‘ACCOUNTING LOGIC’ AND *NEW PROFESSIONALISM* IN HEALTHCARE: A CASE STUDY.

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ABSTRACT
The central place hospitals occupy in health systems transforms them into prime target of healthcare reforms. This study aims to identify current trends in organizational structure change in public hospitals and explore the role of accounting in attempts to develop controls over professionals within public hospitals.
The analytical framework we proposed crosses the concept of “new professionalism” (Evetts, 2010), with the concept of “accounting logic” for controlling professionals (Broadbent and Laughlin, 1995).
Looking for a more holistic overview, we developed a qualitative and exploratory study. The data were collected trough semi-structured interviews with doctors of a clinical hospital unit.
Content analysis suggests that, although we cannot say that there is a complete and generalized integration of accounting information in the clinical decisions, important improvement has been made in that area.
Despite the extensive literature developed on this topic, there is any empirical studies of authors are aware that allow us to realize how real doctors in reals day-to-day work integrated these trends of change in theirs clinical decisions.

Key words: accounting logic, new professionalism, hospital management

1. Introduction

New Public Management (NPM) in healthcare sector is still a controversial issue, to say the least. The main objectives of NPM frame reforms are essentially economic, witch mean an adjustment of clinical efficiency to those limits of economic efficiency and a greater presence of management professionals in public hospitals (Doolin, 2010; Simonet, 2008). The adoption of NPM principles also has brought great pressure to bear on physicians to both reduce costs and improve the medical quality of their services (Pettersen, 2010). Some septic voices of the success of NPM in hospitals argue that healthcare organizations have a culture primarily centred on clinical issues and are dominated by health professionals who are often unaware of the financial and economic consequences from their decisions (Edwards et al., 2003; Vlastarakos, 2008, Lapsley, 2001; Garelick, 2005). This dual conception of hospital structure finds strong theoretical support both in organizational and social sciences.

The conflicts of professionals in bureaucratic organizations have been pointed out by several researchers (Blau and Scott, 1962, Sorensen and Sorensen, 1974, Young e Saltman, 1985, Abernethy and Stoelwinder, 1990, Wallace, 1995). Some organizational theorists had been arguing that hospitals are the archetypical of "professionals bureaucracy" (Mintzberg, 1979), where normally a dual structure of authority exists, "one, administrative in focus and based bureaucratic control principles, and the other, a medical staff structure based on professional control principles. Both this structure and the lack of orientation of professionals to administrative goals tend to work against affective management control." (Abernethy & Stoelwinder, 1998, p.18). One the other hand, those sociologists of professions, special those of functionalist approach (Parsons, 1939) who conceptualized professions ideal type as an occupational value, argue that the complexity and uncertainty of medical work (Harris, 1977) requires a kind of autonomy and discretionary power that is antithetic to bureaucratic

administrative control. This means that top manager cannot control professional work. "Indeed, it is not correct even to say that the executive delegates responsibility to professionals. The latter assume full responsibility for technical decisions, and the executive must rely on their expert judgments in discharging his managerial responsibility, which is the area of is special competence" (Blau and Scott, 1962, p. 39).

Perrow (1986) seriously challenged this criticism of Weber bureaucracy concerns the discrepancy between the expertise of subordinate and the administrative authority of the superior. As he pointed out, "virtually every discussion of bureaucracy mentions this point" (p. 42). Blau and Scott (1962) summarized Parsons and Gouldner mains arguments as follows: "*By emphasizing both expert judgment resting on technical knowledge and disciplined compliance with directives of superiors as the basis for bureaucratic decisions, Weber implies that there is no conflict between these two principles; that is, he implicitly assumes that in every disagreement between superior and subordinate, the superior's judgment is also the better judgment in terms of technical expertise. This is not a realistic assumption….Administrative considerations, moreover, tend to conflict with technical professional considerations. Hence, the judgment of superiors, who are concerned with administrative problems, will recurrently differ from the judgment of their professional subordinates, who are concerned with technical problems*" (p.39)

Perrow (1986) strongly disagreed with Parson's (1947) and classified its examples of the implicit contradiction in Weber's conception of bureaucracy as "two quite weak illustrations" that became surprisingly famous, "possibly the most important footnote in the history of organizational theory" (p.44). He argues that the doctors, like bureaucracies, work hierarchically organized, they do not work like a "company of equals" (Freidson and Rhea, 1972). "Furthermore, although it is rarely noted, managers also are usually college-trained…so, are they

not professionals, too?" (p.46). He also suggested that some that studies have a bias research in favor of a conflict between scientists and managers within organizations.

He is not clear about how bureaucratic organization deal with professional organizations in practice; i.e., how this two structures really work with each other once they are integrated. However, he considered "goals pursued by organizations are multiple, and they are generally in conflict" (p.133), so, "a theory of organization…, should be able to accommodate group conflict" (p.133), citing its own words, many organizations theorists "fails to deal with an obvious and pervasive aspect of organization - conflict among groups" (p.132). In that sense, conflict of interest between professionals and administrative authority within organizations is not a specific issue of professional groups, rather it just an intrinsic characteristic of organizations.

Between these two opposite theses, the structural incompatibility (Parsons) and structural compatibility (Perrow), an alternative way of theorizing this issue, "is to focus on professionalism both as an occupational value and/or as a discourse" (Evetts, 2010, p. 2). Evetts conceptualized this as a *new professionalism* and offers us a framework that recognizes changes and continuities between organizational professionalism and occupational professionalism.

Changes taking place in public hospitals emphasis controls, accountability, complex negotiations, and the introduced an "accounting logic" (Broadbent and Laughlin, 1995) within all the system. This study aims to bring some light on the role of accounting in attempts to develop controls over professionals within Portuguese public hospitals. The theoretical framework adopted in this paper owes much to sociology of professions theorists, in particularly to new professionalism concept proposed by Evetts (2010). Our theoretical framework also borrows the concept of 'accounting logic' developed by Broadbent and Laughlin (1995). With this frame of references we are able to interpreted doctor's reactions to the reinforcement of administrative

control in hospital organizations, especially how they integrated accounting in their day-to-day clinical decisions.

2. Accounting, accountability and the reinforcement of financial control over healthcare providers

The accounting literature has devoted some attention to assessing the efficacy of modifying management structures and systems of control in organizations where workers have been granted considerable levels of autonomy. There have, however, been few attempts to integrate these literatures. (Abernethy and Lillis, 2001) One of these attempts can be found in Comerford and Abernethy (1999), they describe prototypical professional as one who rejects the value set associated with a system goal orientation. Professionals are trained and socialized according to professional models of control and develop a strong orientation to professional values and norms which are considered to be the antithesis of a managerial orientation. A professional orientation is generally associated with an individual who primarily identifies him/herself with the professional group, is committed to developing and retaining the power and prestige of the profession, develops the abstract knowledge system and looks to professional colleagues, both within and outside the organization, for support and censure.

However, professional autonomy is not absolute, and its scope and boundaries are being challenged. Doctor autonomy, their discretionary power, has been threatened by new forms of control. Indeed, the traditional method of self-regulation, which characterized major professions like medicine, is based on legal devices of exclusive licensing and certification and involved protection from naked economic and political pressures and from competition with other occupations. The assumption was that with such protection, the professions would be both willing

and able to regulate the performance of their members themselves, by placing the public interest over collective and personal advantage. It was presumed that under these circumstances professionals would work ethically and competently. But, this traditional method of self-regulation is changing. It is being replaced by methods intended to impose stronger, external controls. (Freidson, 1984, Fitzgerald, 1998)

Changes taking place in Portuguese public hospitals has been driven by a market based approach. In December of two thousand two (2002), the Portuguese government launched a structural reform in the Health Sector. So, thirty four (34) Public Hospitals were transformed into thirty one (31) Enterprise Hospitals. This reform covered about fifty percent (50%) of the public hospital network and was based on three (3) major stands:

- First we have the introduction of new funding system based on output, i.e., hospital production, instead of the previous systems based on inputs, i.e., historical costs.
- Second, we assist to the decentralization of hospital management, mainly through the strengthening of middle management.
- And, finally the introduction of private management tools in the public hospitals.

The new funding system is embodied in a contract between the hospital and the Ministry of Health. This contract defines the production levels and the costs involved, as well as the objectives in terms of clinical indicators, such as first-second visit ratio, outpatient surgeries, the average time for hospitalization, and so on. The contract leads to an internal negotiation process between clinical services and clinical departments and between clinical departments and hospital administration, as well as external negotiations between hospital administration and ministry of health. The implementation of the contract is then monitored and controlled both internally and externally.

All this reform led to the emphasis controls, accountability, complex negotiations, i. e., the introduced of "accounting logic" (Broadbent and Laughlin, 1995) within all the system. Where there is emphasis on the purchaser-provider split, the output – the services provided – which are 'sold', must also have a price attached to them and hence here there is a need to do this as well as define the output. This provides a further financial focus. (Broadbent and Laughlin, 1995, p. 36)

Following three "ideal type" of control developed by Ouchi (1977), markets, hierarchies and clans, and considering that all elements of control would be found in all organizations simultaneously, Broadbent and Laughlin (1995, p. 37) argue that the changes in the public sector have been ones which have such to change the balance of control away from more hierarchical and clan type controls and towards a markets-based approach. If controls are to move from hierarchical and bureaucratic ones towards a more market-oriented approach then there are certain requirements which have to be met. In particular, the ability to measure outputs and to provide a price for the outputs is essential. They argue that "accounting logic" is influential in promoting this shift in approach to control and that accounting as it is currently practised provided the technology for operationalizing it. Accounting logic, they say, is a general approach built on two assumptions:

1. That any activity needs to be evaluated in terms of some measurable outputs achieved and the value added in the course of any activity-
2. That it is possible to undertake this evaluation in and through the financial resources actually used or received

Thus, a central element of this mode of thinking is the view that it is possible to quantify outputs and outcomes and link them to financial inputs." (Broadbent and Laughlin, 1995, p. 37)

The legislation which has been introduced in Portuguese hospital sector, particular that considering to funding system, has sought place a much greater emphasis on the measurement of outputs and outcomes and make linkages between these and finances:

> "…These are primarily aimed to introduce greater decentralization in the functional structure and a greater ability directive organs maximum and intermediate hospital management, especially of boards of directors and department or service as well as a clear identification of their responsibilities in hierarchical line.
>
> The new organizational model requires to all professionals qualifications to work in multidisciplinary health teams and their managers leadership skills and knowledge to enable them to make efficient use of management tools at their disposal.
>
> In addition to recognizing the irreplaceable contribution of health professionals, and to respect their skills or legitimate interests, this new system gives them greater autonomy and accountability in the corresponding clinical management, as well as incentives and quality care.
>
> In parallel, the traditional model of hospital funding, based on historical budgets, will also be replaced by a new payment scheme acts, techniques and services actually rendered, according to a price list only for the whole NHS, which simultaneously classifies as well as contracting services for concrete objectives, tailored to the needs of populations and capacities of institutions, rewarding merit and performance professionals.
>
> These will be monitored according to a system of regular evaluation, including a set of weighted factors, in close liaison with production carried out demonstrated the efficiency and quality of results. (Introduction of Decree Law nº 188/2003, 20 August 2003, Portuguese Republic)

In doing so it has implement the notion of 'accounting logic' which emphasises the evaluation of activities both in terms of measurable outputs and through the lens of financial resources. Implementing this type of logic means that the controls which are exercised will be ones which also emphasise this approach and this has implications for professionals. (Broadbent and Laughlin, 1995)

Indeed, the market approach exerts a kind of control over healthcare provider that, also and consequently, pressures them to a more hierarchical control over professionals:

> "In implementing 'accounting logic' the rhetoric has been that of seeking the efficiency provided by the market. However, there is also evidence of more hierarchical control being implemented. Market-based controls and hierarchical control both require a defined output and some codification of the transformations process. Market based controls also require that the output be expressed in financial terms (i.e. price) so that exchange can be implemented. It follows that any attempts to move to these modes of control will affect the nature of professional work which is governed by them if these tenets are applied." (Broadbent and Laughlin, 1995, p. 46)

This hierarchical control has in turn give origin to a new concept of professionalism, which recognizes changes and continuities with professional *ideal type* of Parsons. "Organizational professionalism" (Evetts, 2010) is a new way of theorised changes occurring in professional work within complex hierarchical organizations like hospitals.

3. Organizational professionalism

Later in the sixties, functionalist theorists of profession were heavy criticized. Their scientific support, mainly theirs ideological neutrality, were questioned. Professions underwent a "crises of confidence and accountability" (Leicht et al, 2009, p. 586) which created the bases for new approaches. The paradigm of power (Freidson, Johnson, Larson) open up a debate between the theses of *professional power dominance* and *professional power decline*.

Although in the past most doctors work in a "*solo practice*" logic (Freidson, 1970, p. 87 - 90), now most medical work takes place in healthcare organizations like hospitals. The ideal type

of Parsons (1939), i.e., professionalism in its pure sense, no long exist, or rarely exist. It is now organizationally defined and includes the logics of the organization and the market, managerialism and commercialism. Freidson and Rhea (1972, p. 185) argue that the discussion about professionals and scientists working in formal organization revolves around the issue of control – namely, whether or not conventional bureaucratic methods are appropriate or practical for controlling the work of scientists and professionals.

While there has been a tendency to assume that professionalization and bureaucratization are antithetical processes, recent research and analysis has been much more sensitive to the way in which the expansion of professional power and authority has promoted the advance of more sophisticated forms of organizational surveillance and control. (Reed, 1992, p. 206-207) In some respects the growing focus on organizations marks a departure from established sociological approaches to the study of the professions. (Muzio and Kirkpatrick, 2011)

It is wildly recognized that the growth of managerialism has led to a concomitant loss of professional dominance and influence. (Freidson, 1984, Fitzerald, 1998, Evetts, 2013, Muzio and Kirkpatrick, 2011) The professions are undergoing unprecedented calls for greater accountability and efficiency Leicht et 2009, p. 581). One way to interpret these changes is to see it as a threatened to professions. Under these perspective, the concept of *deprofessionalization* (Haug, 1973) competes with the concept of *proletarianization* (Oppenheimer, 1973). The first one emphasis the progressive erosion of the key distinctive characteristics of professions. Chamberlain (2013) presented a clear review of *deprofessionalization* these:

> **Haug (1973)** argued that a 'tipping point' had been reached, with medicine starting to lose its prestigious social-political position. …. First, while medical knowledge was rapidly expanding it was undergoing a process of codification at a general level. This, **Haug** argued, was leading to medicine losing its control over its defined body of knowledge due to a rise in automated retrieval systems, such as computer algorithms, for

> symptom assessment. Second, the public were becoming more educated, better informed about health matters, and more likely to challenge physician authority than ever before. Third, as medical knowledge expanded, medicine as a profession was increasingly fragmenting into specialties and sub-specialties, with individual doctors becoming ever more dependent upon each other for expert advice, as well as ever more dependent upon non-medical expertise. One physician no longer held all the power over a patient. This reduced even further individual and collective autonomy. Fourth, there had been a growth in the patient self-help groups and a rise in alternative medicine as public trust and belief in medical expertise declined. It became ever clearer through high profile media cases, that in reality medicine's cognitive and altruistic claims did not live up to expectation. Fifth, increases in medical care costs meant the public were demanding doctors be held more accountable for their actions. Indeed, in some cases, they wanted the principle of medical self-regulation to be abolished. (Chamberlain, 2013, p. 105)

The *proletarianization* these argue that a "white collar proletarian type of worker is now replacing the autonomous professional type of worker in the upper strata of professional-technical employment….Bureaucratic organizational structures lead to proletarian conditions of work and, in turn, defensive reactions which can be considered the beginning of a working-class consciousness. (Oppenheimer, 1973, 213) The work of professionals was becoming subject to a process of rationalisation in the name of economy and efficacy... For Oppenheimer a process began whereby administrative routines, measures and targets controlled professional work. His central thesis was that the work of professionals was increasingly becoming subordinated within bureaucratic structures to the control of administrative elites operating under fixed rules and procedures, which the professions had no control over. (Chamberlain, 2013, p. 106)

In contrast, Freidson (1983, 1984) evaluates the theories of *deprofessionalization* and of *proletarianization* and suggests strong arguments for their rejection. He views clinical autonomy as the main support of physician's power, status and prestige over other clinical professionals as well over managers. His supports the idea of restratification, accordingly he distinguishes

between collective and individual autonomy and suggests that physicians, at the collective level, maintain their power as ever. So, in spite of these "assault on professionalism" (Freidson, 2001, p. 179-196), *professional dominance* (Freidson, 1983, 1984) is not in dangerous.

Evetts (2010, p. 4-11) identifies "occupational professionalism" and "organizational professionalism" as the two ideal-type of professionalism in knowledge-based work and he suggests a third interpretation which "returns to professionalism as an occupational value but in this interpretation professionalism is ideological and used as a means of practitioner/employee control. He argues that organizational principles, strategies and methods are deeply affecting most professional occupations and expert groups, transforming their identities, structures and practices" (p. 15), which in turn is creating a 'new' form of professionalism, though there are elements of continuity as well as of change:

TABLE 2: Changes and Continuities in Professionalism as Occupational Value

Changes	**Continuities**
Governance	Authority
Management	Legitimacy
External forms of regulation	Prestige, status, power, dominance
Audit and measurement	Competence, knowledge
Targets and performance indicators	Identity and work culture
Work standardization Financial control	Discretion to deal with complex cases, respect, trust
Competition, individualism, stratification	Collegial relations and jurisdictional competitions
Organizational control of the work priorities	Gender differences in careers and strategies
Possible range of solutions/procedures defined by the organization	Procedures and solutions discussed and agreed within specialist teams

Based on Evetts, 2010, p.15

According to the author, in identifying what has changed, certainly there are elements of hierarchy, bureaucracy, output and performance measures and even the standardization of work practices affecting professionalism and which are more characteristic of organizational forms of control of work and workers. When service sector professionals have proved enduringly difficult to manage and resistant to change, then an important part of the strategy became to recreate professionals as managers and to manage by normative techniques. The discourse of enterprise becomes linked with discourses of professionalism, quality, customer service and care. Professionals are also tempted by the ideological components of empowerment, innovation, autonomy and discretion. In fact, the measurement of and attempts to demonstrate professionalism actually increase the demand for explicit accounting of professional competences. The work organization's management demands for quality control and audit, target setting and performance review become reinterpreted as the promotion of professionalism.

As we can see, the introduction an 'accounting logic' is one of the major changes. The measure of the outputs achieved, the introduction of Targets and performance indicators, the standardization of work and its evaluation in and through the financial resources actually used or received, all of that are central element of 'accounting logic'.

4. Method

When we first started fieldwork we do not have as set of hypotheses plainly formulated and focused, and we do not even have a commitment with any theoretical framework and conceptual tools. All of that came along with the research process. This research was an opportunity to experience qualitative research as learning process where the "the researcher is a learner, continually and consciously making decisions that affect the questions pursued and the direction of the study" (Rossman & Rallis, 2012, p. 3) and we could also experience how

qualitative "research is recursive, iterative, messy, tedious, challenging, full of ambiguity, and exciting" (p.3). At the beginning, our research was mainly exploratory; however, as we work out the data and our theoretical readings improved, some relationships came up to our mind. When we tried to publish the paper, we do realized that the collection of data and analyses its content was just the start of the all investigation process. We had carefully followed all the procedures recommended in the exploratory qualitative research, special those indicated for case-study research (Yin, 1994) and interviews processes (??). Because data were very rich and we were very conscious of the rigour we put in its collection, somehow we feel we should not give up this research, so we proceed with our readings and data analyses conduct us to sociology of professions literature. However, our research question led us to accounting and organization literature. Then, the cross concept of new professionalism and accounting logic came out to our mind so natural that it seems it has been there since the begging. Then the requirement of a theoretical framework made all the sense to us. Indeed, while qualitative research is often exploratory, it is also explanatory to the extent that theory development and model building require an understanding and explication of relationships. (Bisman, 2010)

This study was conducted in the Otolaryngology Service (OS) of Hospital São João (HSJ), in Porto (Portugal). Currently, HSJ has more than 1,100 beds, employs 4,832 people (including 1,118 doctors and 1,696 nurses), provides healthcare in 33 medical and surgical specialties and has 9 additional diagnostic and therapeutic services as a means of support.

There were several reasons for studying this particular unit hospital. Firstly, we chose the OS because of the interest shown by its director in relation to the information provided by the department of AIS. A second reason was the fact that it has its own operating block and, thus, regularly faces clinical decisions involving high direct costs within the service. Thirdly, this service has good clinical performance recognised both within and outside HSJ, attested to by the

study conducted by ENSP between November 2006 and 2007, in which the service was ranked as the best in the country in terms of effectiveness/quality.

For the inference construction, we used the content analysis technique due to the adequacy of its qualitative character for dealing with the director's and physicians' views. We used this technique "to listen to what people have to say"; and because "we should explore the ideas and concerns which the subjects themselves come up with" (Greenhalgh, 2007). Besides, this technique is widely recognised as applicable in the medical area (Nilsson, 2009; Saboor, 2009).

We began with a general analysis of the hospital AIS. For that we held interviews with managers, to collect general information on hospital management, organisation and functioning, and to clarify technical issues of the AIS. Initially, besides having three meetings with the hospital financial manager, we hold two meetings the head of the Management Analysis Service, in charge of the AIS, and three meetings with the Otorhinolaryngology Department manager. These meetings served mainly to gather the accounting information handled internally and collect general information on the management, organization and functioning of HSJ. Since the purpose was mainly to collect data and clarify technical issues on the accounting information system, none of the meetings were recorded. However, written notes were taken when any personal opinion or perception about the functioning of the accounting information of HJS was expressed.

Interviews were tape-recorded, transcribed into the original language (Portuguese) and then translated into English. We also took brief notes during and after each interview in order to record 'other' information that was not captured on tape. This information ranged from observations of facial expressions, voice intonation and gestures, as well as periods of extended silence. In addition, notes were taken when interviewees refused to be tape-recorded and also in those parts of the interviews in which the interviewees requested not to be taped. As well as this,

some interviewees gave extra information once the tape recorder was switched off. For this reason, we devoted time after the tape recorder was switched off to an informal exchange of information.

The topics that we debate with the managers were the next. First, the use of the AIS throughout the hospital. Our purpose was to obtain their view on the potential impact of AIS on the achievement of institutional objectives. Second, we discuss the registration and data processing in the computer system. Our purpose was to reach some information about its reliability. Third, we asked managers about the demand of accounting information by service directors. Here, we aimed to approach if this demand was, or was not, inconsistent with the institutional objectives. Fourth, we asked for a detail on the type of information that AIS provided to the managers. We aimed to know if the majority of service directors received information on the direct costs of their service (for which they have decision-making power), information on production levels, or other type of accounting information.

Throughout our visits to the hospital we also collected and analyzed additional documentation for the purpose of triangulation: the Business Plan, the contract program where production under contract from the Ministry of Health is stated, the economic budget, the analytical accounting plan, the accounting maps where financial information is checked against "statistical data" on production, and other accounting documents, such as Balance Sheet, Statement of Results, Appendix to the Balance Sheet and the Profit and Loss Account Management Report.

After analysing all the aforementioned institutional documentation, we studied the views of the physicians. For it, we conducted in-depth, face-to-face interviews with fifteen of the seventeen physicians of the OS, including their director. Our initial aim was to interview all the medical staff, but one of the doctors was absent for health reasons and the another was

unavailable to due to the reduced amount of time (4 hours per week) that he worked in the OS. Most of the doctors were male (78.6%), their prevalent age group was from 25-30 (29%) and 35-40 (21%), and, in terms of professional category, a half of the interviewees were hospital assistants.

Thirteen interviews were tape-recorded after reaching the explicit permission of each interviewee. In addition, notes were taken for the two doctors that refused to be tape-recorded. As well as this, some doctors gave extra information once the tape recorder was switched off. For this reason, we devoted time after the tape recorder was switched off to an informal exchange of information.

Before beginning the process of interviewing, we designed an interview guideline (open-ended questions). This is based on the reviewed literature and our research goals in relation to this topic, and follows the criteria established by Strauss (1987). With these predetermined guidelines, we aimed to increase the reliability of our data by trying to ensure that all our respondents followed similar criteria in answering our questions in the different sections. To avoid confusing the interviewees, questions were not expressed in academic jargon (Bruns & Kaplan, 1987). We established general topics, stimulating discussions and the interchange of information (Yin, 1994) and questions were focused to avoid directing or limiting possible answers (McKinnon, 1988; Yin, 1994). Although we used the same guidelines for questions, interviewees were encouraged to do "all the talking" in the hope that new perspectives would emerge.

The topics discussed are summarised as follows. First, type of information - formal or informal - involved in doctors' clinical decision. Second, economic and financial consequences of their clinical decisions. Third, information that doctors had available in terms of production, costs and revenues associated with their individual work and their service. Fourth, type of

decision for which doctors used that information. Five, the influence that their service director exerted in the dissemination and use of information. Sixth, the information that doctors wanted/needed - type, regularity, and its format. Seven, their suggestions to improve the information system

The interview guide was put together in an effort to promote free and spontaneous speech on the issues mentioned above. At the time of the interview, it was very briefly explained that its purpose was to collect data for research. Given that one of the objectives was to verify whether doctors spontaneously mentioned economic and financial issues as one of the factors considered in the clinical decision-making process, and to ensure that the interviewees were not directed towards that specific question, the interview began with an open question. Basically, the interviewees were asked to explain how doctors make their clinical decisions and to explain, openly, what type of information and which factors they take into account when they have to make a decision as to the use of diagnostic tests or prescriptions. The depth of the interviews varied from XX to XX minutes, depending on the personality of the interviewees.

Data collected in the interviews was transcribed and then analysed with a computer program for qualitative data analysis (NUD.IST) using content analysis procedures. We listened to all interviews twice to familiarise with the language and discourse in their raw state. Next, we read the interviews in order to isolate units of text with relevant meaning. After choosing the units to be analysed, according to topics, ideas and concepts identified as the reading progressed, we imported texts to the NUD.IST program and began the coding process. Reread and recode several times until mutual exclusion, uniformity, relevance, objectivity and loyalty, productivity were achieved.

5. Results

The AIS provides common information to all services in order to monitor the service budget and the objectives under contract by hospital administration, and personalised data for each service, if requested. AIS information permits the historical development of the service to be analysed for each indicator, by comparing the current year and the degree of achievement of the objectives with that of the previous year, through a comparison of the values that were agreed upon and those achieved.

The results of the content analysis, the inference construction, are presented for each one of the questionnaire topics.

Evidence-based medicine versus patient-focused medicine

The central issue in spontaneous, individual clinical decision-making process taking place at the HSJ is the physician's orientation towards "evidence-based medicine" as opposed to "patient-focused medicine". Defensive medicine, medical intuition/experience and economic cost of the means of diagnosis and/or therapy are factors which carry greater or lesser weight depending on the job experience, focus, and personality, with traits such as (Levinson, 1993; Roter *et al*., 1995). Hence, economic efficiency was considered together with clinical efficiency in clinical decision-making processes. (it is a dichotomy classification that became clear even the process of the interviews. It is not completely antithetic, but it are two different approaches of thinking medicine.

Consideration of economic and financial parameters

Physicians do not ignore the economic limitations that their medical practice is subject to argue that their freedom in terms of therapy should be preserved. Therapeutic protocol and hospital forms are seen as two cost controlling tools that create ambivalent feelings in doctors. On the one hand, the physicians consider their freedom is reduced, but on the other hand, they recognise their

economic, organisational and professional advantages of these tools. Therapeutic protocol is the result of team consensus while hospital forms are defined by high-level hierarchy. The former has greater acceptance than the latter because, in some way, physicians participate in developing the protocol. All the negative effects of economic restrictions, such as a feeling of reduced freedom or of being constantly controlled, are mainly associated with hospital forms. Hence, the involvement of physicians in designing economic controls facilitates their ex-post acceptance when their clinical activity is limited by economic restrictions (Cardinaels, 2004).

Ethics and resources

In general, physicians hold the belief that their own medical ethics do not allow resources to be wasted, however they acknowledge the need to standardise professional behaviour patterns and to establish a system to monitor and control costs that introduces uniformity to professional conduct. Therapeutic protocol is understood to be a tool of consensus and of the medical staff's commitment to scientific criteria and economic and financial restrictions. Pondering the economic cost in the decision-making process only occurs when the patient's clinical situation is safeguarded. This means economic efficiency is subordinate to clinical criteria, i.e., in case of a conflict between economic and clinical criteria, the physicians' priority is applying clinical criteria.

Economic restrictions

Economic restrictions are seen by physicians as an imposition coming from further up the hierarchy than the service director, who is seen as a messenger of "undesirable news". The doctors' awareness of the costs involved in their clinical decisions is advanced internally and actively within the service, primarily at meetings, and institutionally, particularly through the computer system, which is seen as a controller. Hence, a negative atmosphere may be created in the service if the director does not take physicians' concerns into account. Economic and

financial information, particularly referring to budget and performance indicators, is used when communicating with the doctors in an effort to promote cooperation and participation in cost control and increased productivity. Doctors are the best source of information on the expenses necessary to guarantee the most efficient clinical services. Again, the service director plays an important role because he/she has to motivate the physicians and gain their collaboration in a matter which is very controversial for them.

Attitude towards AIS information

Physicians have an approximate idea of costs for the means of diagnosis and treatments that they prescribe. In most situations, this idea is limited to direct and explicit costs: number of follow-up visits, medicine, etc. Information sources are varied: consultation of official price lists; benchmarks may be provided by some private clinics; information provided by patients; previous clinical academic training, medical information delegates. Although many of these sources are external, the price of medication used in the hospital is provided internally by the AIS. Hence, they have increased economic awareness. However, hospital, and even service, costs and revenues, and their accounting assignation, are frequently ignored by doctors because of their perceived irrelevance when compared to medical information. This perception of irrelevance is a failure of AIS as it is unable to create value from the financial accounting information supplied. Nonetheless, the service's clinical performance indicators (average duration of hospital stay, first/second consultation ratio) are acknowledged by doctors and their actual or potential influence on clinical practice is recognised (Hoyt, 1995).

Implications of the results

Our results suggest that physicians are, in some way, prepared to assume economic criteria as an additional criterion in their clinical decision making process. Medical, professional or ethical

criteria will always be on a higher level than economic ones. On the one hand, institutional factors have shown their capacity to affect physicians' perception and use of the AIS information. So, hospital managers should stimulate the physicians' receptivity to draw on economic information through the aforementioned institutional factors: corporate culture, working environment, organizational support or control system, among others (Chilingerian, 1990). Hospital managers have the authority to make decisions on these institutional aspects, and should focus their decisions on encouraging medical staff to use of AIS information (Madorrán, 2004). On the other hand, procedural elements (most already implemented and assumed by physicians) can be employed as tools for medical staff consensus and commitment in dealing with economic and financial restrictions.

6. Discussion

Data analysis reveals that, although it is not possible to talk about complete, general integration of accounting information into clinical decisions, we can state that it is steadily becoming additional information that physicians consider in the decision-making process (Brunetti et al., 2011). As Cardinaels (2004) asses, the interest of physicians in the AIS design must not underestimate. However, physicians clearly discriminate between clinical and financial information, and value the former more highly in making their clinical decisions (Mason et al., 1999). Financial information is seen as a shortcoming that acts in detriment of their clinical activity.

Through this exploratory study, we were able to obtain a deeper understanding about the physicians' perception and use of the AIS information in the clinical decision-making process. Doctors' receptivity and interest in economic and financial information depends on a variety of personal, professional and institutional factors. Therefore, we can assess that there are three sets

of factors that determine information use. Firstly, deriving from individual personalities, there are personal factors including personal motives and work expectations. Physicians are people with their own personalities and specific personal conditions. As in any other profession, factors such as age or family situation are not unimportant.

Secondly, there are professional factors, where work experience and professional and personal perspectives on ethical rules are clearly recognised. Physicians are, above all, physicians and have a low-level of economic and financial training but high ethical values and principles (Kurunmaki, 2000; Peterson, 2007), deriving from their specific profession. It is more than sufficient to remember that it is the profession with the first public commitment to an ethical attitude in the medical practice, the Hippocratic Oath, from the fifth century BC. This is fundamental in understanding that they will never risk the patient's clinical situation in their decision-making process. Yet they know the importance of economic and financial limitations. In fact, they are aware of the service's clinical performance indicators, which can be considered pre-economic indicators (Gattnar, 2011).

Finally, there are institutional factors, such as corporate culture, management control system and interaction with supervisors (Moars, 2006). It is precisely the institution and its hierarchy which is observed to be the imposer of economic and financial restrictions. This observation, which in some way means the depersonalisation of whoever is responsible for constraints, is positive in that it facilitates relationships among different levels of the hierarchy and helps avoid personal conflicts.

In addition to having provided us with a deeper, more systematic knowledge regarding the use of accounting information employed in hospital services, this study allowed us to develop, mainly on a methodological level, our research ability, which could be useful in the future.

There are several possible lines for future research that emerge from this exploratory study. The logical continuation would be its extension to other hospital services in order to improve external validity of our findings. Another alternative would be to replicate this study in services of other hospitals. The identification of factors which determine the use of accounting information at middle management level by clinical service directors could be of interest as well. Given the lack of studies on this issue, the "methodological triangulation" approach appears to give us more possibilities for extending, completing and summarising knowledge.

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