

The quality of the clinical process – comparative study 2004-2005

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Abstract

Background: To provide a quality service is crucial to understand the need for change. A different approach of those procedures and results implies the involvement and motivation of Health Care professionals. The performance of a Health Service is nowadays linked to the level of access and organization of the clinical information. In such context, a correct and complete documentation of the patient's clinical data is essential for the practice of a quality Medical care, being the clinical records the basis of a hospital management and structure.

Aim: The endpoint of this work was to compare 2004 and 2005 regarding the quality criteria of medical records, proposed with predefined variables, to determine the rate of achievement.

Material and Methods: A descriptive and transverse observation study based on the medical record of each patient, referring to the year 2004 and to the year 2005. The predefined variables were the existence of a classic clinical history, the ward admission notice, the hospital discharge notice, the patient's problems list, based on Weed's method and the record of laboratorial analysis on a specific registration sheet. The reasons why the hospitalization was extended were also assessed not only measuring it but also identifying the causes of such delay. There were a total of 1031 (F554; M507) patients admitted in 2004 with a mean age was 70 years [15-103] and the average hospitalization period was 7,6 days [1-78]. In the year of 2005 there were a total of 1030

(F531; M499) patients admitted, with a mean age of 71 years [16-99] and the average hospitalization period was 8 days [1-101].

Results: In both years, 2004 and 2005, the admission notice was recorded in 100% of patients, excluding the cases where the Clinical History was recorded. With exception of patients deceased and transferred to other services, the Discharge Notice was also complied with in 100% of cases. The classical clinical history was made in 213 patients (21%) in 2004 and in 87 patients (8.5%) in 2005. The laboratory analysis sheet and the Weed's list were recorded in 866 (84%) and 847 patients (82%) in 2004 and in 898 (87%) and 863 patients (84%) in 2005, respectively. The extended hospitalization was verified in 11% and 9% of the patients (2004 and 2005), respectively; the social problems were the major causes in the first year and the clinical problems in the second.

Conclusion: Regarding the clinical record we consider very positive the results achieved. However it is a reason for concern the limited number of Clinical Histories recorded, as well as its reduction when compared to 2004. On the extended hospitalization on Medicine 1 ward, the clinical issues are as important as the social ones. We also find that the implementation of structured assessment forms impact the clinical practice promoting a higher standard quality.

Key words: Quality, medical record, clinical history, discharge information.

INTRODUCTION

To deliver with quality it is necessary to understand the need for change. Betting in quality has the goal of ongoing improvement within the organization and its relation with the external environment, implying the involvement and motivation of all health care professionals, stimulating cooperation and team spirit, making them feel an integrated part of the structure and of the quality process and as such co-responsible for its success.

The hospital environment is often prone to a development far from the needs and values of patients and professionals, missing clearly management and planning instruments from which results a wide variation on the clinical practice and organizations which are generally inefficient.

The clinical process is the basis of communication in medicine and it is within it that the medical act is formalized. It enables a critical analysis of the patient's path, integrating the different health care provided, putting in sequence different registries and generating thus the relevant information. A well filled in clinical process is a contribute for a good assistance to the patient. In reality and depending on the specialty not all the clinical process contains all the information, in a complete piece size and readable way, and it cannot fulfill its role.

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To implement a clinical process that actually mirrors the pathology and path of the patient's disease, it is necessary a harmonization of the process structure. That is what we decide to implement in Medicine I Service of Évora Hospital.

Once targets, norms and criteria were set up, we implemented and monitored the agreed target, because only after monitoring the defined norms, we can verify whether they were complied with ensuring the quality control of the care delivered.

Lastly as a communications strategy we divulge the results periodically to all the service, in a space of internal discussion, looking to debate all the problems detected when monitoring was done (emerging this way an automatic control, measuring a number of indicators.). We decided to divulge the results to the external world, and this work is a reflection, a clear attempt of benchmarking.

OBJECTIVES

Comparison, referring to the years 2004 at 2005 of the ratio in which were fulfilled the quality criteria of the clinical process, with previously defined variables.

MATERIAL AND METHODS

In Medicine I Service we formed a working team (all Service Assistants) which has established and discussed the norms, searching realistic and effective goals and the criteria to measure and validated them. After a resumed situation assessment and based on the experience of each element of the service, we came to the conclusion and agreement that is absolutely fundamental that any clinical process contains:

Clinical history (classically structured).

Admission note, in Medicine I Service – made every time it was not possible to get the clinical history whether due to the patient serious condition or to his/her inability to supply its. Also admitted patients to carry out the supplementary exams and having a previous admission in the previous weeks with frequent admissions could have only admission notes;

- Problems list (structured by Weed's method);
- Laboratory Tests List, recording at least 75% of tests made during such admission;
- Discharge Notice.

We also believe that with the exception of the clinical history although the endpoints should be complied with up to 75%.

We created a form, called *Assessment of the Clinical*

Process Quality, which should be filled in by each doctor when discharging a patient (Table 1). This form is easy to fill in (cross) it goes with all clinical processes and then it is filed, for further assessments, in an appropriate place. Therefore to a concurring assessment, each element evaluates in his admission, the degree of compliance to the rules set up for the clinical process.

The variables studied were those previously identified as crucial to be part of the clinical process, i.e., the existence of:

- Clinical history;
- Admission note in the Medicine I Service ;
- Problem List;
- Laboratory Tests List;
- Discharge notice.

Two more issues were added:

- The existence of delaying causes in admission;
- Reasons for such delaying causes.

For the purpose of this study we have divided the causes of delay in three groups:

1- Due to Clinical Problems – where we considered to clinical seriousness, clinical deterioration, diagnosis difficulty interurrences and iatrogenics.

2- Due to Organizational Problems – where we have included the delays due to the carrying out of supplementary exams, diagnostic techniques, observation by other specialties, delay on transfer for other services.

3- Due to Social Problems – any time a delay happened due to a bad liaison to the Social Service, the home support network, transfer to the integrated support units or family impossibility.

A descriptive and transversal observation study was carried out, referring to the years 2004 – 2005, having as basis the Assessment Form of the Clinical Process Quality, filled by the assistant physician. It was also studied the compound variable of extended hospitalization, not only measuring it, but also identifying its causes.

Gathering data was carried out by the author.

The data processing was made by descriptive statistics.

Total admissions in 2004: 1031 (Women 524 – Men 507), with an average age of 70 years old, in the extremes 15 – 103 years and an average admission of 7.6 days and the extremes of 1 – 78 days.

The total of admissions in 2005: 1030 (Women 531 – Men 499), with an average age of 71 years old, extremes of 16 – 99 years and the admission average of eight days with the extremes from 1 - 78 days.

TABLE I

**MEDICINA 1 SERVICE
ASSESSMENT OF THE CLINIC PROCESS QUALITY**

PLEASE STICK THE PATIENT'S
IDENTIFICATION TAG

Physician in charge _____

Admission by: Appointment Transfer Emergency Service

Discharge: Clinical Transfer Request Death

Admission ___/___/___ to ___/___/___

Days in hospital: _____

To be completed by the doctor

Diagnosis on discharge _____

There is:	Yes	NO	Nº Days
Clinical history	<input type="checkbox"/>	<input type="checkbox"/>	
Admission note	<input type="checkbox"/>	<input type="checkbox"/>	
Problem list	<input type="checkbox"/>	<input type="checkbox"/>	
Reply to the fax sent to the Family Doctor	<input type="checkbox"/>	<input type="checkbox"/>	
Laboratory test list	<input type="checkbox"/>	<input type="checkbox"/>	
Discharge note	<input type="checkbox"/>	<input type="checkbox"/>	
Causes of delay	<input type="checkbox"/>	<input type="checkbox"/>	TOTAL <input type="checkbox"/>
• Presence of bed sores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Observation, therapy or performing techniques by other specialty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Laboratory Tests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Booking/sending RX report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Carrying out an ECG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Diagnosis difficulty/clinical seriousness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Intercurrences/iatrogenesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Transferring to other services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Leaving - Family / Social Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: in the sheet overleaf other views can be explained for a better understanding of the replies.

TABLE II

Distribution of patients leaving, per year, months and gender

Month	2004		2005	
	Men	Women	Men	Women
January	56	39	38	42
February	44	52	44	55
March	48	58	52	54
April	49	45	42	42
May	31	49	36	51
June	45	36	39	34
July	43	42	47	35
August	41	37	42	31
September	31	37	34	39
October	39	35	41	48
November	43	43	42	48
December	37	51	42	52
TOTAL	507	524	499	531
	1031		1030	

RESULTS

General results are presented in tables for easy exposition. In *Table II* are the numbers of patients leaving, per year, within each year per month and separated by gender.

Fig. 1 represents patients' average age in the two years and comparing gender.

Table III represents the number of Clinical Histories taken, the number of admission notes and discharge notices made, per year and within each year per month. In *Table IV* are represented the number of Assessment Form and Problems List made, also per year and within each year per month.

With *Table V* we aim to represent the number of patients where hospitalization was prolonged beyond the expected, also organized per year and within each year per month. Finally, on *Table 5* we represented the total number of patients with extended hospital stay, assessed by Reasons for Delaying, per year.

DISCUSSION

There are some studies in Portugal aiming to evalu-

ate the quality of the medical processes, one in the perspective of medical performance, measured by the clinical records,¹ others measuring the adequacy of hospitalization in an Internal Medicine Service.² There are also studies on the quality of the outpatient Internal Medicine clinica,³ on the Internal Medicine intra hospital appointment, such an important part, and so often undervalued and often not even mentioned in any Internist daily work, as the authors themselves emphasize in this article introduction. Lastly it should be referred another work, this time on the Hospital Discharge Notice, trying to evaluate whether it fulfills its information role, through the perception of its quality.⁵

As far as we know this work is the first one not only critically assessing the clinical process of the medical service, as it does a monthly comparison between two consecutive years, with the objective of raising both an internal and external discussion of the detected problems.

Evora hospital is a Level III unit (District Hospital with a valency of Regional Hospital); it has 430 beds for acute conditions serving a population in a district of around 170,000 inhabitants, and at the level of the sub-region of 450,000 inhabitants.

It has two Internal Medicine Services, each one with 30 beds. Both services have an equivalent medical staff. The current work is carried out in Medicine I Service.

The patient allocation throughout the year, whether in total number or by gender, not only overlaps

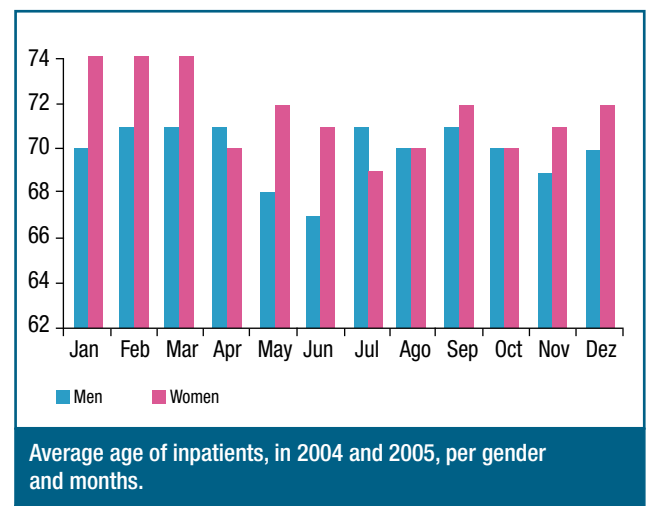


FIG. 1

TABLE III

Completion of the Clinical History, the Admission Note and the Discharge Notice, per year, per months

Month	Clinical History		Admission Note		Discharge Notice	
	2004	2005	2004	2005	2004	2005
January	22	13	90	76	83	68
February	27	6	90	91	82	86
March	39	12	103	102	94	87
April	22	14	89	89	89	71
May	15	8	62	87	71	72
June	19	6	80	72	71	65
July	15	11	79	80	73	71
August	18	2	76	69	68	66
September	10	6	67	67	65	63
October	10	5	70	88	66	76
November	10	1	81	85	76	82
December	6	3	76	91	74	80

in both years, as it does not present any particular characteristic (*Table II*). That relate to the fact that around 98% of admissions in the services comes from the emergency service and alternated distribution.

Also the average age of inpatients, in both years, it is not different, it has not different characteristics from the population in general (*Fig. 1*), with women having a further five years of life expectancy. To say that the population cared for in our service corresponds predominantly to the higher age ranges – in 2004 the average age of 70 years, with extreme in 103 years and in 2005 the average age of 71 years with an extreme of 99 years – is to say that our service is not an exception regarding the remainder (according to the 2001 census, people over 65 years old, 41% is over 75 and 21% is even more than 80 years old).

Regarding making an admission note in the ward, it was done in around 94 and 95% respectively in 2004 in 2005 (*Table III*). Cases where this does not happen related with two factors. On one hand the patient early death (usually during the night or weekends) makes impossible for the assistant physician to gather it, on the other hand when before a more complex case, or for training purposes it is decided to move to a classic clinical history, what happened in 2004

in 21% of cases and in 2005 in 8.5%.

We deem insufficient the number of medical histories taken, worrying is the reduction occurred from one year to the other (*Table III*). In our perspective there are however reasons to ponder. In 2005 Medicine 1 Service “lost” five interns of the supplementary internship – one has suspended the internship temporarily, the other one completed it and three went for other services for stages training. To this service only one intern has entered. We considered this situation as worrying as Internal Medicine is the specialty ensuring a differentiated assistance at ward level, it is up to the internist to permanently raise the quality standards of care, being the clinical history the basis of the medical reasoning.

Another order of reasons has to do with the patient's age and the relatives inability to supply anamnesis data (often the partner has already died or the patient is under the care of the home), whether with the most common pathology and less “interesting”, which does not help its performance.

Filling the laboratory test list and the problem list with values above 82%, in both years (*Table IV*), revealed a concern with the diagnosis discussion, with recording information, typical of the internist profile.

Regarding the discharge notice, excluding deceased patients or transferred to other hospital units, it is present in all patients going to the outpatient service (*Table III*).

The Extended Hospitalization (*Table V*) was verified in 11% and in 9% of patients (2004 in 2005), without special influence whether annual or seasonal. Interesting is to verify (*Table VI*) that the social motives were the most frequent cause in the first year and the clinical motives in the second, being important the number of patients where the delay on discharge was due to organizational problems.

CONCLUSIONS

Regarding the clinical process we consider very positive the results obtained as they mean the existence of a favorable contribution to healthcare delivery. It is worrying the limited number of medical histories

TABLE IV

Completion of the Laboratory Test List and the Problem List per year and per months

Month	Test List		Problem list	
	2004	2005	2004	2005
January	80	74	80	70
February	80	85	78	85
March	97	93	95	90
April	80	78	82	75
May	62	74	62	72
June	72	69	69	66
July	74	70	71	70
August	68	64	63	58
September	57	63	55	58
October	61	77	56	73
November	69	72	71	68
December	66	79	65	78

TABLE V

Extended hospitalization: N° cases per year and per months

Month	Year	
	2004	2005
January	6	8
February	9	10
March	16	11
April	8	8
May	7	13
June	6	7
July	7	9
August	8	5
September	7	2
October	6	3
November	19	6
December	12	11
Total	111	93

TABLE VI

Reasons for delayed admission – Total N° of cases

Reasons	Year	
	2004	2005
Clinical	34	38
Organizational	31	22
Social	46	33

taken, as well as its reduction, when compared to 2004, therefore we find there is room for improvement. The implementation of structured formats of documentation and evaluation, supported by knowledge of the reality, has practical consequences translating themselves in a change of procedures, with a view to improve quality. Such actions have an impact in daily problems promoting excellency.

Regarding the extended hospital stay in the Medicine 1 Service, the clinical problems are as important as the social ones.

No comparisons inter-services were performed or adaptations of the clinical process to the medical and surgical areas. It is urgent to create a working group to implement the clinical process and the need to standardizing the criteria of data recording.

With the existence of several projects to the clinical process computerization, if doctors do not lead such process someone will do that for them. ■

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