

1. INTRODUCTION

1.1. Description of the Objectives of the Investigation in the Context of the Existing Literature

“Cost accounting has become an essential part of health care management”
(Finkler and Ward, 1999: xi-preface).

Cost measurement and cost management in the health sector are in the news. From a “passive“ reality where costs were seen as inevitable, because it was a social service and physicians were saving lives, we turned to a society that questions the use of tax pay money and demands transparency in public money management.

Hospitals must be rentable, but they should not downgrade the quality of their service. In line with this new reality, cost accounting appears as a way to evaluate and control management results and compare them with similar entities. It’s not possible to manage care unless the costs of different alternatives to provide care are known. And that is only possible if each organization is capable of measuring its own costs. Nowadays, all people that have to take decisions in health care organizations, and not just accountants, are aware of the value of understanding and knowing all they can about costs.

The main objective of this research is to understand how Setúbal’s Hospital Center (CHS) applies hospitals’ Cost Accounting Plan (PCAH) and functions with it. This study will also focus on the use of cost accounting outputs on the decision making processes, by physicians and hospital administration.

There are not many Portuguese articles about this subject.

The majority of the articles I found described the PCAH and output data use but not how Hospitals function with it. It was on Court of Auditor’s (TC) [*Tribunal de Contas*] reports that I found some recommendations concerning some practices that some hospitals were doing and some were not. The majority of the articles I read were international papers. The few Portuguese papers I read about this subject were in line with the evidences I got after my research.

As I did not find any paper or article that explained how the PCAH was applied for real in the hospitals, I tried to do that in my research. I did this studying a unique case, it is true, but it is my belief that the reality I found is the reality in other Hospitals. *“...case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a “sample”, and in doing a case study, your goal will be to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization). Or, as three notable social scientists described in their single case study done years ago, the goal is to do a “generalizing” and not a “particularizing” analysis...”* (Yin, 2003: 10-11)

1.2. Personal Motivations and Relevance of this Study/ Investigation

The subject “hospital management” was suggested by my mentor and I felt that was a challenge. As I have mentioned before, there aren’t many studies in this issue and the subject was in the order of the day. Anonymous Society (SA) hospitals were becoming Enterprise Public Entity (EPE) hospitals and almost every day hospitals were in the news. Besides that, I teach cost accounting so I felt that it was a real challenge to me.

I started reading some international papers about hospital management and I got really interested about knowing how Portuguese hospitals worked in this area. Was there a cost accounting plan? Was it used? Could hospitals data be compared?

After I had read the PCAH other questions became to appear. Were hospitals really using it? If they were, were they following every indication it gave? Did managers and physicians use the output information?

1.3. Research Methodology

Since this research is about a case study, I followed Ryan *et al.* (2002) and Yin (2003) steps to develop my work. According to Ryan *et al.* (2002) there are six steps that may be used in different order according to the course of the investigation. They are: (1) developing a research design; (2) preparation; (3) collecting evidence; (4) assessing evidence; (5) identifying and explaining patterns and (6) thesis writing. Yin considers four steps. I followed Ryan *et al.*'s (2002) steps but always using Yin (2003) to complement.

In this thesis the first two steps were simultaneous. The central theme was defined “Cost Accounting at CHS” but it was with literature revision that the research questions began to appear. At that point the main research question was clear “How was CHS working with cost accounting?” as well as other specific questions “How was CHS applying the PCAH?”, “If CHS was applying PCAH were all presupposes followed?”, “Reciprocal flows are being considered?”, “The cost drivers are the ones PCAH indicates?” and “How is cost accounting data useful for decision-making? “.

When (3) collecting evidence, I used semi-structured interviews. As I did not tape record the interviews, I converted all notes and memories of interviews right after they

finished, as described by Ryan *et al.* (2002). I did eleven interviews that totalled sixteen and a half hours. (4) Different people were interviewed and the same questions were asked. Information was being validated with hospitals reports, in order to guarantee data and method triangulation, as well as evidence quality. The evidences reached (5) were coherent to what TC reports reveal, as well as the Portuguese papers reviewed about the issue. In the last stage, writing-up (6), I summarized and integrated all the information I obtained from the more varied sources and made it a case study.

1.4.Thesis Structure

This study consists of five chapters, apart from chapter one (Introduction). Literature revision is the second chapter. This chapter consists of five parts and summarizes all the literature read. In the first part, I summarized some foreign studies made concerning Cost Accounting on hospitals. The aim was to understand the problems and the advantages felt in other countries when working with health cost accounting. In the second part, I mention a Portuguese study that analyses Vila Nova de Gaia's Hospital Center. This study main objective was to find out how cost accounting data was used by health professionals. In my research, I tried to understand the same reality.

In the third chapter I restrict my work field to Portugal and contextualized Public Accounting in this country. Portuguese Public Accounting evolution is presented, as well as a brief description of the Public Accounting Official Plan (POCP), and then I explore the Restructure Plan for Public Administration (RAFE). The evolution of the Official Accounting Plan of Health Ministry (POCMS) through the last two decades is then studied as well as its implementation. The changes occurred in Portugal in terms

of health sector expenditure are then focused, as well as the changes occurred in Portuguese hospitals. The list of the various hospitals existing in Portugal is provided. Then a brief analysis of SA/EPE hospitals performance is made. Cost Accounting on Portuguese hospitals is then focused. The last part of the third chapter is dedicated to the analyses of hospitals' cost accounting plan. The use of the cost department method in Portuguese EPE hospitals is analysed in detail.

Research methodology is the fourth chapter. In this chapter, I describe the steps taken to do my case study research. I followed the methodology of Ryan *et al.* (2002) and Yin (2003).

The fifth chapter is the empirical study itself. Before entering in CHS cost accounting, I made a summary of the history/description of CHS. Then, the accounting plan used on CHS and its cost accounting was exhaustively analysed and described. The use of its outputs by physicians, mainly service directors, is then focused.

In the last chapter, conclusion, I make an overview of the study. I identified the theoretical/practical contributions that, in my opinion, this case study has originated. I end this study referring the limitations I had to face in my research and some suggestions for further investigation.

2. LITERATURE REVISION

Before introducing cost accounting system (CAS) on Portuguese hospitals, it may be useful to analyse studies made in other countries about CAS on hospitals and the role health care professionals play in hospital management. The aim is to understand what were the problems and the advantages that have made difference with others. A Portuguese study was also reviewed concerning users of cost accounting outputs and their needs of information. This study is a case study about Vila Nova de Gaia's Hospital Center.

2.1. Foreign Studies Made Concerning Cost Accounting on Hospitals

Pizzini (2006) tried to find a relation between CAS, manager's belief in data and financial performance.

Pizzini studied 277 American hospitals to understand the relation between cost-system functionality, manager's belief about the relevance and usefulness of data and the financial performance. There are, according to accounting literature, at least four critical attributes of cost-system design and each element influences the relevance and usefulness of cost data. They are: (1) the level of detail; (2) the ability to disaggregate costs according to behaviour; (3) the frequency with which information is reported; and (4) the extent to which variances are calculated.

The first critical attribute is the level of detail. The researcher refers a study made by Feltham's (1977) to support that decisions based on more detailed information are expected to be more successful. Hospital managers need accurate and detailed information to make the best decisions regarding various issues. They have to decide about numerous problems regarding the services provided, the costumers that receive

the services, the individuals providing these services and the groups that pay for these services. In her study, Pizzini (2006) reached to conclusions, about this attribute, that corroborates Feltham's (1977) study: a greater cost detail is positively associated with more relevant and useful data for managers, more profitable hospitals, better cash-flows and lower administrative expenses (proportionally). Though, a better detail capability does not reduce clinical costs. Nevertheless, Pizzini refers several researchers: Banker & Potter (1993), Callahan & Gabriel (1999) and Gal-Or (1998) that concluded the opposite. These researchers concluded that more detailed and frequent cost data is not useful in decision making for multi-firms. The main reason has to do with the strategic behaviour that they require. It creates conditions where less product-cost information is the best choice. They concluded that this information is extremely useful for single-firms. Pizzini (2006) refers a study made by Lawrence in 1990 that reached the same conclusions. The researcher tried to prove that hospitals that supplied a greater cost detail had higher financial and operational performances but the conclusions she arrived did not support her hypothesis.

The second fundamental attribute is the cost classification according to its behaviour. Many researchers agree that this is the first step to have accurate cost information at all levels of detail (Kaplan and Cooper, 1998). To achieve this objective, the system should classify the costs as direct/indirect, fixed/variable and controllable/non-controllable. This classification cannot be arbitrary, or the detailed cost data is not useful. Hospital industry particularly needs this kind of classification because it has costs and a large amount of facilities that are used by many services. Coomb's (1987) showed that managers find it very important that a system can associate clinical activities with resource consumption. Controllable and non-

controllable costs distinction helps in the performance evaluation. We must not forget that hospitals managers have much less control in basic business functions such as pricing and services offered and delivered, than the majority of managers. For example: if a cost system shows that the emergency room is not profitable, the hospital could not simply close the doors of that service.

Frequency of cost reports is another critical attribute of cost system design. The majority of the studies concluded that the more frequently the costs are reported, the more “on time” is the information. If the information is reported monthly instead of quarterly, the managers can react sooner to problems and opportunities. Pizzini refers a study made by Eldenburg in 1994 that contradicts these ideas. He examined this issue and concluded that higher reporting frequency was not significantly associated with lower costs, but it does not state if there is a management improvement or not. In this research Pizzini concluded that more frequent reported data is positively associated with more relevant and on time information for managers, but has no association with financial performance.

The last important attribute is variance analysis. It may be appropriated for hospitals because its activity has uncertainty in task technology and output, which leads to difficulties in administrative monitoring. The fact that hospitals deal with fixed-price contracts, fixed reimbursement based upon a diagnosis related group (DRG), patient-day or procedure, force the hospitals to accept the risk of unexpected costs and utilizations. On the contrary, the conclusions Pizzini reached point to the fact that the variance calculation has no relation with relevance and usefulness of cost information. The hospitals that calculated more variances had lower profits and higher administrative expenses.

The results of this study also show that managers, when talking about cost data, give relevance to great detail, good cost classification and frequent information. But actual financial performance is associated only with great detail. This is due to the fact that the financial performance is, nowadays, characterized by operating margins, cash flow per bed and administrative cost control. The results show that more functional cost systems can help hospitals administrators to improve non-clinical aspects, such as cash management and administrative efficiency. However, highly functional cost systems have not been used to reduce clinical expenditures.

This study revealed that to improve hospital performance we have to focus on administrative processes and not on clinical processes because hospital managers have little control on clinical expenditures because physicians control clinical decisions. With appropriate cost data only, managers can try to influence physician behaviour. Pizzini stresses a study made by Eldenburg in 1994 that proved that when the physicians are presented with their own costs plus a comparative cost and operational information they tend to change their behaviour. But this cost data must be trustable. And this is a very sensitive issue for physicians and managers: trustable and useful data.

Some potential disadvantages of a cost system are pointed out by the author. One of them is the few evidences that greater functionality leads to “better” (more relevant and more useful) cost data. The main reason is that the “true” costs of products and services are unknown. Institutional theory suggests that hospitals may adopt a cost system just to gain external credibility and validation. It is obvious that in these cases hospital managers and physicians do not find this information useful. Pizzini (2006) refers a study made by Gal-Or (1998) that concludes that more detailed information

can, in fact, obstruct performance. She mentions also Schick *et al.* (1990) that state that too detailed, disaggregated, and/or voluminous information can reduce effectiveness in the decision process. Pizzini (2006) draws attention to the opinion of some researchers who support that variance data is not useful for managers to decide because interdependence between variances can produce measurement errors and others. Similarly, Cooper and Kaplan (1998) defend that variance analyses does not give information on cost overrun causes and variances can lead to short-term cost reduction instead of a continuous improvement. The final disadvantage of a cost system, referred by the author, has to do with the fact that benefits of greater functionality may not cover its costs. The existing literature recognizes the costs of highly functional systems but ignores this cost when investigating the performance effects of functionality. The implementation of a new system requires consulting, training and software expenses and the benefits may not exceed those costs. The author concluded also that more functional cost systems provide more relevant data that is used to performance decisions.

Pizzini (2006) agrees that to reduce health care expenditure there has to be a contention on the direct costs of patient care, and not only an improving of administrative efficiency. In the opinion of the author this paper provided the first empirical evidence that there is a relation between cost-system functionality and actual financial performance. This justifies the claims for greater investment in certain dimensions of hospitals cost systems. However, *ibid* concludes that the cost system functionality hasn't yet been introduced into the management of clinical expenditures and until this is a reality the usefulness of a cost-system design is limited.

Toso (1999) introduces what a CAS can do for health care managers and organizations. This study explicit the value of a cost accounting system and why do we need it. Toso (1999: 5) states that “*Hospital management is unlike the management of any other business*”. The main challenge of hospital managers has been to demonstrate how the costs of implementing and maintaining a CAS are offset by new revenues and cost reductions. According to the author they haven't been very successful. When health care industry turned from a regulated industry into a very competitive one, the aim became to increase market share and reduce operating costs. This lead to the development of cost accounting systems that can provide detailed clinical and financial information collected at a procedural level, useful to implement cost management at a departmental level. Besides that, CAS helps pricing decisions with health maintenance organization's (HMO)¹ and preferred provider organization's (PPO)². HMO's and PPO's are now beginning, according to Toso, to adopt the case basis of payment, so it will be important to have the cost per case detailed in fixed and variable components so that a product-specific pricing analysis can be made. CAS permits that and helps also strategic planning in today's competitive environment. For the first time hospitals are closing services and facilities that are not efficient (i.e. the volume does not cover the costs of delivering the service) and planning efforts should improve the health care system's financial position. According to Toso (1999), although health care systems are often seen as a non-profit organization, they cannot achieve its purpose on mission unless financial viability is achieved. Physician input is essential for a CAS, and with this, management has a powerful tool to control

¹ **Health Maintenance Organization-** A corporation financed by insurance premiums whose member physicians and professional staff provide curative and preventive medicine within certain financial, geographic, and professional limits to enrolled volunteer members and their families.

² **Preferred Provider Organization-** A medical insurance plan in which members receive more coverage if they choose health care providers approved by or affiliated with the plan.

physician behaviour (and this is a real “threat” to physicians, so they must be motivated to cooperate). The idea is not to release a patient before it is clinically appropriated, but to make the physicians aware of the financial realities management must deal with in order to maintain hospital viability.

The data collected is also useful to profitability analysis. The goal is to maintain the financial viability of the hospital, but managers should be aware that this information is to be used in the context of how hospital operates all of its services. So, if a procedure or case type is losing money that should not mean that we should stop it. The author concludes that hospitals that control costs will be the only survivor in this competitive environment. Financial performance is becoming the most important variable. The exception is the large teaching hospitals. Toso (1999) affirms that implementing a cost system is becoming cheaper every year. Hospital managers have worked with this information for several time and they are beginning to use information more effectively. But it is crucial that management understands the hospital production function. If not, how can it make decisions that will reduce the cost of providing a service without affecting negatively the quality of the service? According to Toso, CAS information does not replace management; it is instead, a tool that allows management to understand how the hospital provides its services.

Comerford and Abernethy (1999) made a study concerning the inevitable participation of health care professionals in financial management and the conflicts that may result from that reality. In their study they highlight the general idea that exists about the participation of health care professionals in financial management. The researchers affirm that health care professionals are beneath the pressure of doing their job and, also, be an active part on financial management of hospital resources.

According to the authors, prior research has already demonstrated that this aggregation of functions can create a role conflict because health professionals are usually high committed with their profession values but have an opposite position regarding managerial values. This situation can lead to role conflicts mainly when health professionals are directly involved on financial controls. With their research, the authors demonstrated that role conflict between health care professionals that are involved in financial control and financial management of hospital is not inevitable. They proved this proposition, by analysing data collected in a large Australian public teaching hospital. They reached the conclusion that if the professionals involved in financial management have high professional orientation and have been committed to the managerial objectives the almost inevitable conflict may not exist.

Another international paper reviewed is Finkler's (1991). The author addresses one of the most important variables in this process: human element. This study corroborates Comerford and Abernethy's study (1999). The importance of involving hospital personnel, mainly physicians, is crucial for the success of CAS. Budget, accounting and cost reports are accountant's responsibility. But plans only become reality, and specifically, cost control plans, if the other managers and workers are involved in the process. And they control costs. It is the hospital that has to reconcile individuals and hospital interests. Finkler (1991: 15) believes that "*cost accounting systems are one area in which we can work on creating that common bond of interest*". Most of the time, a system of incentives is the instrument used by organizations to serve both the best interest of employees and organizations. Bonuses systems must be used carefully. If everyone gets a bonus, the feeling is that if you do nothing you will get a bonus too. In this case, very few people will work hard to

control costs. On the other hand, if only some employees get a bonus it may create a competitive feeling among a group that was supposed to work as a team. An alternative to bonuses are, what Finkler (1991) considers an “underused managerial tool”: a letter from the supervisor to subordinate. This alternative is cheap and, most times, effective. When evaluation is good everyone is happy to have their work recognized by superiors. On the other hand, writing critics will in most cases, make managers work harder in order to avoid more critics in the future. The author refers that special attention must be taken with targets definition. They should not be placed too high because if people work hard and fail, they will start to wonder if it is worth the effort. The objectives proposed to managers must be achievable.

“Pay-checks are simply a bribe to get people to come to work. Once they are at work, we need to provide additional incentives to make sure that the hospital benefits from their efforts to the greatest extent possible.” (Finkler, 1991: 17)

This theme was also focused by Abernethy and Vagnoni (2004) that studied the impact of authority structures on the use of accounting information systems for decision control and decision management. Their study was based on data collected from physician's managers in large public teaching hospitals in Italy. The authors concluded that delegating authority to health care managers makes them more consciousness about their costs and when in a decision process they search assist on accounting.

Another study, narrower in terms of implementation, was done by Goedee *et al.* (2002). They studied if cost calculation and budgeting training influenced the financial skills of medical professionals in European intensive care units. They submitted medical directors and head nurses in 13 European countries to a training that consisted

on introduction to the main principles of cost calculation and budgeting. They concluded that an introductory training dramatically improves their costing and budgeting skills. Therefore, the authors believe that training like this could be a component to improve cost-awareness in ICUs and eventually resulting in a more efficient use of ICU resources.

2.2. A Portuguese Study Concerning Cost Accounting on Hospitals

A study made by Barbosa (2006) about Vila Nova de Gaia Hospital Center tried to appraise the importance of accounting information among the professionals who operate in public hospitals. This study measured also the perceptions of those professionals about the accounting information produced.

The author of this study refers the different attitude that exists, in the same hospital, between health professionals and hospital administrators (including the staff of the finance department). Health professionals are the essence of cost control problem. They are not trained to care about costs and it is crucial to involve them in this matter. Otherwise it is impossible to control costs on health services.

According to Barbosa, Service Directors are the main source of accounting information for hospital workers. She concluded also that people that had, or have, leadership functions are the ones for who cost accounting information have greater impact on their activity. In this study it was possible to get to know the main reasons why physicians did not use cost accounting information: it was not part of their routine, it was difficult to obtain and they ignored the possibility to consult it. Nevertheless, this information was considered by physicians as the most important. Hospital personnel named some measures to be taken in order to have access to cost

accounting information: periodic disclosure of key accounting maps, the publication of the most important accounting issues in Newsletters, the development and periodic disclosure of a set of indicators of effectiveness, efficiency of the various services, the disclosure of studies, cost-benefit analysis and accounting comparative information over different periods.

This study concluded that *“despite accounting being a mean of supplying information to decision-making and the existence of many professionals that produce that information, it is still rarely used by its users.”* (Barbosa, 2006: 141).

3. PUBLIC ACCOUNTING IN PORTUGAL: EVOLUTION AND IMPLEMENTATION IN HOSPITALS

3.1. Evolution

In the last two decades the Portuguese public accounting and the role that it plays in the public sector have been the source of increasing investigation.

The Public Financial Administration Reform started in 1990. On February 20th, Public Accounting Basis Law (Lei n°8/90) was approved and this law stated the basic principles of the Reform of Public Administration.

Basically the autonomy given to “Central Administration Services and Organisms” could assume two forms:

- Administrative autonomy (Art. 2° Law n° 8/90, February 20th - general rule);
- Administrative and Financial autonomy (Art. 6° Law n° 8/90, February 20th - exceptional rule).

The services and organisms that only had Administrative Autonomy continue to use the cash system (which means that only payments and acts of receiving are considered, as well as assumed compromises) and had to implement a CAS to evaluate management results.

The services and organisms that had Administrative and Financial Autonomy should use the accrual system and had to adapt its accounting system to an existing one: Official Account Plan (POC), or other. This approached public entities to the enterprise model. The problem started when there was no complete adaptable accounting systems for some entities and some sectoral plans became to appear without any common base:

- P CISS – Accounting Plan for Social Security Institutions, approved by Decree-Law n.º 24/88, January 29th;
- P OCSS – Official Accounting Plan of Health Services, published in 1980 and reviewed in 1991 and 1995;
- Accounting Plan for “Serviços Municipalizados e Federações de Municípios”, published in 1993, June 22nd.

Public accounting was becoming uniform but without harmonization. Therefore in 1995 a Resolution (nº23/95) is published: a sort of Mission was created to make a public accounting official plan that would become a national reference. Until 1997 there was no uniformity on public sector accounting. On September 3rd 1997 the first Public Accounting Official Plan was approved (Decree-Law nº 232/97). The existing plans were abolished and every central, regional and local administration organisms were obliged to use the new one, social security included. P OCP was not applied to the ones that were public enterprises but was applied to private organizations with no profit goal that have the majority of their funds from the state. The same law created a commission - Public Administration Commission of Accounting Normalization (CNCAP). The main function was to coordinate and improve the P OCP and to coordinate P OCP sectoral application. This function had a reason: besides the abolition of the existing sectoral plans, after the P OCP approval, the RAFE was not over. P OCP is the base that unifies general issues as accounting principles, inventory costing methods, and maps to report results. Based on it, several sectoral plans were afterwards approved and published:

- P OCAL - Official Accounting Plan for Local Authorities, DL nº 54-A/99, February, 22nd;

- POC – Education - Official Accounting Plan for Education Sector, *Portaria* n° 794/2000, September 20th;
- POCMS - Official Accounting Plan of Health Ministry, *Portaria* n° 898/2000, September 28th;
- POCISSSS - Official Accounting Plan for Solidarity and Social Security System, DL n° 12/2002, January, 25th.

This study will focus POCMS and this sectoral plan provides, as mandatory, the application of Hospital's cost accounting plan (PCAH).

3.2. Brief Description of POCP

Traditionally, public accounting's main goal was to show that all organisms applied their financial resources as it was approved by budgetary authorities.

The aim of public organizations is a social one and it has to do with the satisfaction of needs that private entities usually do not answer. So, in the conception of public entities "profit" is a word that does not appear. Although this still was true, "public administration" way of thinking had to change. The need of severity and transparency on public expenditure led to a major responsibility on its use. "On time and trustable" accounting information became extremely essential to allow public expenses to be analysed according to legality, economy, efficiency and effectiveness criteria. This information is also needed to reinforce public money management transparency as well as to clarify public administration financial relations. This conscience is stated in POCP and for that reason this instrument is supposed to be the answer to the existing gap.

POCP's main goal is to create conditions to integrate budgetary, assets and cost accounting in order to have a modern public accounting that can help managers to decide. Besides that, POCP should allow (1) budgetary strategic decisions taking, mainly on biannual budgets, based on real information about commitments that will have effects on coming years, (2) to enable information to support public administration finance activity control by the entities allowed to do that, (3) to strengthen financial and asset situation transparency as well as public administration financial relations and a (4) fast and reliable implementation of the indispensable elements used in the achievement of most relevant items of Portuguese accounting.

There was a concern to guarantee an easy adaptation of the already existing experiences on accounting planning in Portuguese public administration. All of them were based on POC, so POCP was conceived in order to maintain, as possible, the same structure. POCP has an account plan that enables budgetary and asset accounting, and ensures stability with POC, making the comparison with private sector possible. Due to its specification and inexperienced application, POCP has a detailed explanation on how budgetary accounts should be used. It was used the POC's 0 (zero) class to budgetary accounting. This class is used to register budgetary execution operations until the moment that third debits and credits are created. Then it articulates with assets accounting through "third" class account (class 2). We can see the budgetary execution through the balance of each 0 account.

9 Class, as on POC, is reserved to cost accounting, but nothing is said about how it should be implemented, as on POC. Carvalho *et al.* (2007) consider that cost accounting in public administration analyses and registers the patrimony components to be used in management. Cost accounting calculates and analyses organizations

costs, profits and results in an analytic way and regarding each management's needs. Therefore, makes sense to let to organizations the freedom to organize their own cost accounting system. It is also consensual that each sectoral plan should present a cost account plan so that similar organizations, with similar needs, use the same structure and accounts. Doing this, it is guaranteed that data is uniform, harmonized and comparable.

3.3. The Official Accounting Plan of Health Ministry – Its Evolution through Last Two Decades

In 1980, it was approved the official accounting plan of health services (POCSS) that became outdated in 1989 with the approval of the POC (Decree-Law nº 410) for companies. In 1991 a new POCSS (*Diário da Republica* nº 231) is approved and basically tried to adapt to the new POC. In 1995 a new POCSS is approved and starts its functions on 1996, January 1st. On 1997, September 3rd, POCP is approved (Decree-Law nº 232/97) and with it came the necessity to adapt the last version of POCSS/1996 to it. In 2000, September 28th POCMS is approved (*Portaria* nº 898). The main stages of Accounting Plans used by Health Ministry can be resumed as in Exhibit nº 1.

Exhibit nº1 - Main Stages of Accounting Plans used by Health Ministry

1980, September 25th – POCSS- Official Accounting Plan of Health Services was Approved

1989 – POC - Official Accounting Plan (for private enterprises) was Approved by Decree-Lei nº410/89, September 21st

1991, July 12th – a new POCSS is approved (published in Diário da República nº231, October 8th). This version is an adaptation of last POCSS to POC

1996 – After a revision by a Normalization Commission, a new POCSS is approved

1997, September 3rd – POCP - Public Accounting Official Plan is approved. It becomes the basis for any Public Entity Accounting Plan.

2000, September 28th – POCMS - Official Accounting Plan of Health Ministry was approved.

3.4. Governmental Programme for Public Administration Restructure

On 2005, 4th of August, the Portuguese government approved the Governmental Programme for Public Administration Restructure (PRACE) (Minister Council Resolution nº124/2005). The main objectives were the promotion of citizenship, economic and public services quality developments, with efficiency advantages by the simplification, rationalization and automation that allows the reduction of the number of services and its resources.

In the synthesis of PRACE we can find that other essential item is related to the capacity of leadership and the stimulation to a new management culture. Managers have new assignments, they have targets to achieve and will be evaluated by their performance. The new administration culture is based on the idea that responsibility for targets achievement will be real. Without this there is no transparency, nor responsibility, nor motivation.

3.5. POCMS's Implementation

As it was said before, since the early 80's, all health ministry services had to apply an accounting plan, POCSS. But with POCP's creation POCSS's adaptation to it was required, so that POCP's objectives could be achieved using the already existing accounting plan. This happened in all Public Ministry areas and most entities faced difficulties mainly due to two factors. One of them had to do with the fact that top managers were less deeply into it, wasting real potentiality of a new information system conceived and implemented regarding each reality: they thought it was just an accounting procedure and rules changes. The other factor was the deficient professional skills of the majority of people that had to apply these new rules.

This adaptation was easier in health ministry than in the other areas (education, local) because most of health ministry entities were used to report information. Basically most entities just had to adjust procedures and rules. An entity was created to coordinate and to follow this process: Health Information Technology and Finance Management Institute (IGIF). This entity really helped to speed the process of POCMS's implementation. On line with PRACE, and materializing the effort of structural rationalization, IGIF was extinguished in 2006, (by n°39 Cabinet Resolution) and its functions were integrated on Central Administration of the Health System (ACSS) by Decree-Law n°219/2007. But there was a big novelty to health entities, as POCMS n°2.6 refers "...accrual budgetary accounting is absolutely new...", so there was a need to explain some accounting procedures, in a simple way.

This new plan had two implementation stages. In the first stage was selected a sample of administrative and financial autonomy entities to implement POCMS in 2001. The entities chosen were: INEM, INFARMED, Sto. Antonio's Hospital

(O'Porto), N^a Sra. da Oliveira Hospital (Guimarães), Sta. Cruz Hospital (Lisbon); S. Gonçalo Hospital (Amarante) and Mirandela's Hospital. On the second stage POCMS became generally applied to all entities since 2002, January 1st.

The entities that are obliged to apply POCMS were all health Ministry organisms and services as well as autonomous organisms under its guardianship, that are not public enterprises or private organizations with no profit goal and that have health as their primary activity (or dependent of the entities mentioned above). These entities must be mostly funded by the state budget or from their private budget. So, this accounting plan was applied on National Health Service (SNS). In 1990, the Public Accounting Basis Law was approved. In the same year, and following the public sector reform, the Health Basis Law was approved (Law n^o 48/90). This created an imperative revision of SNS stature and on 1993 a new version was approved (Decree-Law n^o11/1993).

On 2002, the first change on Health Basis Law was made by Hospital Management Law (Law n^o 27/2002) which has attached the new legal system for hospital management.

3.6. Description of Changes Occurred in Portugal

3.6.1. Evolution on Health Sector Expenditure

According to OCDE (OCDE 2006 – Eco-Santé), the total expenditure in Portuguese health has grown since the 70's. This occurs due to a mix of various factors: the increase of average life expectancy, the average per capita income, technological and scientific progress and the enlargement (supply) and improvement (quality) of public coverage of health care.

Analysing the evolution of the total health expenditure as a percentage of Gross Domestic Product (Exhibit nº 2), we see that it is progressively increasing from 1970 to 1995, when, for the first time, Portugal surpasses the European average. In the following years maintains that position and in October 2007, OCDE reports 2005 results and Portugal achieves 10,2%. According to the last version updated in June 2008, in 2006 Portugal maintains 10,2%.

Exhibit nº2 - Total Expenditure on Health in Percentage of Gross Domestic Product

	1960	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Austria	4,3	5,2	7,0	7,5	6,5	7,0	9,8 b	10,0	10,0	10,1	10,2	10,3	10,2
Belgium		3,9	5,6	6,3	7,0	7,2	8,2	8,6	8,7	9,0	10,1 b	10,2 e	10,3 e
Czech Republic						4,7	7,0	6,5 b	6,7	7,1	7,4 b	7,3	7,2
Denmark			8,7	8,9	8,5	8,3	8,1	8,3	8,6	8,8	9,1 b	9,2 e	9,1 e
Finland	3,8	5,5	6,2	6,3	7,1	7,7	7,5	6,6	6,7	7,0	7,3	7,4	7,5
France	3,8	5,4	6,4	7,0	8,0	8,4	9,9 b	9,6	9,7	10,0	10,9 b	11,0	11,1
Germany		6,0	8,4	8,4	8,8	8,3	10,1	10,3	10,4	10,6	10,8	10,6	10,7
Greece		4,7		5,1		5,8	7,5	9,3	9,8	9,7	10,0	9,6	10,1
Hungary							7,3	6,9	7,2	7,6	8,3 e	8,1 e	
Ireland	3,7	5,1	7,3	8,3	7,5	6,1	6,7	6,3	7,0	7,2	7,3	7,5	7,5
Italy						7,7	7,3	8,1	8,2	8,3	8,3	8,7	8,9
Luxembourg		3,1	4,3	5,2	5,2	5,4	5,6 b	5,8	6,4	6,8	7,6 b	7,9	7,9
Netherlands			7,1	7,5	7,3	8,0	8,3	8,0	8,3	8,9	9,1	9,2	
Poland						4,8	5,5	5,5	5,9	6,3 b	6,2	6,2	6,2 e
Portugal		2,5	5,1	5,3	5,7	5,9	7,8 b	8,8 b	8,8	9,0	9,7	10,0	10,2
Slovak Republic								5,5	5,5	5,6	5,9	7,2 b	7,1
Spain	1,5	3,5	4,6	5,3	5,4	6,5	7,4	7,2	7,2	7,3	7,8 b	8,1	8,3
Sweden		6,8	7,6	9,0	8,6	8,3	8,1	8,4	8,7	9,1	9,3	9,1	9,1
United Kingdom	3,9	4,5	5,5	5,6	5,9	6,0	7,0	7,3	7,5	7,7	7,8 b	8,1 d	8,3 d

Legend: b: Break in series e: Estimate d: Differences in methodology

Source: OECD Health Data 2007 - Version: October 2007

3.6.2. Changes Occurred in Portuguese Hospitals

According to Health Systems Portuguese Observatory (2005 Spring Report – New Health Public Service), of the several initiatives taken during 1995-2002, only two followed its course (the governmental discontinuity, due to changes on Health

Ministry, minimized the effectiveness of measures taken³). From the two initiatives that remained, one had to do with Hospitals’ Enterprise model. As Health Minister of the time, Correia de Campos (2003) referred, this has been an intention since 1968 when Hospital Statutes were approved (Decree-law n° 48357/68). This law already mentioned that hospitals’ organization and management should be done as private management. This idea remained on Decree-Law n° 19/88 released twenty years later. On 1990, Health Basis Law reaffirmed that management on health units should obey, as possible, to private management rules and that new management experiences are allowed, as long as they are controlled by rules defined by management. This law was first amended, on 2002, with Hospital Management Law (Law n° 27/2002). This law approved also a new Hospital Management Legal Regimen and according to it hospitals could adopt six models: (1) Administrative Public Sector (SPA) hospitals; (2) Enterprise Public Entity (EPE) hospitals; (3) Anonymous Society (SA) hospitals (that were the first step to “enterprise” hospitals); (4) Private clinic with or without “hospital” on its denomination; (5) Institutions and services managed by public or private entities, according to management agreement; (6) Private/Public Partnership (PPP) hospitals. This last model had a change on March 12th 2008. The current Health Minister, Ana Jorge, announced that Private/Public Partnership’s hospitals would only be applied to new hospital constructions. Clinic management on public hospitals will be state’s responsibility.

The first approach to Hospitals Enterprise model was made in 1995 when Hospital Fernando da Fonseca started a management concession contract with a private entity: “José de Mello Health” and originated the “Hospital Amadora/Sintra, Sociedade

³ Between 1990 and 2002 there were 7 Ministers and 14 State Secretaries in Health Ministry

Gestora, SA”. The first hospital to become an enterprise was Hospital São Sebastião’s in Santa Maria da Feira in 1998. On 1999, Health Local Unit of Matosinhos is created and on 2001 Algarve’s “Barlavento” Hospital starts functions. These two experiences followed the same internal management rules as applied on Hospital S. Sebastião. During 2002 and 2005, thirty one hospitals became anonymous societies, of a total of thirty four that existed in SPA.

The main differences between hospital management’s traditional model and enterprise model are the financing and the difference between financier and lender of services. Nowadays, on enterprise hospitals, ACSS is the financier, through *contratos-programa* “*through which the hospital commits to certain levels of activities (admissions, external consultations, emergency department episodes and ambulatory care cases) in return for an overall yearly budget. Negative financial results are to be internalized by the hospital, although it is yet to be seen what the Government will do in the event of repeated negative financial results*” (Health Systems in Transition, 2007: 54). Until 2005, SPA hospitals financing was done assuming the expenditure budgeted in the beginning of the previous year and not assuming the real one. On 2005 SPA hospitals had, for the first time, a *contrato-programa*.

In accordance with what was foreseen in Stability and Growth Program, a diploma converting SA hospitals into EPE hospitals was published (Decree-Law nº 93/2005) and by the end of the year, its statutes were approved (Decree-Law nº 233/2005). The aim of this change was to “strengthen the autonomy of health national service management”.

Actually, in SNS there is the coexistence of hospitals that integrate SPA and are public institutes in their legal form, and EPE hospitals included on Enterprise State Sector, and it was assumed that hospitals managed by private entities in a public-private partnership regime would exist. But in March 2008 Government changes opinion towards this subject and PPP regime in hospitals' clinic management should no longer be considered. The reason has to do with the bad experience of Amadora-Sintra's hospital. This concession should be over in 2009 and PPP's in hospitals will only concern the construction of the projects. Nevertheless, and according to 2008 PPP's Report, from Finance and Public Administration Ministry, until the end of 2008, four public-private partnerships are still going through a tender process. Those PPP's include clinical management and are related to Cascais, Braga, Vila Franca de Xira and Loures hospitals.

Exhibit nº3a - List of Public Administrative Sector Hospitals / SNS

SPA HOSPITALS

Central Hospitals
Centro de Medicina de Reabilitação da Região Centro-Rovisco Pais
Centro Hospitalar de Cascais
Centro Hospitalar de Coimbra
Centro Hospitalar de Lisboa
Centro Hospitalar de Vila Nova de Gaia
Centro Psiquiátrico de Recuperação de Arnes - Soure
Hospitais da Universidade de Coimbra
Hospital Central e Especializado de Crianças Maria Pia
Hospital de Curry Cabral
Hospital de Dona Estefânia
Hospital de Joaquim Urbano
Hospital de Júlio de Matos
Hospital de Magalhães Lemos
Hospital de Miguel Bombarda
Hospital de São Marcos – Braga
Hospital de Sobral Cid
Hospital Psiquiátrico do Lorvão
Instituto de Oftalmologia Dr. Gama Pinto
Maternidade de Júlio Dinis
Maternidade do Dr Alfredo da Costa
District Hospitals
Centro Hospitalar das Caldas da Rainha
Centro Hospitalar de Torres Vedras
Hospital Amato Lusitano - Castelo Branco
Hospital de Reynaldo dos Santos - Vila Franca de Xira
District Hospitals
Hospital de São Miguel - Oliveira de Azeméis
Hospital de Sousa Martins – Guarda
Hospital Distrital de Águeda

Hospital Distrital de Chaves
Hospital Distrital de Faro
Hospital Distrital de Lamego
Hospital Distrital de São João da Madeira
Hospital do Espírito Santo – Évora
Hospital Doutor José Maria Grande - Portalegre

Level 1 Hospitals

Centro Hospitalar da Póvoa do Varzim/ Vila do Conde
Hospital Conde de São Bento - Santo Tirso
Hospital de Alcobaça Bernardino Lopes de Oliveira
Hospital de Cândido de Figueiredo - Tondela
Hospital de José Luciano de Castro - Anadia
Hospital de Nossa Senhora da Ajuda - Espinho
Hospital de Nossa Senhora da Assunção - Seia
Hospital de Nossa Senhora da Conceição de Valongo
Hospital de Santa Luzia de Elvas
Hospital de São José de Fafe
Hospital de São Pedro Gonçalves Telmo - Peniche
Hospital Distrital de Pombal
Hospital Distrital do Montijo
Hospital do Arcebispo João Crisóstomo - Cantanhede
Hospital do Litoral Alentejano
Hospital do Visconde de Salreu - Estarreja
Hospital Dr. Francisco Zagalo - Ovar

Source: Court of Auditors (2007). Relatório de Auditoria nº 01/2007 [Auditing Report No.01/2007]

Exhibit nº3b - List of the Other SPA Entities / SNS

OTHER SPA ENTITIES

ARS	Administração Regional de Saúde do Norte Administração Regional de Saúde do Centro Administração Regional de Saúde de Lisboa e Vale do Tejo Administração Regional de Saúde do Alentejo Administração Regional de Saúde do Algarve
Other Health Care Service Providers	Centro de Histocompatibilidade do Norte Centro de Histocompatibilidade do Centro Centro de Histocompatibilidade do Sul Centro Regional de Alcoologia do Porto Centro Regional de Alcoologia de Coimbra Centro Regional de Alcoologia de Lisboa Instituto da Droga e da Toxicodependência Instituto Nacional de Emergência Médica
Other Services supported by SNS budget	Instituto de Genética Médica Dr. Jacinto de Magalhães Instituto de Gestão Informática e Financeira da Saúde Instituto Nacional de Saúde Dr. Ricardo Jorge Instituto Português do Sangue Instituto da Qualidade em Saúde

Source: Court of Auditors (2007). Relatório de Auditoria nº 01/2007 [Auditing Report No.01/2007]

Exhibit nº3c - List of Enterprise Hospitals / SNS

State Enterprise Sector Hospitals

Central Hospitals	<p>Centro Hospitalar de Lisboa Ocidental, E.P.E. Centro Hospitalar de Setúbal, E.P.E. Hospital de Santa Maria, E.P.E. Hospital de Santa Marta, E.P.E. Hospital de São João, E.P.E. Hospital de São Teotónio, E.P.E. Hospital Garcia de Orta, E.P.E. Hospital Geral de Santo António, E.P.E. Hospital Pulido Valente, E.P.E. Instituto Português de Oncologia de Coimbra Francisco Gentil, E.P.E. Instituto Português de Oncologia de Lisboa Francisco Gentil, E.P.E. Instituto Português de Oncologia do Porto Francisco Gentil, E.P.E.</p>
District Hospitals	<p>Centro Hospitalar da Cova da Beira, E.P.E. Centro Hospitalar de Vila Real/Peso da Régua, E.P.E. Centro Hospitalar do Alto Minho, E.P.E. Centro Hospitalar do Baixo Alentejo, E.P.E. Centro Hospitalar do Barlavento Algarvio, E.P.E. Centro Hospitalar do Médio Tejo, E.P.E. Centro Hospitalar do Nordeste, E.P.E. Hospital de Nossa Senhora do Rosário, E.P.E. Hospital de Santo André, E.P.E. Hospital de São Sebastião, E.P.E. Hospital Distrital de Figueira da Foz, E.P.E. Hospital Distrital de Santarém, E.P.E. Hospital Infante D. Pedro, E.P.E. Hospital Nossa Senhora da Oliveira, E.P.E. Hospital Padre Américo - Vale do Sousa, E.P.E. Hospital Santa Maria Maior, E.P.E. Hospital São João de Deus, E.P.E. Unidade Local de Saúde de Matosinhos, E.P.E.</p>
Level 1 Hospitals	<p>Hospital de São Gonçalo, E.P.E.</p>

Source: Court of Auditors (2007). Relatório de Auditoria nº 01/2007 [Auditing Report No.01/2007]

3.6.3. Studies and Analysis of SA/EPE Hospitals Performance

“SA Hospitals are less efficient than SAP Hospitals”: that was the conclusion taken by a work group of General Directorate of health (DGS) that analyzed management and quality of services. This study was presented on November 2005. It compared SA and SPA Hospitals through only one indicator “*aggregate indicator of evaluation of the efficiency and the quality*” that represents a balance between efficiency indicators related with the main hospital activity and quality, process and outcome indicators. The authors of this study suggested that EPE hospitals should improve management indicators as they are worse than SPA’s. That is the only study that pointed on that direction. All the others demonstrated that SA Hospitals were better than SPA Hospitals.

On 2006, 11th January, a study, ordered by Health Ministry to the economist Miguel Gouveia⁴ was presented. This study analyzed the evolution of the thirty one SA Hospitals, from 2000 to 2004, and compared it to the progression of seventeen SPA Hospitals, with similar size. The study concluded that SA hospitals were better in almost every activity. They also had better economic and financial results. This study was in line with another study presented on 2005, November 14th, named “SA hospital performance evaluation”. In what concerned to accounting there were several problems. The study showed that there was inconsistency regarding the numbers presented by IGIF, DGS, Mission Unit⁵ and the hospitals.

⁴ “Estudo de Avaliação dos Hospitais SA”; Comissão para Avaliação dos Hospitais SA.

⁵ Mission Unit was created by the Council of Ministers Resolution N° 15/2003 and the aim was to monitor the process of changing SPA hospitals into SA hospitals. In 2005, with SA hospitals becoming EPE hospitals Mission Unit was extinguished. The role that was concentrated in this structure was spread by three organisms: the negotiation of the Collective Labour Agreement are Regional Administrations of Health functions, the management was IGIF’s functions (and now ACSS’s) and accreditation of hospitals passed to the Institute for Quality Health .

Court of Auditors reached the same conclusion in its Auditing Report nº 20/2006 - Global evaluation report of hospitals' State Enterprise Sector (SEE) management model, between 2001 and 2004. TC identified significant differences between the values of activity reported by hospitals and those on the IGIF's maps. According to TC, the indicators of production were not treated in a uniform manner and that created problems and difficulties to comparison between hospitals. Furthermore, the audit also found that the current accounting systems were obsolete not allowing an analysis of costs based on activity.

The author of the study, Gouveia, admitted on 2006, 12th January, to “Diário Económico” that hospitals data were not the final data. The study alerted for some problems in the financial information produced by SA hospitals. In what concerned cost accounting, very few Hospitals considered it as a fundamental management instrument. The information was not produced on time and managers did not have regular economic information about their department and, consequently, they could not evaluate their economic performance. The inexistence of cost accounting information per patient was a fact. Another problem had to do with accounting normalization. Not all hospitals' data were comparable because not all followed POCMS's principles and classifications. This situation led to a feeling of discredit when analyzing hospitals numbers. The rigor, the detail and the relevance of comparative analyzes was questioned.

On 2006, November 6th the Court of Auditors divulged a global evaluation report of hospitals' State Enterprise Sector management model between 2001 and 2004. The objective was to identify the average impact of the transformation into SA hospital. In terms of quality, this study concluded that there was evidence that the average quality

raised in SA hospitals in 2003 and 2004. One of the limitations faced, was that the data was created by the hospitals but treated and aggregated by IGIF and Mission Unit. This data had failures and it was not consistent. So the method became to collect directly from every institution. In terms of management information, the conclusion was that production indicators were not treated the same way, which led to serious comparison difficulties between hospitals. They also concluded that the cost accounting system used was obsolete, not allowing a cost based activity analyses. On the second volume of this audit it was clear that the inexistence of a cost accounting system in some SA hospitals, during 2003 and 2004, influenced the *contrato-programa*. These contracts are based on historical production levels and one of the problems pointed by TC was that the price tables, that define the values to be paid, were not trustable on cost data. This happened because some SA (now EPE) hospitals did not have a cost accounting system implemented and the ones that had used different procedures (basically on cost department definition and cost imputation criteria). TC also admitted that the deviation resulted from the existence of different interpretations and ratios may have affected the uniformity of data used. According to this report, after the transformation, hospitals used indistinctly POC and POCMS and Mission Unit instructed SA hospitals to use POC. After the analyses made, a series of recommendations to the legal and executive power were made by the TC. Among all, there was the approval of norms that implement cost systems to any hospital as well as the obligation of report and divulgation of hospital's production costs. The harmonization of indicators must be in the basis of these actions.

To IGIF, extinguished in 2006, TC left a series of important recommendations. An IT Integrated System should be created. This system should allow the follow up of

EPE Hospitals within SNS IT system. The SNS IT System should expand “Tableaux de Board” concept that Mission Unit has used. This would reinforce internal control on production, cost and quality indicators guarantee that statistics are reliable and that SNS global account is consolidated. To allow cost based activity analysis, SA (now EPE) and SPA hospitals cost accounting systems must be updated. The final recommendation had to do with the development of POCMS accounts, specially the ones related to internal transactions between SNS institutions. This would allow a global SNS consolidation as well as SPA’s and SEE’s.

In 2007 the Court of Auditors made a follow up of SNS economic and finance situation of the previous year. In this report, TC renewed the recommendation for the approval of the Consolidation Norms for SNS. Since 2000, when POCMS was approved, these norms are to be implemented. TC considers this urgent and important since it is crucial for the transparency and severity when reporting economic, financial and assets situation of SNS services, including SEE Hospitals. Regarding specifically EPE hospitals, TC considered that data concerning financial flows is not trustable and, for that reason, it was not possible to evaluate the real financial situation of EPE Hospitals.

A Portugal’s Bank study released on 2008, April 15th showed that EPE Hospitals were more efficient than SPA Hospitals. Nevertheless, the author of this study concluded that this difference is not expressive because those EPE hospitals had worse results before becoming EPE’s and because now they are more cautious on reporting data.

3.7. Cost Accounting on Portuguese Hospitals

Cost accounting on Public Administration, according to Carvalho *et al.* (2007), is a system that accounts and analyses, in detail, institutions assets to help on management decisions. It should give the information necessary to correctly value inventories. It also should give information about the costs of products/services that create profit and compare it with their sales profits. Regarding products/services that do not create financial profit, CA should value it and compare it with similar products/services and with pre-established costs or reference costs. CA systems must allow the planning and control of responsibility for evaluation processes. It should give information about department's activity and costs and provide information for economic analyses.

According to Macedo and Macedo (2005), cost accounting plays one of the most important roles on hospitals' information system. Since POCMS's approval in 2000, cost accounting on SNS's institutions became mandatory, as long as a cost accounting plan existed. On 2003, the Social and Economic Council (CES), by Counsellor Almeida Serra, referred that it was urgent to adopt cost accounting methods that could provide the real cost of services provided. This was urgent for both totally and partial paid services by costumers. This information should be published with General State Account. Since 1996, Hospitals have a Cost Accounting Plan. This plan is obligatory to all SNS's hospitals.

According to Public Administration Commission of Accounting Normalization (CNCAP) 2002 Activities Report, POCMS's implementation should have been generalized since 2003. POCMS covers organisms that have administrative and finance autonomy but excludes Public Enterprises (art.2º nº 1 *Portaria* nº 898/2000).

Thus, when Hospitals became SA they stopped the use of POCMS and started to use the POC.

When Hospitals became EPE's, and according to what was referred above, the thought was that POC would still be in use, but EPE's Statutes (Decree-Law n° 233/2005), in its article 24°, stated that EPE's Hospitals should apply POCMS, with the necessary adaptations, approved by both health and finance ministers. Since 2006 (Order of the Minister of State and Finance and the Minister of Health n° 17164/2006), EPE Hospitals are allowed not to use zero class (budgetary control) and 25 accounts (debtors and creditors for the implementation of the budget).

3.7.1. Hospitals Cost Accounting Plan - PCAH

Cost accounting plan for hospitals was initially made by CNCAP and hospitals cost accounting normalization group. The second and third editions were reviewed by ACSS. The aim of this plan is to establish guidelines to standardize allocation criteria and ways to allocate cost/revenues, allowing benchmarking studies between National Health Service different areas. Assuming that this customization is done it is expected that cost data is trustable and management control is more effective. This allows a more rational and efficient resource management and the results are health care services improved quality. This plan begins by defining a cost department. In order to ensure department control costs management and allow inter services benchmarking, cost allocation should observe “cost department method” and the “reciprocal allocation method”. This is the method that hospitals should apply on their cost control management. But why is there the need to use this method to achieve the “real” service/product cost? The answer is simple and it is in the base of all existing

methods to achieve products/ services most “real” cost: the existence of indirect costs, also named as overhead.

Theoretically, all costs are direct costs. What happens is that when the economic cost to obtain this information is greater than the benefit that it produces we start to distinguish between direct and overhead costs. Direct costs are the ones that are related to a particular cost object (product, department, etc.) and can be "traced" to it in an economically viable way. This highlights that there is a cause-effect relation between the subject of cost and the cost itself and, in this case, it can be identified in an economically feasible way. With overhead costs this does not happen. These costs are also related to a particular cost object (product, department, etc.) but cannot be "traced" in an economically viable way. So there is a need to assign them to the subject of cost using allocation criteria.

According to Horngren *et al.* (2003), managers can have four purposes when allocating overhead to products/services. Managers may need information for economic decisions and in this case all costs should be considered. But they can want to motivate managers and employees and in this case, the aim is to highlight the difference every function can have in the product/service cost. Or managers may need to justify costs or compute reimbursement. Finally, managers may have to report to external parties and need to measure income and assets.

The problem on product/service cost calculation is, as seen before, the indirect costs and the difficulty to allocate them, in the most real way, to the products/services. In order to allocate these indirect costs there are several methods that can be used. Allocation bases are one of the methods. In a simplistic approach it is possible to allocate overhead using allocation bases. We can opt for a single base or choose

several bases (multiple bases) that implies the use of one allocation coefficient or various ones.

According to Caiado (2002: 129), an allocation coefficient or a cost driver rate is the relation between overhead and the quantity or value of the activity that originates those costs – allocation base or cost driver. This base/driver can be raw materials consumption, direct labour, machine hours, etc. When choosing a base/driver we must look for a proportional relation between indirect costs and the value, or quantity, chosen to be the base/driver. When a single base is chosen the allocation process is simplified but the data will probably be distorted. The fact is that overhead costs have different natures and we are allocating them using only one base/driver. That base/driver may have nothing to do with some of the costs. According to Franco *et al.* (2005), this method assumes a proportional relation between indirect costs and the base chosen which can be easily questioned because indirect costs have heterogeneous nature. Allocating indirect costs using multiple bases is more reliable, because it presupposes the choice of bases that have a cause-effect relation with the cost that will be allocated. The greater is the number of bases the less is the cost of errors and the higher is the cost of measurement. The best choice is the one which minimizes these two costs. This type of allocation, using bases, is always questionable because it depends on the attention and caution respected when choosing the bases. When choosing allocation bases, Horngren *et al.* (2003), consider cause-and-effect criteria and the benefits received the best criteria to guide cost allocation decisions, mainly when the aim of cost allocation is economic decisions or motivation. Establishing a cause-effect relationship may not be economically viable. Nevertheless this is the primary criteria used by ABC systems. A benefits-received criterion is based on the

idea that indirect costs are allocated proportionally to the benefits that each cost object receives.

Allocation bases became less real when overhead costs started to assume the major portion on product costs. Kaplan and Cooper (1991: 2) refer that “*overhead rates can reach 500 to 1000% of direct labour cost*”. This happened when automation arrived to production. The cost of direct labour started to reduce and overhead costs increased. With this new reality the use of allocation bases became less real and the need for other ways to get to real production costs became urgent.

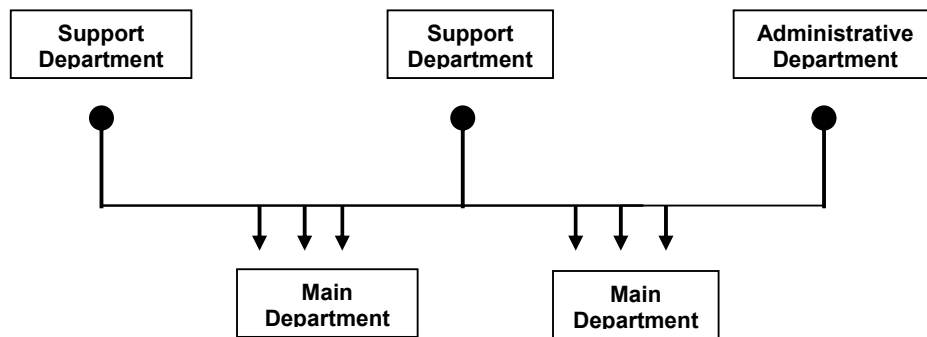
Cost department method appeared in 1970, as a way to convert products indirect costs into cost department direct costs. Dividing the production system in cost departments leads to a more real allocation of transformation costs that were indirect to products. As referred before, this is the method chosen for hospital cost management. The cost department method was developed by Kilger and Plaut, in 1970. This method leads to a fairer distribution of indirect costs, as the cost object becomes the Department. According to Caiano and Franco (1994), the cost department method has two objectives: (1) to calculate in a more accurate way the cost of the products, departments or services we want to cost. This result from the fact that it has to be defined a unit of work to measure department's activity - cost driver. A department should be created whenever it is possible to group a considerable amount of expenses related to identical operations. These operations must consider two conditions: they all can be measured by the same cost driver and have an only responsible person for its performance and control; (2) to control the management, since it allows the isolation of responsibilities, because there is only one person responsible for its performance and control. Moreover the breakdown of costs by

sections and determination of the cost drivers will enable more accurate data to make forecasts, analysis and decisions.

The basic idea is to create departments of homogeneous costs, where all costs have the same cause-effect relation (or benefits received) with the cost driver chosen. These cost drivers, according to Caiano and Franco (1994) should, whenever possible, allow the measuring of the activity of every department. The ideal is that it can be used to allocate department activity to others, to calculate unit cost of the department and allow its charge to products/services. When this is a reality we are able to allocate costs and control them. Sometimes it is not possible to define a cost driver so an allocation percentage is allowed to allocate costs. This should only be used on auxiliary departments. Main departments should be capable to define a cost driver. After identifying a department's direct costs, support and administrative costs must be allocated to the departments that they work for (support and main). There are three methods that can be used, when working with cost department method, to allocate the costs of each support department and they are: (1) direct allocation method; (2) Sequential or Step-Down Allocation Method; (3) Reciprocal Allocation Method.

Direct Allocation Method (1) in this method, support and administrative departments' costs are charged only to main departments. It is the easiest way but distorts the results because reciprocal services are not taken into account. We will get the main departments cost distorted, as can be observed in Exhibit n°4.

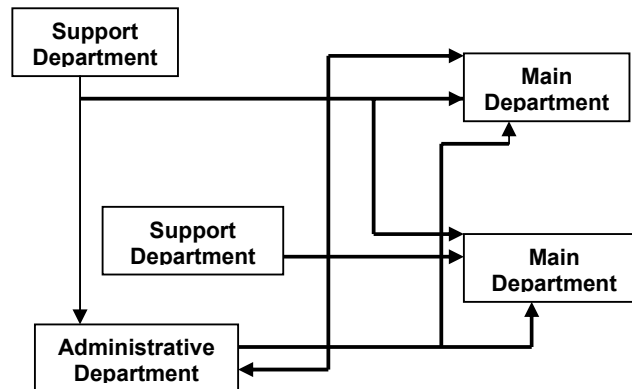
Exhibit n°4 - Direct Allocation Method



Source: Teixeira and Picoito (2007: 17)

Sequential Allocation Method (Step-Down Allocation Method) (2), though still limited, this distribution is a significant improvement on the previous one. In this case, the distribution of the costs between support and administrative sections is already taken into account. This method presents a pre-determined sequence of distribution. The distribution starts for the department that provides more services to others, so the cost of this department is distributed by the main sections and some support and administrative ones. The process repeats itself and, in this case, the support and administrative departments may already include in their costs part of the costs of the department that was previously allocated (see Exhibit n°5). The limitation of this method is that a department cannot charge another department that has already charged their costs to it. In other words, reciprocal flows between departments are not considered.

Exhibit nº5 - Sequential Allocation Method (Step-Down Allocation Method)



Source: Teixeira and Picoito (2007: 18)

Reciprocal Allocation Method (3), the main difference in these three methods relies on the fact that the two first methods do not contemplate reciprocal activity flows. This means that only this method, according to its name, reciprocal distribution, considers that a support or an administrative department can charge a support or administrative department and be charged by that department.

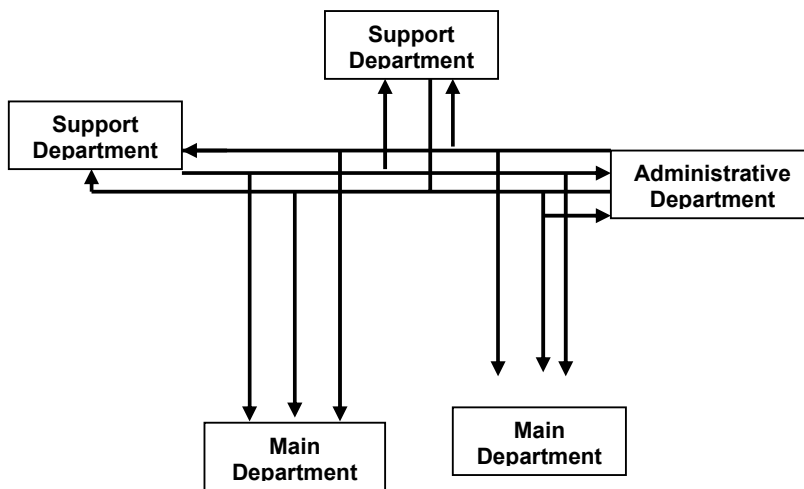
Traditionally, and according to Metzger (1992), the allocation method more used has been the step-down method. Metzger defends that reciprocal method not only answers financial reporting needs but also enables relevant and accurate data for decision-making situations. This occurs because step-down method does not calculate enough accurate information when there are interactions between service departments. That's when reciprocal method turns worthwhile.

According to the PCAH this is the only method that really reproduces the hospital reality and therefore is the one chosen to be used in all hospitals.

This method is, according to Metzger (1992: 99) “*conceptually appealing*” as it considers the “*simultaneous interaction of service departments rather than the somewhat arbitrary, one-directional relationship the step-down method assumes*”.

Nevertheless this is the most complex method. It is necessary to solve equations, due to the reciprocal flows between departments, so it requires the use of “*calculation*” worksheets. Exhibit n° 6 shows how this method works.

Exhibit n°6 - Reciprocal Allocation Method



Source: Teixeira and Picoito (2007: 18)

After these steps are done it is possible to calculate every department total and unit cost:

$$\text{Homogeneous Department Total Cost} = \text{Direct Cost} + \text{Indirect Cost (allocated)}$$

$$\text{Homogeneous Department Unit Cost} = \frac{\text{Homogeneous Department Total Cost}}{\text{Cost driver (activity of the department)}}$$

This method can provide a more accurate cost determination and important information for management decisions. But this only happens if the cost driver chosen for each department really expresses its activity and if the costs of each department are homogeneous. The greater the degree of homogeneity, the lower the number of cost departments needed to explain the differences in how the products consume organization resources (Horngren *et al.*, 2003).

3.7.2. Cost Department Method in Portuguese EPE Hospitals

The plan defines a cost department as a cost/profit department that must cumulate three attributes. They are: (1) there is just one and only one person responsible by cost control, unless the department is, or is part of, a responsibility department; (2) the costs of a cost department must refer to identical activities or functions (homogeneous); (3) whenever possible, a cost driver must be defined so that we can measure department activity. This is imperative when talking about main departments so that we can allocate their activity to the cost object.

Every cost department must be capable to identify (1) their activities; (2) the resources used and their cost/revenue; (3) the cost driver that can measure their activity (sometimes it is only possible to achieve a weighting), so that it is possible to calculate their unit cost. For their internal use, hospitals can unfold cost departments as much as needed, application data⁶ allows until seven characters. When reporting cost data, hospitals must respect PCAH.

⁶ This application is Decentralised Information Systems of Accounting's (SIDC) responsibility.

Following the method the PCAH refers, hospitals activities must be classified in three categories: main departments, support departments and administrative departments.

The main departments (cost center 1) are the ones that are directly involved in the main activity of the hospital. Support departments are the ones that work for other departments or support main departments. They are subdivided in Clinical support (cost center (c.c.) 2) and General support (cost center (c.c.) 3). Administrative departments (cost center (c.c.) 4) are the ones that concern general activities, as administration, accounting, supply, etc. There is an additional category denominated “Non-allocated costs”. This department should concern the costs and profits that cannot be allocated to the departments referred above as, for example, “examinations requested by third”.

According to the PCAH, department cost calculation includes four levels. The first level (1) is the allocation of direct costs. In this level, the direct costs, classified by nature of cost, are allocated to all departments, as shown in Exhibit nº 7.

Some costs are easily connected with a department because they are a direct result of their activity. As costs arise they should be classified in financial and cost accounts so that at the end of each month the distribution of consumptions, supplies, services and personnel costs can be easily determined. The PCAH refer some aspects that should be considered at this step. The first one is when ordering an asset or service all departments should register their cost center. The second aspect has to do with the allocation of personnel costs. It should be done in two ways: when a person works only for one and only one cost department its cost is allocated to that department; when professionals work for more than one department, their cost

should be allocated, in each cost department, regarding the hours worked in each one. The example presented in the plan refers service direction functions, training, teaching or investigation.

According to PCAH, Financial services should allocate also, “health regional administration” (ARS) flows, which are a result of subcontracts. This allocation is done regarding the prescriptions made in each main or clinical support departments. Remaining costs, mainly supplies and services and other operational costs, should be allocated by financial services. This should be done as costs are registered in financial accounts. Depreciations should be considered and allocated regarding depreciation taxes approved by law.

Exhibit nº 7 – Department Method Allocation Costs – 1st Level - Direct costs

Allocation

	Support Dep/Centr			
Main Dep/Centr	Clinical Support	General Support	Administrative Dep/Centr	Non Allocated Center
Direct Costs	Direct Costs	Direct Costs	Direct Costs	Direct Costs

Source: PCAH (2007: 26)

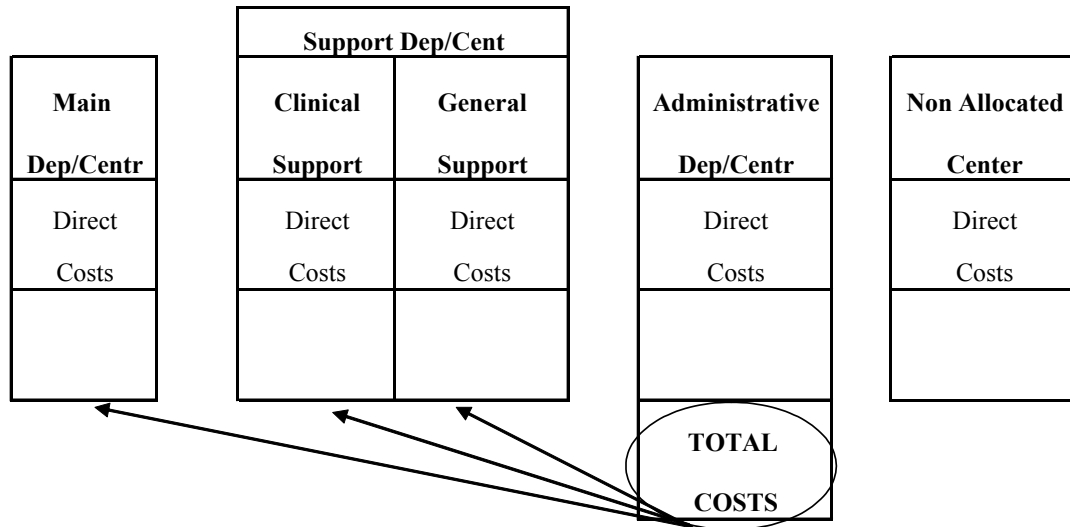
The costs referred on the second (2), third (3) and forth (4) levels are nominated indirect costs. In this method it is necessary to solve equations, due to the reciprocal flows between departments, so the use of “calculation” worksheets is required. In order to make this method available to all hospitals, ACSS provides an auxiliary tool.

According to the last version of the plan, using this “tool” it is easy and fast to get the complete allocation of indirect costs according to this method.

As we can see in the next Exhibits - nº 8, 9, and 10 (that are part of PCAH) although PCAH refers reciprocal distribution as the only method to be used by hospitals, the exhibits do not represent a reciprocal method but a step-down method. As we can observe, the exhibits go in line with the description that Horngren *et al.* (2003: 529) do about step-down method: “...once a support department's costs have been allocated, no subsequent support department costs are allocated back to it. ...The result is that the step-down method does not recognize the total services that support departments provide to each other”.

After identifying and allocating direct costs, it is now time to allocate support and administrative department costs (c.c.2) through the departments that benefit of their activity (Exhibit nº 9). The administrative departments, c.c.4 must be classified in two categories. They are: (1) c.c.41 - Administration and Management or (2) c.c.42 - Administration and Technical Services. The costs of these departments are allocated proportionally to the direct costs of main and support departments.

**Exhibit nº 8 – Department Method Allocation Costs – 2nd Level- Administrative
Cost Department Allocation**



Source: PCAH (2007: 27)

After administration costs are allocated to the other departments, general support department costs are allocated to the departments who benefit of their activity, as shown in Exhibit nº 9. The general support departments (c.c.3) are divided in two: (1) Facilities and equipment services (c.c.31) and (2) stay services (c.c.32).

Cost Center 31 - Facilities and equipment services, aggregate the required basic systems for a hospital to work. The allocation is done proportionally to the direct costs of the departments that require the service.

Cost Center 32 - Stay services, includes all areas needed for the stay in hospital, and they are:

- c.c. 3201 - Feeding service –The calculation of the feeding service for each department should be equal to (nº of breakfasts requested * 0,4) + (nº of lunches

requested * 1) + (nº of dinners requested * 1) + (nº of snacks requested * 0,2). This cost is allocated to the ordering departments;

- c.c. 3202 - Laundry service – the allocation is made according to the kilos of cleaned clothing each department orders;

- c.c. 3203 - Hygiene and cleanliness services – the allocation is made according to a table made by each hospital;

- c.c. 3204 - Security and support services - the allocation is made according to a table prepared by each hospital;

- c.c. 3205 - Barber service – the allocation is made to the ordering departments;

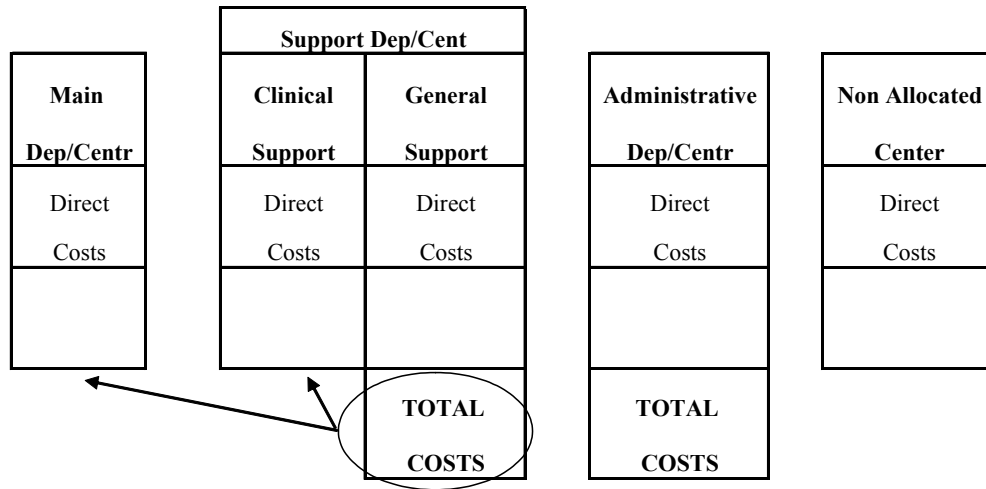
- c.c. 3206 - Nursing home – support service created to answer the needs of ill people and their family, who have to stay due to the treatments. The allocation is made according to the number of days, to the departments that benefit this service;

- c.c. 3207 - Parks and gardens – the allocation is done according to the areas occupied by each department;

- c.c. 3208 - Car service - the allocation is made according to a table made by each hospital;

Exhibit nº 9 – Department Method Allocation Costs – 3rd Level - General support

Cost Department Allocation



Source: PCAH (2007: 27)

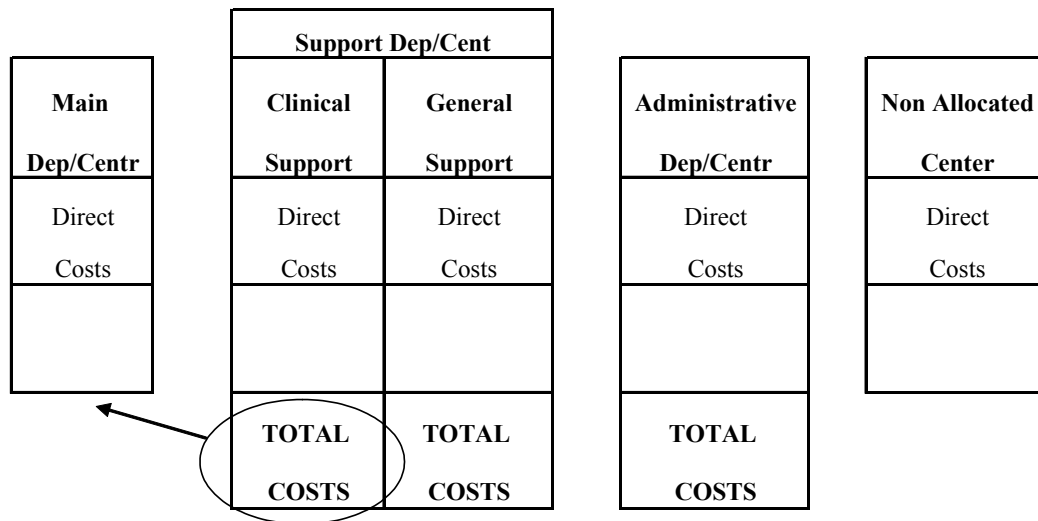
On the fourth and last level (4) costs of clinical support department are allocated to the main departments who receive their activity, as in Exhibit nº 10. The clinical support departments (c.c.2) include means of diagnosis (AMD) and therapy (AMT), Anaesthesia, Surgery and another clinical support services. AMD and AMT – cost center 20, 21, 22 or 23 - include examination or test that gives necessary results to establish a diagnostic – AMD, and provision of curative care after diagnosis and prescription therapy – AMT. The cost driver should express the number of exams, in absolute value (the ones made) and in weighted value (please see Appendix nº2). Unit costs should be calculated using only weighted values.

In anaesthesia cost center – c.c.24 - the procedures, made and in weighted value, should be counted. Weighted procedures value should consider the value presented on *Portaria* nº 110-A/2007 (where prices that SNS should apply are approved).

Surgery cost center – c.c.25 - is an organic-functional unit that provides surgical treatment or examination that require high level of anaesthesia and aseptic, according to the glossary of terms for the production of statistics in health by General Directorate of Health. It includes the costs of the childbirth unit. Costs of surgeries that do not take place in this unit must be allocated to the day hospital, emergency or external consultation. The cost driver is the number of surgeries (see Appendix nº 2).

Another clinical support services cost center – c.c.299 - includes nutrition, psychology, social service and pharmaceutical services that have, as a cost driver, the number of attendances (Appendix nº 2). It includes also experimental surgeries that have the number of surgeries made as cost driver (Appendix nº 2), sterilization, allocated by the number of litters, and medical expertise measured by the number of reports made.

Exhibit nº 10 – Department Method Allocation Costs – 4th Level - Clinical support cost department allocation



Source: PCAH (2007: 28)

After the allocation of administrative, general support and clinical support costs it is possible to calculate the total cost of the cost departments by adding direct costs and indirect costs for each cost department.

$$\boxed{\text{TOTAL COSTS} = \text{Direct Costs} + \text{Indirect Costs}}$$

To calculate the unit cost of each cost department we must divide the total cost by the cost driver of each one, which is the way to measure the “production” of every cost department. In order to have homogeneity the PCAH points out the cost drivers for each cost department (Appendix nº 2).

4. RESEARCH METHODOLOGY

4.1. Research Strategy: Case Study

Most of management accounting theoretical developments is regarded by practitioners as not practicable. There is a gap between theory and practice. This situation was recognized in the 80's and management accounting researchers began to use intensive fieldwork and case studies, following the work made in Scandinavia. In Sweden, case studies were a tradition in accounting research, especially in the public sector. They give a more real view of management accounting practice.

Even when Kaplan and Johnson, in 1987, wrote their book "Relevance Lost: the rise and fall of management accounting", claiming that new management techniques should be implemented and developed in organizations by practitioners, the gap still remained.

"Case studies offer us the possibility of understanding the nature of accounting in practice..." (Ryan *et al.*, 2002: 143)

"they are the correct method when " a "How" or "Why" question is being asked about a contemporary set of events, over which the investigator has little or no control" (Yin, 2003: 9) (see Exhibit nº 11).

This investigation is exploratory and descriptive, according to Yin (2003). It is exploratory due to the inexistence of studies about how cost accounting and PCAH is used and worked by hospitals. And it is descriptive, because it intends to explain how hospitals use PCAH and how cost accounting outputs are used by physicians.

Exhibit nº 11 – Conditions that Define the Research Strategy to be Chosen

Conditions ----- Strategy	Form of research question	Requires control of behavioural events?	Focuses on Contemporary events?
Experiment	how, why ?	Yes	Yes
Survey	who, what, where, how many, how much?	No	Yes
Archival analysis	who, what, where, how many, how much?	No	Yes/ No
History	how, why ?	No	No
Case Study	how, why ?	No	Yes

Source: Yin (2003: 5).

4.2. Steps Followed in the Case Study

According to Ryan *et al.* (2002) there are six steps that should be considered when working in a case study: (1) developing a research design; (2) preparing for data collection; (3) collecting evidence; (4) assessing evidence; (5) identifying and explaining patterns; (6) thesis writing. Yin (2003) considers the first three steps and the last one. In my research I followed Ryan *et al.*'s steps but complemented with Yin's. Case study research is not a simple process. For that reason it cannot be seen as a simple linear model. This means that these six steps are not static and that the researcher may use them in different orders and in different interactions.

My research can be divided in two stages in terms of issues analysed. I started my research focused in understanding how CHS performed cost accounting. Then, after

understanding how data was obtained and the problems that the system had, I focused on understanding the usefulness of cost accounting outputs for physicians.

In this study, as I did not have much knowledge about cost accounting in hospitals, I started my research by collecting and analysing what was available about the subject. Preparation stage consists in being capable to identify the main research question(s) and this presupposes a review of the existing literature. I collected papers and articles about the issue I was suggested to work on – hospitals cost management/accounting. I highlight that the theme was suggested by my mentor but it was, from the first moment, the theme I embraced as my investigation. It was clear to me that my research would be in Setúbal’s Hospital because Setúbal is the city I live in and there is no study (as far as I know) about cost accounting and management in this hospital. I started to review the existing literature that concerned cost accounting and management on hospitals in other countries. As I was reviewing the existing literature, the research questions became clearer to me and it was possible to define my research design. The main question became: “How was CHS performing cost accounting?”. Other specific questions began to arise: (a) Was CHS applying the PCAH? (b) If CHS was applying PCAH were all presupposes followed? (c) Reciprocal method is used? (d) Cost drivers used are the same of the PCAH?

After having read international and Portuguese papers and articles I started to collect information about Portuguese public entities evolution, legislation on the area along time, rules that Portuguese hospitals should obey when doing cost accounting, etc. Preparation is the second step but, according to Ryan *et al.* (2002), but the researcher might return to it as the case develops. In my respect, additional literature was collected as the research was developing, as I referred previously. I can conclude

that I started my research in a macro view, studying what was being done in other countries, and then I passed to a micro view studying Portuguese reality. Then, I narrowed my analysis even more, studying CHS’s reality.

After having reviewed literature on cost accounting in hospitals, I had the perception of what type of evidence I had to collect. My aim was to understand how CHS was applying the PCAH’s recommendations and, later, if cost accounting outputs were available and used by physicians and administration (which should be the key stakeholders of that information). According to Yin (2003) there are six commonly used sources of evidence when doing case studies (see Exhibit nº 12): documentation, archival records, interviews, direct observations, participant - observation and physical artefacts. Yin refers that not all sources are relevant for all case studies. In my research, I used documentation, interviews, direct-observation and physical artefacts. Documentation was supplied by some of the people I interviewed: hospital reports to ACSS, cost accounting plan, 2007 annual report and accounts, 2006 cost accounting outputs, among others. For this to be possible, I had what Yin (2003: 90) calls “key informants”. Key informants played an important role as they suggested other people to be interviewed, established contacts, provided insights and suggested sources that could corroborate opinions.

Exhibit nº 12 – Six Sources of Evidence: Strengths and Weaknesses

Source of evidence	Strengths	Weaknesses
Documentation	<ul style="list-style-type: none"> . Stable - can be reviewed repeatedly . Unobtrusive - not created as a result of the case study . Exact - contains exact names, references, and details of an event . Broad coverage - long span of time, many events, and many settings 	<ul style="list-style-type: none"> . Retrievability - can be low . Biased selectivity, if collection is incomplete . Reporting bias - reflects (unknown) bias of author . Access - may be deliberately blocked
Archival Records	<ul style="list-style-type: none"> . (same as above for documentation) . Precise and quantitative 	<ul style="list-style-type: none"> . (same as above for documentation) . Accessibility due to privacy reasons
Interviews	<ul style="list-style-type: none"> . Targeted - focuses directly on case study topic . Insightful - provides perceived causal inferences 	<ul style="list-style-type: none"> . Bias due to poorly constructed questions . Response bias . Inaccuracies due to poor recall . Reflexivity - interviewee gives what interviewer wants to hear
Direct Observations	<ul style="list-style-type: none"> . Reality - covers events in real time . Contextual - covers context of event 	<ul style="list-style-type: none"> . Time-consuming . Selectivity-unless broad coverage . Reflexivity - event may proceed differently because it is being observed . Cost - hours needed by human observers
Participant Observation	<ul style="list-style-type: none"> . (same as above for direct observations) . Insightful into interpersonal behaviour and motives 	<ul style="list-style-type: none"> .(same as above for direct observations) .Bias due to investigator's manipulation of events
Physical Artifacts	<ul style="list-style-type: none"> . Insightful into cultural features . Insightful into technical operations 	<ul style="list-style-type: none"> . Selectivity . Availability

Source: Yin (2003: 86)

Interviews are considered by Yin (2003: 89) as “*one of the most important sources of case study*”. I went personally to CHS and I talked with the accounting department responsible and she suggested that I should write a letter to the CHS Finance Director explaining my research and asking permission to elaborate this study in CHS (Appendix nº 1). The answer was positive and I could start my empirical study. When conducting work field I decided to collect data through semi-structured interviews, Yin (2003: 90) consider these interviews as *open-ended nature*. This source of evidence mixes the benefits of structured and unstructured interviews because it permits the researcher to have questions that could be asked to different people allowing comparable answers but at the same time to feel free to raise other questions. In line with that, I always carried a semi-structured interview script but I let my interviewees talk about whatever they felt like. I used three different scripts: one that was used when interviewing people that worked with accounting, cost accounting and hospital management (Exhibit nº 13-a), other used when interviewing physicians that were service directors (Exhibit nº 13-b), and other, very similar to the service directors, submitted to a hospital administrator that was not answered (Exhibit nº 13-c).

The interviewees were asked if the meeting could be tape recorded but, although I did not get a negative answer, I noticed that all of them were uncomfortable with the idea. I took the decision of not going forward with the recordings, in accordance with what Yin (2003: 92) refers “*Using recording devices is in part a matter of personal preference.*”, “*...a recording device should not be used when (a) an interviewee refuses permission or appears uncomfortable in its presence...*”. This decision influenced the way I worked on the days that interviews took place. According to

Ryan *et al.* (2002: 154), when meetings cannot be tape recorded, “*notes should be taken when possible*”, which I always did. When the meeting was over, I always spent between one hour and one hour and a half, writing down who was interviewed, when and where the interview took place, what was discussed during the interview, the questions that were made, the answers and non-verbal signs I noticed. The notes I took during the meetings were also converted into a more formal text. “*Memories can fade quickly*” (Ryan *et al.*, 2002: 154) so I always did it immediately after the meeting was over.

Exhibit nº 13-a – Semi-Structured Interview Script for Accounting, Cost Accounting and Hospital Management Interviewees

Main Research Question:

How is PCAH used by CHS?

Other questions:

1- How is the CHS structured in terms of departments?

2- If CHS applies the PCAH, follows the Department method. Does the system allow for the distribution of the costs of support departments by the main ones automatically, or is it necessary to work with a calculation worksheet? In PCAH is referred that IGIF/ACSS provides a calculation worksheet for it. Do you use it? And is it easy to use?

3- It is true that, as a matter of simplification of calculations, some reciprocal flows are not taken into consideration?

4- Do you use PCAH as a basis for your work?

5- How are the staff costs charged when people work for more than one department? Is there a field showing the hours worked for each one or is it done in general?

6- According to TC report in November 2006, after turned into SA, the Hospitals used, without distinction, the POC and the POCMS and Mission Unit instructed SA Hospitals to use POC SA 2004. Did this happen in CHS? What are you using currently?

7- Do you consider that the data provided by cost accounting influences the behaviour of those clinical responsible for each department? Or on the contrary, as some authors argue, do hospitals adopt a cost accounting just to gain credibility and external validation?

8- In November 2005 a study showed that few hospitals considered cost accounting as a fundamental tool for management decisions. The information is not received on time and managers have no financial information regularly regarding their departments. They can not evaluate its economic performance. The lack of information per patient is real. Do you agree with this statement? Does this happen in CHS?

Exhibit nº 13-b – Semi-Structured Interview Script for Physicians - Service Directors

Uses of Cost Accounting outputs for Service Directors

1. How often is data about costs of your department available to you?
2. In what kind of decisions is cost accounting information, in itself, considered relevant?
3. Do you feel the need to have more information about the costs of the department which you are responsible for? More detail? Increased frequency?
4. Do you consider that the costs that are charged to your department are very close to reality or, rather, are not real, and so they are not generally taken into consideration in the decision process?
5. What aspects do you think should be improved, in terms of useful information, to help you decide?

Exhibit nº 13-c – Semi-Structured Interview Script for Hospital Administrator

Uses of Cost Accounting outputs for Hospital Administrator

1. How often is cost accounting data available to you?
2. What are the contents of that information?
3. In what kind of decisions do you consider that information as relevant?
4. Do you feel the need to have more information about the costs? More detail?
Increased frequency?
5. Do you consider that the costs that are charged to departments are very close to reality or, rather, are not real, so they are not generally taken into consideration in the decision process?
6. What aspects do you think should be improved, in terms of useful information, to help you decide?

When doing my interviews and walked into Hospitals S. Bernardo and Outão⁷, I had the opportunity to perform some direct observation. When visiting Hospital Outão I could observe that relations denoted cohesion and no constraints among financial team. I could not be aware of that kind of relation in S. Bernardo's but I felt it was a more formal place. I collected some physical artifacts when I went to hospitals to conduct the interviews, such as cost accounting outputs. I could note that computers are low to process information and to access internet's sites, for example ACSS's. Physicians are not using electronic prescription, although it is planed to start soon.

4.2.1. Interviewing Process

After having the acceptance of the hospital Administration to develop my research, I contacted the Financial Director and a meeting was scheduled. This first meeting occurred on March 2008 in Orthopaedics Hospital Outão, part of Setúbal's Hospital Center. I met the Financial Director and after a brief conversation, where I could explain the aim of my investigation, I was introduced to the cost accounting responsible. I would like to emphasize the fact that I was extremely welcome and that the Financial Director made me feel comfortable to pursue my research on the field. Interviews took place between March and July 2008 in the two hospitals that are part of CHS. Eleven interviews were made that totalized almost seventeen hours, as summarized on Exhibit nº14.

My first meeting with the person responsible for cost accounting took two hours and a half. It was a very clarifying talk and I let her explain me how she worked with homogeneous department method before I started my questions. I returned in the next

⁷ On the 31st December 2005, by the Decree-Law No. 233/2005, the new Setúbal's Hospital Center – CHS is created. This new Hospital Center results from the fusion of Hospital S. Bernardo, EPE and Orthopaedic Hospital Sant'Iago do Outão.

day for another meeting of two hours and a half, with the same person, because some issues were not explored and she was really the best person to clarify my questions. The maps that were submitted to ACSS concerning 2006 costs were made available to me. After five hours of meeting I felt more clarified and I had a new perspective of how CHS worked and used PCAH. Before leaving the second meeting, I had a new meeting scheduled two days after, with a hospital manager. This meeting, that took place on Hospital S. Bernardo, part of CHS, became very interesting too because, although it was not with the person who works with cost accounting, it was with a person with a profound knowledge about how hospitals work in terms of costs. She gave me a general perception of how things worked in terms of hospital management. The meeting took two hours and a half.

Two weeks later, and after have worked the information collected, I returned to Hospital Outão to clarify some issues. I had a new meeting with cost accounting responsible and I could talk for about one hour with the Financial Director. It was a very interesting and enriching conversation. I could clarify some aspects that had more to do with financial accounting. After that, I did also have a meeting with an accounting collaborator.

The last interviews I did had to do with the use of cost accounting output by physicians that were Service Directors. These meetings were arranged by the hospital manager that chose three service Directors that were more sensible to cost control. These interviews were extremely revealing of the work that needs to be done in this area. It should be highlighted that Service Directors are the main source of accounting information for physicians, nurses and technicians, according to Barbosa (2006). I should mention the fact that during this visit, I spoke personally with an

Administrator and the President of the Hospital, and had the opportunity to request the report and accounts of 2007, which was not disclosed on ACSS’s site. The report was provided to me by e-mail on the following day. I asked the Administrator if it was possible to have access to the information that is provided to Service Directors concerning their department costs. This information was not provided based on the grounds that this information was internal. I also requested the Administrator to be interviewed and, if it was not possible, to answer to the questionnaire (Exhibit No. 13-c) but, unfortunately, I never got a reply on this matter.

Exhibit nº14 – List of Performed Interviews

Date	Hour	Hospital were the people interviewed work	Person Interviewed
March 25 th 2008	14.30/17h	Orthopaedic Hospital Outão	Cost Accounting Responsible
March 26 th 2008	10.30/13h	Orthopaedic Hospital Outão	Cost Accounting Responsible
March 28 th 2008	14.30/17h	Hospital S. Bernardo	Hospital Manager
April 15 th 2008	14.30/16.30	Orthopaedic Hospital Outão	Cost Accounting Responsible
April 15 th 2008	16.30/17.30	Orthopaedic Hospital Outão	Financial Director
June, 27 th 2008	10h-12h	Orthopaedic Hospital Outão	Accounting
July, 2 nd 2008	10.30-11.15	Hospital S. Bernardo	Hospital Manager
July, 2 nd 2008	11.15-12h	Hospital S. Bernardo	Services Director
July, 2 nd 2008	12h-12.45	Hospital S. Bernardo	Services Director
July, 2 nd 2008	12.45-13.45	Hospital S. Bernardo	Services Director
July, 2 nd 2008	14.30-15.30	Hospital S. Bernardo	Hospital Manager

Assessing evidence was the following step that I considered when working in my case study. In what concerns to this step, Ryan *et al.* (2002: 155) argued: “*Researchers who conduct quantitative, empirical research are concerned with the reliability and validity of their evidence...But in case research, such notions of reliability and validity are unlikely to be appropriate. Reliability implies an independent, impersonal investigator, and validity implies an objective reality – both of which are likely to be meaningless in interpretative research...alternatives to criteria reliability and validity are needed for case research.*” According to this, it is essential to have a procedural reliability which presupposes that the researcher has to adopt the appropriate and reliable methods and procedures. In my research, I had a research design that, according to Yin (2003: 19) is “*the logic that links the data to be collected (and the conclusions to be drawn)*”.

The traditional criteria of internal validity should, according to Ryan *et al.* (2002), be replaced by the notion of contextual validity. The contextual validity evaluates case study evidences and the conclusions of the investigation. In order to guarantee the contextual validity of the process, triangulation is required. In case studies, this could be done by using multiple sources of data (Yin, 2003). I interviewed different people, where the same subjects were discussed, and I could also validate some information with Hospital reports. This way, I could guarantee data and method triangulation and so evidence quality was guaranteed.

The next step, identifying and explaining patterns, is described as “*the most difficult and challenging in case studies*” (Yin, 2003: 139). When working in case studies, “*we do not need general theories to explain, it is the pattern discovered in the case that does the explaining*” (Ryan *et al.*, 2002: 157).

In what concerns to the main research question of this investigation “how was CHS working in cost accounting?” the evidences were coherent to patterns revealed, especially by TC in their reports, and in some Portuguese papers that had this issue as theme. The evidences obtained in what concerns the use of cost accounting output by physicians in their decisions were also coherent to the literature I reviewed. “...*all explanations are partial and capable of development in the future*” (Ryan et al., 2002: 157).

Finally, I constructed a case study based on all the literature I read, on all information I collected and with that, I wrote my thesis.

“The writing-up stage involves the construction of the case study from what is likely to be a mountain of data, field notes, reports, etc., which have been collected during the fieldwork. This is a creative and literacy act, and, as such, the case researcher is the author-writer of the case study.”(Ryan et al., 2002: 157).

5. THE EMPIRICAL STUDY

5.1. History/ Description of Setúbal’s Hospital Center

During centuries hospital institutions developed in the shadow of religious ones. In Middle Age, health caring was ensured by Orders and Brotherhoods. Setúbal was no exception. In the middle of the XV century, the need of unifying the 500 small hospitals that existed in Portugal grows. The aim was to get more profit from human and material resources. And it is in this process that the concepts of “Misericordias” appear. “Misericordias”, spread all over Portugal, starting to manage and integrating the “small hospitals”.

Setúbal was no exception and in 1500, Setúbal’s Misericórdia Holy Home Brotherhood was founded and started the process of adding small hospitals to itself as well as to its management. At that time Setubal’s hospital was based at Jesus’s Convent. For the first time, in 1948, the construction of a new hospital in Setúbal was questioned. The existing one needed deep remodelling so, in 1946, after a visit from the Hospital Construction Commission, it was decided that was cheaper to build a new hospital from scratch. In the same year, the first law to establish a national hospital system assigned to the old Misericórdia Hospital the functions of a regional hospital.

It was only in 1953 that the creation of the first Portuguese regional hospital became known. To the start of the works contributed much of the donation of Antoine Velge, Sapeç’s Chairman, with the amount of 20.000€. The works started in 1955 and the hospital was inaugurated in 1959, May 9th, by the Republic President in office, Américo Tomás. The new hospital was designed by Amândio Amaral and had

the total cost of 87.300€ (approximately). Antoine Velge expressed only one wish when donating the money to the new hospital: that it was named after his son, Bernard, who had been cured in Portugal, but that in 1954 died in France. The name “São Bernardo” was accepted and it was assumed that the management would be in charge of Misericórdia. There was a guarantee that the State would cover all the funds needed for its functions. This management lasted till 1974, when the workers commission took over that function.

In the 70’s, the hospital started to have difficulties to support the growing needs of the population. In 1984, the incineration central and official buildings are inaugurated. In 1985, Velge’s family contribute again with a donation of 30.000€ to the construction of intensive care unit. In the coming years several improvements were done. Besides these works that were made through the years, only in 1993 the “first rock” was launched and the process ended in 1997. During a profound restructuring of the SNS, the government started a hospital management program of business nature. The aim is to modernize and revitalize the SNS. In this context, Hospital S. Bernardo was transformed into an exclusively public capital anonymous society, as stated in the Decree-Law No. 300/2002.

It is not questionable that State Institutions Providers of Health Care have a public nature but this principle must be coordinated with specific management tools and the best way to achieve that coordination is the Public Enterprise Entity (EPE) model, redefined in 1999 with the Decree-Law n°558.

In 2005 and according to the XVII Constitutional Government Program, 31 hospitals that had been previously nominated as anonymous society were transformed

into Public Enterprise Entities. Therefore, in July 7th, the hospital S. Bernardo, SA became an EPE hospital, by the Decree-Law No. 93/2005.

On the 31st December 2005 Hospital S. Bernardo, EPE and Orthopaedic hospital Sant’Iago do Outão gave place, by fusion, to the new Setúbal’s Hospital Center - CHS, EPE by the Decree-Law No. 233/2005. This hospital center is integrated in Lisboa e Vale do Tejo’s ARS. Its influence area includes Sines, Santiago do Cacém, Grândola, Alcácer do Sal, Palmela and Setúbal. Sesimbra is included also in its area in terms of psychiatry. In orthopaedics, this hospital center includes all Setubal district as well as Portalegre, Évora, Beja, Faro e Lisboa districts. Hospital S. Bernardo is a District General Hospital. Hospital Sant’Iago do Outão is a specialized orthopaedic central hospital. Setúbal’s hospital center, EPE works with health departments that are part of its influence area and the objective of its activity is to coordinate the two hospitals.

According to CHS 2007 account report this institution promotes also the learning, education and investigation. The status EPE should be applied progressively to all hospitals, including the ones that are now integrated in SPA and are public institutes, according to the government growth and stability program.

5.2. Accounting Plans used on CHS

As it was referred, before having a Central Hospital, Setúbal had two hospitals: Hospital S. Bernardo and Sant’Iago do Outão Orthopaedic Hospital that were SPA Hospitals - Public Administrative Sector Hospitals. As a result of this nature, these Hospitals used POCMS since its approval in 2000, by *Portaria* n°898/2000. In 2002, Hospital S. Bernardo became an SA Hospital. With this change, Hospital S.

Bernardo started to use the general Official Accounting Plan as all SA entities - POC. This occurred between 2002, December 11th (when Hospital S. Bernardo became an SA hospital) and 2005. When, in 2005, December 31st, the two hospitals gave place to a Central Hospital, EPE, there was another change on accounting plan: POCMS would be used again, but now EPE Hospitals were allowed not to use zero class accounts (budgetary control) and accounts 25 (article 24^o of the EPE's Statutes - Decree-Law n^o233/2005).

5.3. Cost Accounting on CHS

My meetings on CHS had the objective of reaching a clear understanding on how the PCAH was used, if its instructions were being followed and what use was being given to the outputs of the cost accounting system: were they useful to the main recipients of that information, physicians and mainly the ones that had decision power?

The first issue to be brought to discussion in the meetings I had was the method used in cost accounting. As obvious, CHS uses the cost department method. Comparing the cost departments used and the table PCAH supplies it is clear that CHS follows their instructions.

After the meetings I had at CHS, I could conclude that this hospital is not actually using the reciprocal allocation method. The reason for this to happen is related to the complexity of the program that considers reciprocal flows when calculating department costs. This corroborates the conclusions of a study made by Carvalho *et al.* (2007), where the majority of the interviewees consider cost accounting system complex. Reciprocal flows that occur between cost departments are not being

considered. The reason is simple: it implies too much calculation. Instead of that, the step-down allocation method is used. As it was referred before, PCAH exhibits do not show reciprocal allocation, so, ultimately, it is possible to affirm that CHS follows what PCAH recommends, in figures.

A study made by Blayney and Yokoyama (1991), and mentioned by Horngren *et al.* (2003), about the methods used to allocate costs in Australia, Japan and United Kingdom concluded that the direct method is the most used. Their results are summarized in Exhibit nº 15. The use of the direct method, which is the easiest, is widespread. However, and as this study is dated 1991, and since then computer power and capacity to solve simultaneous equations increased dramatically, Horngren *et al.* (2003) believe that more companies might had chosen the reciprocal method since it is easier to implement and it is the most accurate method.

Exhibit nº 15 – The Use of Methods to Allocate Support Department Costs

Support Department Cost-Allocation Method	Australia	Japan	United Kingdom
1. Direct method	43%	58%	64%
2. Step-down method	3	27	6
3. Reciprocal method	5	10	14
4. Other method	15	1	8
5. Not allocated	34	4	8
	<u>100%</u>	<u>100%</u>	<u>100%</u>

Source: Horngren *et al.* (2003: 533)

In CHS, Administrative departments (c.c. 41 and 42) allocate their costs to all other departments: general support auxiliary departments, clinic support auxiliary

departments and main departments, but never to another administrative cost department. General auxiliary support departments (c.c. 31 and 32) allocate their costs to clinic auxiliary support departments and main departments. A general support department cannot allocate costs to other general support department nor to an administrative department. Clinic auxiliary support departments (c.c. 2) allocate their costs only to main departments. A clinic support department cannot allocate costs to other clinic support departments nor to a general auxiliary support department nor to an administrative department. Looking only at the exhibits presented in cost allocation levels of this dissertation (Exhibits nº 7, 8, 9 and 10, that are according to PCAH), it is possible to affirm, as mentioned, that CHS is applying what PCAH recommends, because those exhibits, as referred before, do not represent a reciprocal allocation method but a sequential allocation method. Thus, in one hand it is explicit that reciprocal method must be the only choice for hospitals but on the other hand, the exhibits presented, that should be a key figure to users, do not consider reciprocal flows.

According to Horngren *et al.* (2003) the reciprocal method is the most accurate because it considers the reciprocal services provided by all the support departments. The other advantage of this method, according to the same authors, is the fact that it emphasizes the reciprocated costs of each department. That information can provide the study of how the real costs differ from the budgeted or actual costs of departments. But it is also a key input for decisions about whether outsource services are profitable or not. In this case, and since public hospitals should provide all services, this may be an indicator whether hospital costs are in line, or not, with private health service costs.

Non-imputable costs were the next subject focused on my interviews. PCAH’s definition for non-imputable costs is that they are the ones that are associated nor to main, auxiliary or administrative departments. An example of these costs is the examinations requested by others (external). In CHS, non-imputable costs have in fact these kinds of costs but the major percentage is related with medicine prescribed in the hospital and given to the patient by hospital pharmacy. In 2006, this value represented 47% of total non-imputable costs. This strange situation made me question if the cost of that medicines should not be assumed by the cost department that prescribed it. That is not what CHS is doing. These costs are classified as non-imputable costs. This procedure influences the values when hospital is analysing the cost of a patient in an external consult, for example. If the cost of that patient does not include the medication it will be a lower cost than it is in reality. In one hand it is a “better” value to the hospital, when compared with others (although it is not a real cost), but when the *contratos-programa* are being renegotiated how can the hospital ask for more co-participation if the costs are low? Should not medicines be also co-participated by the ARS? As I understand by some conversations, some hospitals are doing that allocation. If this is an arbitrary choice, how are unit costs compared?

Other costs that appear in this category (non-imputable) are depreciation. At the moment all depreciations are being classified as non-imputable costs. They appear as a total amount and they are allocated, manually, to each cost department according to a percentage defined by last year’s performance. For simplification reasons the depreciations have been allocated based on 2005 values (they started to be classified as non-imputable in 2006). This was a subject raised by one of the service Directors I interviewed. According to her one of the cost center she was responsible for has the

second highest depreciation nationally. She has the perception that the value is not real but she does not know how to solve the problem. The fact that depreciations are, in this case, almost 20% of the direct costs of the cost center has an enormous impact on indirect costs that are allocated using direct costs as a cost driver. According to this Director the numbers that appear on ACSS annual reports, mainly 2006, are not trustable.

In what concerns administrative cost centers for 2008, CHS considers the ones in Exhibit nº 16. The allocation of these costs follows the PCAH rules. They are allocated to general auxiliary support departments, clinic auxiliary support departments and main departments, according to each department’s direct costs.

Exhibit nº 16 – CHS’s 2008 Administrative cost departments

4 Administrative Cost Departments

41 Administration and Directorate

4100100	Board of Directors
4100200	Clinic Director staff
4100300	Nursery Director staff
4100400	Consult Council
41005	Assessory
410051	Administrative Services
4100511	User Office
4100512	Communication Office
4100513	Expedient
4100514	Copy Center

4100600	Legal Office
41007	Production and Planning Management
4100701	Area Management
4100702	Information Management
4100703	Medical Encoding Office
4100704	Hospital Management Unit for Surgery Schedules (UHGIC)
4100800	Administrative Services
4100900	Commissions
4101000	Quality Improvement Program

42 Technical and Administrative Services

42001	Management, Control and Financial Litigation Services
4200101	Financial Services
4200102	Financial Litigation
42003	Material and Logistics Managing Services
4200301	Materials and Logistics
4200302	Medical Material Warehouse
4200303	Accommodations Warehouse
4200304	Stationery Warehouse
4200305	Maintenance Warehouse
4200306	Warehouse (HOSO)
4200307	Assets

4200400	Human Resources Managing Services
42005	Serviço de Gestão de Doentes
4200501	Patient Management (HSB)
4200502	Patient Management (HOSO)
4200600	Medical Archives
4200700	Information Technology Services
42008	Training Management Services
4200801	Training / Library
4200802	Co-Financed Training
4201000	S.I.E.

Source: CHS

For 2008 CHS considered the general support-auxiliary cost departments in Exhibit nº 17. According to PCAH, Installations and Equipment Service departments, refer to an organic unit that aggregates the whole basic systems necessary for a hospital to work. PCAH does not divide this account hence hospitals may use the denomination they decide. PCAH refers that these cost departments should allocate their costs according to each cost department’s direct costs and CHS applies that rule, except for Tool Room cost center, that is an exception. In this particular department the values cannot be compared because almost every hospital is using their own allocation base. The PCAH points the number of hours used in each work but CHS uses the number of works as cost driver and if we look at the Appendix nº 2 of 2006 cost accounting Report (by ACSS) several other hospitals refer different cost drivers

for this department. CHS use PCAH terminology and classification for 32 cost departments. The only cost department CHS does not have is c.c.3206 – Asylum. Not all Department costs are allocated as mentioned in PCAH. The “Transportation Service” department allocates its costs according to the number of transportations required by each clinic support or main departments. The information that is given in PCAH, when it details the way auxiliary departments should allocate their costs, is that “transportation service” department should use a table made by each hospital. And CHS is using its own table. The problem is that the cost driver for this department should be, according to PCAH (Appendix nº 2), the number of kilometers done for each request. This cost driver makes sense because transportation to Lisbon has a different cost than transportation to Oporto or Faro. “Parks and gardens” allocate their cost proportionally to each department direct costs. It is impossible to control the costs of “Barber service” cost center because it is a minimum value and there are no requests. A nurse passes by the beds and asks if the patient wants to barber. It is allocated according to each hospital stay department direct costs (for cost drivers see Appendix nº 2).

Exhibit nº17 - CHS’s 2008 General Support – Auxiliary Cost Departments

3 General Support - Auxiliary Department Costs

31 Installations and Equipment Service

3101	Tool Room
3101010	Tool Room (HSB)
3101020	Tool Room (HOSO)
3102	Water
3102010	Water Distribution (HSB)
3102020	Water Distribution (HOSO)
3103000	Steam/Thermal Central
3104	Electricity
3104010	Electric Power Supply (HSB)
3104020	Electric Power Supply (HOSO)
3105	Medical Gas Central
3105010	Medical Gas Central (HSB)
3105020	Medical Gas Central (HOSO)
3106	Waste Treatment
3106010	Waste Treatment (HSB)
3106010	Waste Treatment (HOSO)
3107000	Technical Floor (HSB)
3108	Communication Central
3108010	Communication Central (HSB)
3108020	Communication Central (HOSO)

32 Accommodation Services

3201000	Food and Diet
3202000	Laundry
3203000	Hygiene and Cleaning
3204	Safety and Support
3204010	Reception
3204020	Safety Service
3205000	Barber Shop
3207000	Parks and Gardens
3208	Vehicle Service
3208010	Transportations (HSB)
3208020	Transportations (HOSO)
3209	Others
3209010	Bar
3209020	Religious Service
3209030	Mortuary Service
3209040	Other General Services

Source: CHS

Clinic support – auxiliary cost departments for 2008 are in Exhibit nº 18. Generally hospital uses PCAH's distribution rules. Just in two “sub-departments” of 299-other clinical support services this does not happen.

CHS allocates cost department 29907-social service according to main departments direct costs. PCAH indicates that it should be distributed to the departments that ordered the service by number of people seen.

29908-pharmaceutical services costs are allocated by CHS only to main departments proportionally to the consumption done. This happens because the reciprocal method is not being used. PCAH recommends the same allocation way but considers that clinical support-auxiliary departments can use these services too.

The main departments aggregate all the costs, as cost department method consider.

An issue was referred at this point: there is one main cost department that is usually overburdened with costs that are not classified correctly or are difficult to allocate to a cost department: internal medicine – c.c.11101. For that reason, when this cost department presents costs that are higher than usual and others have costs lower than usual, there is an arbitrary cost allocation to have “consistent” data. This happens basically in terms of personnel cost. Sometimes a cost department can have extra-hours costs but do not have nor a physician or a nurse allocated to that department.

Cost personnel allocation is a major problem in this hospital cost accounting. A worksheet was given to all cost departments in order that each of them could allocate their activity by cost center. However, this information is not in use yet.

Exhibit nº18 - CHS’s 2008 Clinic Support – Auxiliary Cost Departments

2 Clinic Support - Auxiliary Cost Centers

20 Complementary Means of Diagnostic and Therapeutic

2010000	Pathological Anatomy
202	Clinic Pathology
20201	Clinic Pathology (HSB)
2020101	Clinic Pathology - Hematology
2020102	Clinic Pathology - Immunology
2020103	Clinic Pathology - Microbiology
2020104	Clinic Pathology – Biochemistry
2020105	Clinic Pathology – Urgency Lab
2020200	Clinic Pathology - General (HOSO)
2020300	Clinic Pathology - Others
203	Imaging
2030100	Imaging - Radiology (HSB)
2030200	Imaging - Radiology (HOSO)
2030300	Imaging - Ultra Sound (HSB)
2030400	Imaging - Ultra Sound (HOSO)
2030500	Imaging - Computerized Tomography
2030600	Imaging - Mammography
2030700	Imaging - Others
204	Physiology and Rehabilitation Medicine - Techniques
2040100	Physiotherapy (HSB)
2040200	Physiotherapy (HOSO)
2040300	Speech Therapy
2040400	Occupational Therapy
2040500	Physiology and Rehabilitation Medicine – Other
2040600	Orthoprosthetics (HOSO)
2050000	Imune-Hemotherapy
210	Cardiology - Techniques
2100100	Cardiology - Techniques
2100200	Cardiology - Pacing
2100300	Hemodynamic
2100400	Electrophysiology
2100500	Electrocardiography (HOSO)
2110000	Gastroenterology - Techniques
2120000	Neurology – Techniques
2130000	Ophthalmology - Techniques
2140000	Otolaryngology - Techniques

2150000	Pulmonologist - Techniques
2160000	Urology - Techniques
2200000	Gynaecology / Obstetrics - Techniques
2210000	Dermatology - Techniques
2270000	Dentistry - Techniques
229	Immune-Allergy - Techniques
2290100	Immune-Allergy - Techniques
2290200	Immune-Allergy - Immunology and Molecular Biology Lab
2310000	Orthopaedics - Techniques (HOSO)
2320000	Psychiatry - Techniques
2350000	Pediatrics - Techniques
240	Anaesthesiology
24001	Anaesthesiology
2400101	Anaesthesiology (HSB)
2400102	Anaesthesiology (HOSO)
2400200	Therapy of chronic pain
24003	Post-Anaesthesiology Unit Care
2400301	Post-Anaesthesiology Unit Care (HSB)
2400302	Post-Anaesthesiology Unit Care (HOSO)
250	Surgery Block
2500100	Surgery Block - General
2500200	Surgery Block - Orthopaedics (HOSO)
2500300	Surgery Block – Additional Surgery (HSB)
2500400	Surgery Block - Additional Surgery (HOSO)
2500500	Birth Unit
299	Other Services of Medical Support
2990200	Nutrition Unit
2990300	Sterilization
2990500	Forensic Psychiatry Unit
2990600	Psychiatry Unit
2990700	Social Service
29908	Pharmaceutics Services
2990801	Pharmaceutics Services (HSB)
2990802	Pharmaceutics Services (HOSO)

Source: CHS

In terms of main cost departments, CHS is organized as in Exhibit nº 19. The main cost departments considered in PCAH, but not presented in CHS, are Integrated continued care (c.c.110), Radiotherapy (c.c.117) and Transplant units (c.c.119).

In all main cost departments the cost drivers PCAH recommends are in use (Appendix nº 2).

Exhibit nº19 - CHS’s 2008 Main Departments

1 Main Cost Centers

11 Clinical Services - Hospital Stay

111 Medical Specialties

11101	Internal Medicine
1110101	Internal Medicine - Fonseca Ferreira Unit
1110102	Internal Medicine - Silva Duarte Unit
1110103	Medical Care Unit I (HSB)
1110104	Medical Care Unit II (HOSO)
1110200	Cardiology
1110500	Gastrology
1110600	Infectology
1110800	Nephrology
11109	Neurology
1110901	Neurology
1110902	Stroke Unit
1111000	Pulmonologist
1111400	Medical Oncology

112 Cirurgical Specialties

11201	General Surgery
1120101	General Surgery – Women
1120102	General Surgery – Man
1120200	Facial Plastic Surgery
1120700	Ophthalmology
11208	Orthopaedics
1120810	Orthopaedics I
112082	Orthopaedics II
1120821	Orthopaedics II
1120822	Pediatric Orthopaedics

1120900	Otolaryngology
1121100	Urology
1121800	Stomatology

113 Obstetrics - Gynecology

1130100	Gynecology
11302	Obstetrics
1130201	Obstetrics – Pregnancy Pathology
1130202	Obstetrics – Recently Given Birth Unit

114 Child and Teen Medicine

11401	Pediatrics
1140101	Medical Pediatrics
1140102	Medical Pediatrics - UCEN
1140200	Pediatric Surgery

115 Private Rooms

1150100	Private Rooms (HOSO)
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116 Intensive Care Units

1160100	ICU Multifunction
1160200	ICU Cardiology - UCICOR

118 Psychiatry and abuse of substances

1180100	Accute Psychiatry
1180300	Chronic Psychiatry

12 Clinical Services - Ambulatory

121 One-Day Hospital

12102	Internal Medicine – One-Day Hospital
1210201	Internal Medicine – One-Day Hospital
1210202	Hematology
12103	Nephrology - One-Day Hospital
1210301	Nephrology - One-Day Hospital
1210302	Hemodialysis
1210400	Psychiatry - One-Day Hospital
1210500	Infectology - One-Day Hospital
1210600	Immune-Hemotherapy - One-Day Hospital
1210900	Pulmonology – One-Day Hospital
1211100	Urology – One-Day Hospital
1211400	General Surgery - One-Day Hospital
1211500	Medial Pediatrics - One-Day Hospital
1211800	Pain Unit - One-Day Hospital
12119	Cardiology - One-Day Hospital

1211901	Cardiology - One-Day Hospital
1211902	Cardiology – Short Term Unit
1212000	Neurology - One-Day Hospital
1212100	Gastroenterology - One-Day Hospital
1212300	Medical Oncology - One-Day Hospital

122 Emergency Department

1220100	General Urgency
1220200	Pediatrics Urgency
1220300	Gynecology – Obstetrics Urgency
1220900	VMER

123 External Consult

12302	Anesthesiology - External Consult
1230210	Anesthesiology - External Consult (HSB)
1230220	Anesthesiology - External Consult (HOSO)
1230230	Pain - External Consult
12303	Cardiology - External Consult
1230301	Cardiology - External Consult
1230302	Cardiology – Open Consult
1230600	General Surgery - External Consult
1230700	Facial Surgery - External Consult
1230800	Pediatrics Surgery - External Consult
1231000	Dermatology - External Consult
1231100	Infectology - External Consult
1231200	Endocrinology - External Consult
1231300	Estomatology - External Consult
12315	Gynecology-Obstetrics - External Consult
1231501	Gynecology – Obstetrics - External Consult
1231502	I.V.G. - External Consult
1231600	Gastroenterology - External Consult
1231900	Immune-Allergy - External Consult
1232000	Immune-Hemotherapy - External Consult
12321	M.F.R. - External Consult
1232110	M.F.R. - External Consult (HSB)
1232120	M.F.R. - External Consult (HOSO)
1232200	Internal Medicine - External Consult
12323	Occupational Health - External Consult
1232301	Occupational Health - External Consult (HSB)
1232302	Occupational Health - External Consult (HOSO)
12325	Nephrology - External Consult
1232501	Nephrology - External Consult

1232502	Nephrology (DPCA) - External Consult
1232700	Neurology - External Consult
1233000	Ophthalmology - External Consult
1233100	Medical Oncology - External Consult
1233200	Otolaryngology - External Consult
12333	Orthopedics - External Consult
1233301	Adult Orthopedics - External Consult
1233302	Pediatric Orthopedics - External Consult
1233400	Pediatrics - External Consult
1233500	Pulmonology - External Consult
1233600	Psychiatry - External Consult
1234000	Urology - External Consult
1239800	Small Surgery - External Consult (HSB)
1239900	External Consult - General

124 Home Support

1240100	Home Support Program (HSB)
1240200	Home Support Program (HOSO)

125 Ambulatory surgery

12501	Ambulatory surgery
1250101	Ambulatory surgery (HSB)
1250102	Ambulatory surgery (HOSO)
1250103	Ambulatory surgery - Nephrology
12502	Additional Surgery
1250201	Additional Surgery (HSB)
1250202	Additional Surgery (HOSO)

Source: CHS

5.4. Cost Accounting Outputs and Management Decisions

“Numerous international investigations, using various methods, serve as strong support to the notion that there are substantial differences in culture and values between health professionals and hospital administrators (including the staff of the finance department), within the same organization (hospital). However, the introduction of accounting controls may pose health professionals in contradictory

situations. Physicians are trained to treat patients without regard to costs, and their training, cultural and practical, is not sensitive to the existence of budgetary restrictions. On the other hand, only disciplining health professionals for a more ponderous use of available resources, through the disclosure of accounting information, it is possible to combat the excessive expense that exists in the health sector.” (Barbosa, 2006: 138)

During the meetings I had with the three service Directors, I used, as referred before, a semi-structured interview script (Exhibit nº 13-b). The use of this type of interviews allowed Directors to talk about the issues they felt were more important to them and they were very homogeneous in terms of one main idea: cost accounting is not used in their activity. Not even in the decision-making process. The exception is during the conduct of the business plan for the coming year. This same idea had been expressed by almost all accounting people I interviewed. All Directors referred that the information received was not regular. They receive information about their costs only once or twice a year. The information is supplied when next year's plan is being prepared and sometimes one more time during the year. I asked permission to Hospital Administration in order to have access to the information that was given to service directors but as it was considered internal information, it did not get that permission.

Service directors also mentioned that they started to receive a list from Pharmacy where they can see the medicines spent by cost center. Nevertheless, they also complained that information is not easy to understand. This list supplied by Pharmacy is given to physicians without any treatment in terms of presentation. It is a list generated by software and, according to the interviewees, does not allow an easy

analysis. This new information is related to one of the main activities referred on 2007 CHS Account and Report: computerization of pharmacy department. One of the Service Directors also mentioned the fact that information about their cost departments is too condensed. They have only access to totals.

In what concerns the relevance of cost accounting outputs on the decision process, the opinions are coherent too. They all referred that they use that information when delineating the objectives for the next year. And that is mainly the use of cost accounting outputs for physicians. One Director said that, unfortunately, and because it is almost inexistent, this information is not used when a decision has to be taken. They all shown that this information was extremely important for them and that they would like to have more information, more detailed and more frequently. This corroborates the conclusions of Barbosa (2006) that people (physicians and nurses) that have leadership functions are the ones that most confirm the impact of the knowledge of cost accounting information on their work and cost accounting data is the information more valued by physicians although the frequency of use is very low.

All Service directors mentioned that it is possible to ask for their department costs but it is a manual work that takes long time and for that reason it is not a procedure. It is not information that can be taken on time using only the software. Thus, they ask punctually for it. When asked if they felt the need to have more information about the costs of their department, the answer was positive and unanimous. According to one of the Directors the ideal would be to have monthly information about costs and detailed by nature. This would enable reaction when costs presented abnormal values. Annual information does not allow a reaction to cost deviations. That is considered as part of the past when physicians get to know it.

Other requirement is more rigorous information. All agreed that they did not consider the costs that appear in their cost centers accurate. And this was an issue that elicited several comments. If it is true that one of the Directors interviewed considers surreal the depreciation value that appears in one of her cost centers, other Director stated that she did not believe in values of cost centers that she was responsible for because it was believed that they should be higher. One of the problems raised is the costs of AMD's and AMT's (cost center 201 to 235 – Exhibit nº 18). The majority of the exams prescribed by physicians in CHS are made by third party entities, not by the hospital. The reason is that the hospital does not have capacity to respond to all. This has an enormous impact in terms of hospital costs because in AMD's and AMT's costs only appear if examinations are performed by the hospital. Until now, it was usual for patients to go to the hospital and if examinations were prescribed, they had to go to a health center and ask for a “green” credential that gave access to examinations paid by social security. This means that on that credential there was nothing that said that it had been prescribed by hospitals, thus it was a health center cost. To avoid that situation, ACSS, on June 18th, 2008 released a “*Circular Informativa nº 2*”. This document strengthens the idea that hospitals are responsible, financially and technically, by all examinations prescribed by hospital physicians. If the hospital does not have the capacity to answer to all examination on time physicians may use the green credential and the examinations will be made by third party entities. With this simple change in procedures, it is now possible to charge hospitals for those examinations.

Finally, Service Directors were asked to name aspects that should be improved to have useful data that could be used on decision-making and several items were

identified. Information should be supplied to physicians regularly, as also concluded by Barbosa (2006). And it should also be uniform in terms of appearance so that people could get used to it and rapidly understand data. An IT integrated system was pointed out as a global solution. Emergency service started to work with a new application, ALERT, but it is not the ideal. Apparently, and according to a Service Director, this new application only keeps data related to the last episode of each patient. This implementation was one of the aims of the Government on their 2008 Plan, approved by law nº 31/2007, on August 2007. Another objective is integrated management of the first expertise consultations and their follow ups (and the creation of a database of already registered and their situation).

The three interviewees were unanimous when saying that cost control is still a utopia as well as the use of cost accounting outputs on decision process. Carvalho *et al.* (2007) concluded that 88% of the respondents of their study consider cost accounting system extremely useful on decision-making process. My interviewees have the same opinion. Cost accounting is perceived as extremely useful but it is not used. There must be a change in cultural values. One of the Directors gave an example of a colleague arrived from the United States that was shocked when a nurse, because standard compresses were not at hand, opened a pack of sterilized compresses. In the US, medical teams are more aware of the need to control spending. In Portugal, the cost information is not readily available to physicians or nurses, so they could begin to be concerned about their attitude. It was suggested by one of the interviewees that when physicians were prescribing medicines or exams the price to SNS should appear. This, according to my interviewee would make many physicians question the use of what they are prescribing. With medicines the question

is more pertinent due to the existence of generic formula medicines that generally are not prescribed. This presupposes the use of “Electronic Prescription”, another aim of Government’s 2008 Plan that is not in use yet in CHS. These opinions are in line with the reasons presented by Barbosa (2006) for the non-use of accounting information, by doctors and nurses: they are not part of routine, the difficulty in obtaining and their ignorance of the possibility to consult. Only one Director interviewed referred that she assesses the ACSS annual report to compare the costs of the department that she is responsible for, with to the same department from different hospitals.

As a conclusion, two Directors questioned if it was worth caring about the control of their costs if no one gives value to that effort? The ones who are not concerned do not suffer any pressure. And the ones that care do not see the effort acknowledged. These statements are in concordance with what Barbosa (2006), Finkler (1991) and Toso (1989) referred about this essential point: health professionals must be involved in the system.

“... only disciplining health professionals for a more ponderous use of available resources, through the disclosure of accounting information, it is possible to combat the excessive expense that exists in the health sector.” (Barbosa, 2006: 138).

“If we do not closely consider the individual people involved in the cost accounting process, we may calculate accurate costs, but we may be causing things to cost more than they ought to.” (Finkler, 1991: 14).

“A cost accounting system will be of little value if physician input is not obtained” (Toso, 1989: 7).

The National Health Plan 2004-2010 considers, in its strategic orientations that the main instruments of change will focus on: a more organized management, with a clear accounting of managers and implementers, supported by information more accessible and resulting in greater attention to information system and, among others, in the review of incentives to productivity, to performance and merit.

6. CONCLUSIONS

6.1. Overview of the Study

During my field research I became aware of CHS's reality in terms of cost accounting, the way it is performed and how outputs are used.

There is, in fact, a person who is responsible for cost accounting data. But since there is an annual report, this person works in other areas. Cost accounting is a topic once a year. Cost department method is being used, as PCAH indicates, but reciprocal allocation method is not. IGIF/ACSS's worksheets that allow reciprocal calculation are not used. CHS applies a sequential allocation method since it does not consider reciprocal flows between cost departments.

According to Metzger (1992) reciprocal method produces appropriate allocation values for financial reporting and data useful for hospital decision making. And in the *“highly competitive and sometimes hostile environment in which hospitals now fight to survive any additional relevant data should be provided to managers to help in the decision-making process”* (Metzger, 1992: 103)

Personnel costs are a critical area that is being revised but, until now, the allocation is not real. This happens because the assumption is that people assigned to a cost department only work for that cost department. In the majority of the cases that does not really happen. It is expected that human resources department use the correct allocation, as defined by each cost department. This allocation considers only the hours/percentage of time that each person works for a specific cost department.

Depreciations are a problem too in CHS cost accounting. Actually they are allocated according to last year's percentage of total depreciations. According to a

Service Director, depreciation allocation values have nothing to do with reality. Nevertheless, most of the imputation criteria and cost drivers are defined according to PCAH.

From the evaluation of this reality, it is possible to speculate about what happens in other hospitals. This leads us to a question: Is it possible to compare data when some hospitals may be using reciprocal methods and others are not? According to PCAH hospitals should supply cost department method with monthly information about all cost departments production but, in fact, this information is quarterly, in CHS case.

After meeting with three Service Directors, I concluded that cost accounting data is not used in decision-making process. In line with the general opinion of the people interviewed, cost accounting data exists only to fulfil obligations of report information to ACSS. It is comprehensible that analysing numbers may not be the activity more enjoyable for physicians. If their attention and preoccupation is needed in terms of cost containment, it may be useful to make information clear, accessible and homogeneous in terms of presentation. It is not supposed that physicians have to be preoccupied in accessing ACSS site to know the costs of their departments. It is the information that must get to them. In two words: information must be disseminated and clear.

During my interviews to Service Directors, I felt what Comerford and Abernethy (1999) had concluded in their study. Health professionals that have a high professional orientation may not experience a role conflict if they are involved in cost control as long as they are committed to the managerial objectives. All Service

Directors seemed concerned about the subject but still they do not feel that efforts recognized.

At the end of this research I feel that cost accounting is not a major priority to CHS, and this may be a reality in other hospitals. It is something that is done once a year, with a specific objective that is to report information required by ACSS and for that reason, is not performed and thought daily. This goes in line with what Finker and Ward (1999: 363) refer when introducing the new ABC technique to solve this problem: *“the concern is that costing has evolved primarily into a tool for external reporting of financial results, rather than for the management of the organization.”* And this is CHS reality. Only punctually, are there some requests from some departments' Directors in order to know their costs, but nothing significantly. This means that cost accounting information is not used on decision-making process. This conclusion is based on my research and in the opinions of the people I interviewed. It would be extremely interesting to have had Administrator's opinion about this subject. Finkler and Ward (1999: 363) conclude, about this issue, that this concern *“has led to a movement to drastically revise cost accounting practises to make them more relevant”*. It is relevant to mention that these comments were made in the 90's related to US hospitals and this is still Portuguese hospitals' reality almost a decade after. Nevertheless, Carvalho *et al.* (2007), concluded in their study about cost accounting system implementation that hospitals, compared to the other public entities, are those who have the cost accounting system more developed, due to the ten years of experience since the first PCAH. The authors agree that this implementation experience might serve as support in better and faster implementation of the same system to the other sectoral plans.

6.2. Theoretical/ practical Contributions

Scapens states that there is a gap between theory and practice. As referred before, Kaplan and Johnson, in 1987, claimed that this gap should disappear, but even so it still remains. There are few empirical studies on practices of management control. Literature about hospitals is almost inexistence, especially in Portugal. *“Contrary to what happens in some countries (United Kingdom, Belgium, Canada, Australia and New Zealand, for example), there are no studies in Portugal on issues related to governance hospital - including ones related to the composition, powers, functioning and involvement of clinical body in government - and the principles associated with good governance. Studies concerning hospital reality are mainly related to reflections about statutes and nature of the hospital and about auditing and evaluation, particularly of performance”* (2006 Spring Report: 18-19).

Thus, this study is a contribution to get to know better Portuguese Hospital practices. There is no study verifying that what is stated on PCAH is implemented, or not, for real on hospitals. This study is intended as a contribution to this.

6.3. Limitations and Suggestions for Further Investigation

During this study, I was received by several people who work in CHS. I believe, however, that more information would have been obtained, if I had been given the opportunity to speak with some key people at CHS, who were unavailable to support this investigation. I had no permission, by Administration, to attach, or even see, the information that is provided to Service Directors about costs because it is considered internal data.

Another limitation of this study is the reduced number of interviews and the fact that they were not tape recorded. But, according to Yin it is possible to make a “valid and high-quality case study without leaving the library and the telephone or Internet” (2003: 11).

During my research, I concluded that ABC is meant to be the next method to be used by Portuguese Hospitals, in what concerns cost accounting. That is a coherent evolution since, as Horngren *et al.* (2003: 151) refer, “*ABC systems are a further refinement of department-costing systems*”. And according to this evolution, ACSS and Deloitte are now working in this area. Some Hospitals are already implementing ABC system⁸. Udpa (1996) considers that integrating ABC with hospital control processes is an exciting new development. Collecting the data needed to establish an ABC system is expensive and takes much time. Sometimes information required is almost impossible to obtain and the statistical analysis needed to allocate costs is complex. Udpa (1996: 384) alerts for the fact that “*a successful implementation of an ABC system requires a comprehensive paradigm shift in management – a move from a functional departmental view of the hospital management structure to a more cross-functional view of the hospital activities and processes. This requires re-education of the entire organization from physicians to nurses to administrative staff. For this to happen, the initiative and impetus for change should come from senior management. Very often, changing management’s perspective is far more complex and challenging than designing the system.*”

This is, indubitably, an interesting theme for a future investigation.

⁸ Sta. Marta (Lisbon), Beja’s Hospital (Beja), Barlavento Algarvio Hospital (Algarve), Sto. António Hospital (O’Porto), Aveiro’s Hospital and Ponta Delgada’s Hospital. Others are being studied, mainly Lisbon’s IPO – Oncology Portuguese Institute, O’Porto’s IPO, Sta. Maria’s Hospital (Lisbon), Faro’s Hospital (Faro) and Leiria’s Hospital (Leiria).

APPENDICES

APPENDIX N°1

**LETTER SUBMITTED DO CHS FINANCIAL DIRECTOR ASKING
PERMISSION TO DO MY RESEARCH AT THE HOSPITAL**

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Escola Superior de Ciências Empresariais
Instituto Politécnico de Setúbal
Campus do IPS, Estefaniha
2914-503 Setúbal

26 de Abril de 2006

Centro Hospitalar de Setúbal EPE

**Ao cuidado de:
Dra. Maria João Amaral
Direcção Financeira**

Exma Sra.Dra. Maria João

O meu nome é Célia Picoito e sou docente na Escola Superior de Ciências Empresariais, em Setúbal.

Encontro-me a fazer o Mestrado em Contabilidade no ISCTE. Tendo terminado a parte lectiva do Mestrado vou iniciar a minha Tese. O tema proposto por mim foi “Gestão de Custos Hospitalares”. Considerando que o tema é de extrema relevância e sobre o qual não há muita investigação nesta área, pode ser simultaneamente um desafio pessoal e uma possibilidade de contribuir para uma melhor gestão dos custos hospitalares.

A minha carta deve-se ao facto de eu ter escolhido o Centro Hospitalar de Setúbal EPE como o meu Caso a estudar, dado residir em Setúbal e conhecer os serviços prestados por este Hospital.

Desloquei-me no passado mês ao Hospital de S.Bernardo, onde falei com a Dra.Andreia Viegas que se mostrou bastante receptiva mas que me aconselhou a enviar esta carta à Direcção Financeira no sentido de obter a vossa aceitação para a colaboração no estudo de caso.

Nesse sentido venho colocar à consideração da Dra. o meu pedido para que me fosse disponibilizado algum tempo, que eu vou restringir o mais possível, de modo a não causar transtornos na actividade normal da gestão do Hospital, no sentido de obter informações relativamente à Gestão dos Custos Hospitalares. A nível de divulgação de informação penso que os relatórios e toda a informação divulgada no site da Unidade de Missão serão suficientes. Espero que os benefícios deste estudo sejam para ambas as partes!

Se for necessário uma carta do Iscte terei todo o prazer em fazer chegá-la a vós com a maior brevidade.

O meu contacto é o 933300842 e o meu e-mail cpicoito@esce.ips.pt.

Agradecendo, desde já a disponibilidade dispensada, fico a aguardar uma resposta que, espero, seja positiva ao meu pedido.

Sem outro assunto,

Com os melhores cumprimentos,

Célia Picoito

.....

APPENDIX N°2

PCAH COST DRIVERS

	Department Level 1	Department - Level 2	Cost driver
MAIN DEPARTMENTS	Clinical Services - Hospital Stay	Integrated Continuous Care	Nº of Treated Patients / Nº Days of Stay
		Medical Specialties	Nº of Treated Patients / Nº Days of Stay
		Cirurgical Specialties	Nº of Treated Patients / Nº Days of Stay
		Obstetrics - Gynecology	Nº of Treated Patients / Nº Days of Stay
		Child and Teen Medicine	Nº of Treated Patients / Nº Days of Stay
		Private Rooms	Nº of Treated Patients / Nº Days of Stay
		Intensive Care Units	Nº of Treated Patients / Nº Days of Stay
		Radiotherapy	Nº of Treated Patients / Nº Days of Stay
		Psychiatry and abuse of substances	Nº of Treated Patients / Nº Days of Stay
		Transplant Unit	Nº of Treated Patients / Nº Days of Stay
Clinical Services Ambulatory	One-Day Hospital	Nº of Sessions / Nº Days of Stay	
	Emergency Department	Nº Patients Treated	
	External Consult	Nº Consults	
	Home Support	Nº Visits	
	Ambulatory surgery	Nº Surgeries	

CLINIC SUPPORT - AUXILIARY COST CENTRES	Department Level 1	Department - Level 2	Cost driver
	Complementary Means of Diagnostic and Therapeutic	Pathological Anatomy	Nº of Ponderated Exams
Clinic Pathology		Nº of Ponderated Analisis	
Imaging		Nº of Ponderated Exams	
Physiology and Rehabilitation Medicine - Techniques		Nº of Ponderated Sessions	
Imunne-Hemotherapy		Nº of Ponderated Transfusions	
Nuclear Medicine		Nº of Ponderated Exams	
Radiotherapy		Nº of Ponderated Treatments	
Cardiology - Techniques		Nº of Ponderated Exams	
Gastroenterology - Techniques		Nº of Ponderated Exams	
Neurology - Techniques		Nº of Ponderated Exams	
Ophthalmology - Techniques		Nº of Ponderated Exams	
Otolaryngology - Techniques		Nº of Ponderated Exams	
Pulmonology - Techniques		Nº of Ponderated Treatments	
Urology - Techniques		Nº of Ponderated Exams	
Gynecology - Techniques		Nº of Ponderated Exams	
Dermatology - Techniques		Nº of Ponderated Exams	
Nefrology - Techniques		Nº of Ponderated Treatments	
Criopreservation and Tissue culture	Nº of Ponderated Processed Samples		

CLINIC SUPPORT - AUXILIARY COST CENTRES	Department	Department - Level 2	Cost driver
	Complementary Means of Diagnostic and Therapeutic	Development	Nº of Ponderated Exams
		Reproduction Medicine	Nº of Ponderated Exams
		maxillo-facial surgery - Techniques	Nº of Ponderated Exams
		Dentistry - Techniques	Nº of Ponderated Exams
Genetics - Techniques		Nº of Ponderated Exams	
Immune-Allergy - Techniques		Nº of Ponderated Exams	
Obstetrics - Techniques		Nº of Ponderated Exams	
Orthopedics - Techniques		Nº of Ponderated Treatments	
Psychiatry - Techniques		Nº of Ponderated Treatments	
Medical Oncology - Techniques		Nº of Ponderated Treatments	
Rheumatology - Techniques	Nº of Ponderated Treatments		
Anesthesiology	Anesthesiology	Ponderated Anesthetical Procedures	
	Therapy of chronic pain	Ponderated Anesthetical Procedures	
Surgery Block		Nº Surgeries	
Other Services of Medical Support	Experimental Surgeries	Nº Surgeries	
	Nutrition Unit	Nº Patients Seen	
	Sterilization	Nº Litres	
	Medical Phisics	-	
	Forensic Psychiatry Unit	Nº Reports	
	Psychiatry Unit	Nº People Seen	
	Social Service	Nº People Seen	
	Pharmaceutics Services	Nº People Seen	

	Department Level 1	Department - Level 2	Cost driver
GENERAL SUPPORT - AUXILIARY COST CENTRES	Installations and Equipment Service		-
	Accommodation Services	Food and Diet Laundry Hygiene and Cleaning Safety and Support Barber Shop Asylum Parks and Gardens Vehicle Service	Nº of Ponderated Meals Kg of Treated Clothing - - - Nº of Days Area Occupied (m2) Nº Kms
ADMINISTRATIVE COST CENTRES	Administration and Directorate		-
	Technical and Administrative Services		-

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<http://www.acss.min-saude.pt/>
<http://www.dgs.pt/>
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Law n° 27/2002. *Diário da República n°258*, I Series - A, 2002, November 8th - Approves the new legal regime of hospital management and makes the first amendment to Law No. 48/90, of August 24th

Minister Council Resolution n°124/2005, *Diário da República n°149*, I Series - B, 2005, August 4th - Determines the Governmental Programme for Public Administration Restructure, setting its objectives, principles, programmes and methodology (PRACE)

Despacho [Order] No.17164/2006. *Diário da República n°146*, Ministérios das Finanças e da Administração Pública e da Saúde [Minister of State, Finance and Health], II Series, 2006, August 25th

Decree-Law No. 219/2007. *Diário da República n°103*, Ministério da Saúde [Health Ministry], I Series, 2007, May 29th – Approves ACSS’s organics

Law n.º 31/2007, *Diário da República n°154*, Assembleia da República, I Series, 2007, August 10th – 2008 Plan main options

Portaria [Ordinance] No. 110/2007. *Diário da República n°16*, Ministério da Saúde [Health Minister], I Series- Appendix, 2007, January 23rd – Amendment to the Ordinance No. 567/2006, of June 12th, approving the price lists to be practice by the National Health Service as well as its regulation. Approves the classification list of hospitals for billing purposes of urgent episodes