Tr</b>	13.7	26.0*		Hospitalization outcome described	<b>C</b>	38.8	62.0*
	Missing pages	<b>T</b>	3.1	3.9		Words or phrases unclear	<b>C</b>	51.0	14.5*
	Words or phrases unclear	<b>CI</b>	79.6	52.5*	<b>AS</b>	Erasures	<b>T</b>	25.5	46.3
						acronimous unspecified	<b>CI</b>	43.1	5.1*

**Legend** - \*: statistically significant improvement ( $p < 0.01$ ); **C**: Completeness indicators; **CI**: Clarity indicators; **T**: Truthfulness indicators; **Tr**: Traceability indicators. **AS**: All of Section.

**Results:** a. *Quality of medical records.* After the intervention 20 items of 34 had a statistically significant improvement (see table).

b. *Appropriateness of hospital stay.* Before the intervention there were 36.0% of inappropriate admissions and 54.7% of inappropriate days of stay. The wait for diagnostic examinations was the main cause of inappropriateness. Then the medical staff improved the process of diagnostic examination. After the intervention, appropriateness in admission was the same, while inappropriateness of days of stay reduced from 54.7% to 41.9%.

### Conclusions:

The project achieved a moderate improvement of both medical records quality and appropriateness of hospital stay.

Advantages of a combined intervention of medical records quality improvement and appropriateness of hospital stay:

- contemporary improvement of two aspects of hospital activities.
- Time and resources reductions respect to only one intervention.
- Improvement of sensibility and specificity of AEP-PRUO because of improvement of completeness and clarity of medical records.