

Financial governance of a hospital, patient criticism: "the case of the EL-Maarouf National Hospital Center"

Fahardine Ali Islam

Doctor of Economics and Management

Teacher-researcher

Head of Department

Economic and Social Administration

Faculty of Law and Economics

University of the Comoros

Email: sadjialiislam@gmail.com

Summary

The objective of financial governance in a hospital center is to provide insight into the political stakes and their consequences on the financial governance of a healthcare institution . Beyond purely management aspects, the goal is to enable the El-Maarouf National Hospital Center to demonstrate its public service status, ensuring the highest standards of care at appropriate prices. This also includes the need to guarantee adequate basic coverage of various healthcare services for the entire population, including those unable to afford them. The study examines the main drivers of healthcare costs and seeks to understand the behavior of stakeholders, highlighting the complex trade-off between cost control and other essential factors. The EL-Maarouf National Hospital Centre is a public institution that permanently ensures public health, by investing in all coordinated social actions on the ground, to warn the population about possible diseases, the precautions to take especially, if it concerns public health such as epidemics, Covid-19 is proof of this.

Design

Given the complexity of the national hospital center, the methodology used to obtain the necessary information consisted of a field survey, employing several data collection methods: interviews, direct interviews, and electronic document sources. Interviews constituted the primary source of information. The total number of individuals interviewed included several witnesses to financial governance, as well as the board of directors, the hospital's chief financial officer, and the national hospital center's accountant.

Results

This new configuration requires the implementation of shared coordination, which goes beyond what was previously considered necessary for controlling expenditures and revenue collection. Based on this study and the interview responses, we can affirm that this work has highlighted the considerable impact of the new financial governance on the coordination of all stakeholders, due to the limited resources of El'Maarouf National Hospital. However, challenges remain, and coordination is necessary to ensure the optimal use of limited resources, with the aim of guaranteeing sound financial governance.

Limitations of the research

This study is limited by the small sample size and the exploratory nature of the qualitative analysis. Further research in this area is recommended, particularly by increasing the sample size and using more robust methodologies with other healthcare facilities on other islands.

Practical implications

The modest contribution of this document offers positive perspectives to decision-makers in facilities, with a view to coordinating financial resources to ensure optimal public health management. Indeed, criticism is sometimes raised regarding the quality of healthcare infrastructure within hospitals .

Originality/value

Research in this area helps demonstrate that public health institutions must be managed using appropriate management tools to ensure the use of limited resources, with the ultimate goal of guaranteeing sound financial governance of hospitals through a practical and adaptable management method that meets the requirements of funding bodies. In other words, the bodies established within the hospital must play a significant role in daily management to balance the hospital's accounts, acquire modern equipment, and address critical public health needs.

Keywords: Financial governance; patient criticism; public health; El-Maarouf Hospital

Doi:10.5281/zenodo.19035492

1. Introduction and concept

The National Hospital Center (CHN) is governed by Decree No. 11-197/PR of September 15, 2011. It is a public hospital with a national scope, possessing legal personality and administrative and financial autonomy. It is under the financial supervision of the Ministry of Finance and the technical supervision of the Ministry of Health. Currently, it is considered the reference center for the Union of the Comoros. Standard equipment and operational standards are determined by order of the Ministry of Health, upon the recommendation of the board of directors.

Following laws, decrees, orders, proposals, and supporting technical documents, the National Hospital Center was established, and the State is committed to its proper functioning in terms of investment and the allocation of civil servant professionals. The National Hospital Center is committed to implementing the necessary resources and undertaking all activities required for the smooth operation of the institution. To the expression used by Mars Di Bartolomeo regarding healthcare in the Grand Duchy, "health has no price, health has a cost," we could now add that "health now has a price." We see today that the healthcare market is growing, while offering limited services compared to the increasing needs of the Comorian population. Our hospital must aspire to greater importance due to the rapid and continuous development of healthcare in general and hospital care in particular (Bennington, 2010).

On this point, some studies (Taylor and Field, 1997) suggest that the increase in chronic diseases, the aging population, the evolution of scientific techniques, and transformations in family structure reflect changes in consumption patterns. Also, faced with this sharp increase in the demand for public healthcare, the supply of social protection tends to decrease (Tanti-Hardouin, 1994). Regarding administration, management, and governance, this study aims to analyze the evolution of hospital financial governance in the current context of activity-based funding reforms and new management control. Some authors argue that the introduction of quantified objectives in public organizations reflects a desire to control physicians' activity (Preston, 1992; Rose, 1991), transforming the professional into a calculable and governable actor (Miller and O'Leary, 1994, 1987). On this point, Hood's work (1995) specifies that the new governance of public institutions is oriented towards results-based management. In the landscape of the Comoros National Hospital Center, good governance bodies are nothing more than a charade, whereas hospital governance refers to the mechanisms of balance and control that frame the decision-making process within hospitals (Eeckloo et al., 2007).

¹ Interview given to the newspaper "Le Quotidien" on May 8, 2005.

But at the heart of the matter, the reality is this: chaotic management, a game of musical chairs at the position of Director General of the hospital. Each time, we see the invisible hand of the Director General over financial resources, with no traceability of invoices or legal procedures between the various underlying managers, which unfortunately leads to conflict within the institution. While in recent decades, the study of boards of directors, their organization, their practices, and the impact of these factors on hospital performance has yielded important lessons (Erwin et al., 2019; Millar et al., 201), this is truly a structural reform, requiring strong leadership in a context where communities feel solely responsible for providing care without relying on the healthcare map.

The various reforms envisaged resulted in:

- A board of directors at the national hospital center, even though it remains a component of power, poorly composed and lacking the emblem of good governance, must ensure that the resources generated are not squandered or wasted by heartless leadership at the expense of public health. It must oversee that these resources provide modern healthcare equipment to guarantee patient confidence, streamline doctors' work, balance patient care hours, and adequately compensate nurses, midwives, and nursing assistants who frequently complain.
- An administrative and financial director who struggles to reconcile his work coordinating financial data with its daily use due to a lack of supporting documentation for the various transactions. This creates a toxic atmosphere between him and his superior, if applicable.
- A Human Resources Director was requisitioned to compile the list of recruited agents, without any indication of the needs and profile of the position, most often in contradiction with the code of ethics, which will jeopardize the public health of the general population, at a time when our health establishments are being criticized for their lack of assistance to the poor and those in danger of death.

The national hospital center is an institution characterized by the predominance of actors possessing expertise in their respective fields, namely physicians. Thus, this organization is professional but also exhibits bureaucratic traits. The administrative staff within the structure initially serve to support the work carried out by the physicians; this is why the hospital can be described as a professional bureaucracy (Mintzberg, 1989). How can financial governance at El-Maarouf Hospital be addressed while preserving patients' rights? To answer this concern, we opted for case studies of the various stakeholders in the public health sector.

2. Research methodology

Given the complexity of the national hospital center, the research technique used was fieldwork, for which several methods of information collection were employed: interviews, direct interviews, electronic documentary sources.

Interviews constitute the primary source of information; several witnesses to financial governance, as well as the board of directors, the institution's administrative and financial director, and the national hospital center's accountant, comprise the total number of individuals interviewed. Finally, certain electronic documents proved essential for understanding the challenges of financial governance and the overall management system.

The national hospital is located in Moroni on Corniche Street and employs approximately 756 staff members distributed across various departments. The "Surgery" "Administration" and "Emergency" departments have 117, 86, and 64 staff members respectively. These departments have the largest staff compared to the others.

Staff numbers at El Maarouf Hospital in 2022

Table n.1: Hospital Center Staff

SERVICES	STAFF	PERCENTAGE
Administration	86	11.37%
Pharmacy	4	0.53%
Laboratory	53	7.01%
Pediatrics	43	5.68%
Adult Clinic	12	1.58%
Maternity	77	10.18%
Resuscitation	25	3.30%
Maintenance	40	5.29%
Emergency	64	8.46%
Standard	5	0.66%
Sanitation	18	2.38%
surgery	117	15.47%
Neonatology	33	4.36%
Mental health	3	0.39%
Adult Clinic	3	0.39%
stomatology	6	0.79%
Cardiology	19	2.51%
Medical imaging	21	2.77%
internal medicine	25	3.30%
ophthalmology	9	1.19%
Dermatology	3	0.39%
phthisiology	6	0.79%
Dialysis	26	3.43%
physiotherapy	6	0.79%
CSD Ntsaoueni	37	4.89%
DUTR Medicine	1	0.13%
Samba COVID	14	1.85%
TOTAL	756	

Source: EL-maarouf hospital

The table above shows that in 2022 , El Maarouf Hospital had 756 staff members distributed across different departments. The " Surgery" "Administration" and "Emergency" departments had 117, 86, and 64 staff members respectively . These departments had the largest staff compared to the others.

The 2023 staffing levels at El Maarouf Hospital – Table 2

SERVICE	EFFECTIVE	PERCENTAGE
Administration	83	10.20
Pharmacy	6	0.73
Laboratory	65	7.99
Pediatrics	51	6.27
Adult Clinic	12	1.48
Hepato-gastro	5	0.61
Maternity	84	10.33
Resuscitation	26	3.19
Maintenance	42	5.17
Emergency	77	9.47
Sanitation	16	1.97
Surgery	128	15.74
Neonatology	36	4.42
Mental health	3	0.37
Adult Clinic	13	1.60
stomatology	6	0.73
Cardiology	19	2.33
Medical imaging	7	0.86
internal medicine	44	5.41
ophthalmology	9	1.10
Dermatology	3	0.3
hitisology	6	0.74
Dialysis	26	3.19
physiotherapy	6	0.74
CSD Ntsaoueni	36	4.43
DUTR Medicine	1	0.12
Samba COVID	1	0.12
Neurosurgery	2	0.25
TOTAL	813	

Source: EL-maarouf hospital

After analyzing the staffing levels, we noted that the maternity ward has the largest staff with 84 employees, representing 10.33% of the total staff in the hospital. This is followed by the emergency department with 72 employees, or 8.83% , and finally, in third place, the laboratory department with 63 employees, or 7.75%. This table allows for a comparison of staffing levels between departments and across the hospital. The staff of El Maarouf Hospital comprises doctors, nurses, nursing assistants, midwives, administrative personnel, technicians, and maintenance workers. Following this same principle, there are both civil servants and contract employees. These services are organized according to their areas of activity and their classification within the departments:

- Mother and Child Unit (Maternity, Pediatrics and Neonatology);
- Medical departments (Internal Medicine (B), Cardiology (A), Emergency, Pulmonology-Physicianry, Dermatology and Dialysis;
- Surgical departments (Surgery A, Surgery B, Operating rooms (central and Maternity);
- Specialty center (ENT, Dentistry, Ophthalmology, Intensive Care, Anesthesia);
- Medical-technical department (Laboratory, Imaging and Physiotherapy);
- Administrative and technical services (General Management, Maintenance, Laundry, Restaurant and Sanitation).

1- Context of financial governance

As part of good governance, the national hospital center has established new bodies since September 2011:

- Decision-making body

The administration and management of the national hospital center are ensured by:

- The board of directors of the institution;
- The general management.

In carrying out its missions, the Directorate is supported by:

- The Administrative and Financial Department;
- The Directorate of Medical and Pharmaceutical Affairs;
- The Human Resources Department;
- The general healthcare monitoring service.

2- Representative and advisory bodies

To ensure collaboration and transparency in financial governance, the various professional bodies within the national hospital center, in accordance with its statutes, are put in place:

- A medical establishment committee (CME);
- A healthcare establishment committee (CSE);
- An administrative and technical committee (CAT);
- A health and safety at work committee (CHST);
- A steering committee.

For any autonomous organization, the board of directors and management, the supreme body working together, play an essential role. They are also the coordinators of the hospital center, responsible for ensuring its smooth operation.

(Kane et al. (2009) applied this framework to hospital boards, emphasizing the importance of all governance bodies, including The board of directors , the administrative and financial

director, the center's accountant.

3- Structure and organizational chart of the national hospital center:

- The board of directors is composed of 15 members
- The general management;
- The general manager appointed by decree upon proposal of the board of directors;
- The administrative and financial director appointed by decree under the supervision of the director general;
- A manager appointed by decree;
- Bursar appointed by decree;
- A supervisor appointed by decree;
- An accountant appointed by the general manager;
- A human resources director appointed by decree;
- A director of medical affairs appointed by the chief executive;

a- Financial governance: the case of the board of directors

In accordance with the provisions of Article 4 of Decree No. 11-1997/PR concerning the statutes, organization, and operation of the El Maarouf National Hospital Center, dated September 15, 2011, the Minister of Health, Solidarity, Social Cohesion, and Gender Promotion established the Board of Directors of the El Maarouf National Hospital Center on Monday, October 17, 2011. Composed of 15 members, the Board of Directors will be responsible for defining the hospital's general policy and deliberating on matters including:

- The general policy defining the needs of the institution;
- Investment programs relating to heavy equipment;
- The budget, amending decisions, accounts and allocation of operating results;
- The proposed pricing for procedures and services specific to the establishment, in accordance with applicable regulations;
- The creation, allocation; divisions, suppressions and transformations of medical and pharmaceutical services, as well as services other than medical and pharmaceutical;
- The compensation scheme and the methods of employee incentives within the limits of the establishment's budgetary possibilities and in accordance with the provisions governing each category of staff;

It is often recommended to limit the term of office of board members (Culica and Prezio , 2009; Erwin et al., 2019).

The term of office for members of the Board of Directors is three years, renewable once for all elected or appointed members. Limiting terms is nevertheless recommended, as it allows for the formation of a diverse board (Culica and Prezio , 2009), enabling members to benefit from shared experience. Similarly, board members who have no experience in the field must obviously be replaced where necessary.

The terms of the internal regulations. However, any amendment to the internal regulations must be approved by a two-thirds majority of the existing members present.

- Members of the Board of Directors of the El Maarouf National Hospital:

1. Representative of the Union Assembly
2. Representative of the Union Assembly
3. Representative of the Union Assembly
4. Representative of the medical staff of the El Maarouf National Hospital
5. Representative of the medical staff of the El Maarouf National Hospital
6. Representative of the paramedical staff of the El Maarouf National Hospital
7. Representative of the paramedical staff of the El Maarouf National Hospital
8. Representative of the administrative and technical staff of the El Maarouf National Hospital
9. Representative of the National Federation of Mutual Health Insurance Companies in the Comoros
10. Representative of the Comorian Union Against Cancer
11. Representative of the Moroni City Hall
12. Ministry of Health, Solidarity, Social Cohesion and Gender Promotion
13. Representative of the Ministry of Finance, Budget and Economy
14. Representative of the Consumers' Association
15. Representative of the Hygiene Committee

However, diversity within the board can negatively impact this relationship (Büchner et al., 2014). Thiel et al. (2018) argue that organizational success can be optimized by establishing boards that are small enough to be effective, yet diverse enough to benefit from a wide range of expertise and experience. The board meets twice a year. The frequency of board meetings has been shown to impact governance performance. When boards meet less frequently, their hospitals tend to achieve better organizational performance. This could be explained by the fact that the time between meetings is then sufficient to accumulate performance indicators (Culica and Prezio , 2009).

The board of directors, within the framework of good financial governance, must be able to give significant weight to the institution's overall policy and not be merely a satellite of power

struggles. The involvement of boards of directors from the earliest stages of decision-making is essential (Ford Eickhoff et al., 2011).

External constraints are recognized as having a direct impact on attributes, processes, and roles (Nicholson & Kiel, 2004; Zahra & Pearce, 1989). Meanwhile, behavioral dynamics and processes are described as the link between attributes and role performance (Forbes & Milliken, 1999; Nicholson & Kiel, 2004; Sonnenfeld, 2002).

The problem with these bodies, which fail to fulfill their primary role, is that their appointment is not subject to any restrictions based on competence relative to their location, but simply to a kind of bureaucracy that legitimizes a power-sharing arrangement. A hospital can better adapt to a complex and dynamic environment, and thus increase its learning and interpretation potential, if it establishes a board of directors with broader expertise (Erwin et al., 2019; Ford -Eickhoff et al. , 2011) .

But ultimately, especially in an environment where state financial resources are vanishing in a disrespectful manner, the board of directors must be a body of good governance, empowered to override those who believe they are free to plunder the state's scarce resources. This is particularly important given the current criticism leveled against an institution dedicated to public health and the well-being of the population, in order to ensure compliance with the regulations governing hospital management and its improved oversight. This work distinguishes itself from other reviews by focusing on the whole of hospital governance, both at the board level and at other management levels, rather than on a single specific aspect of hospital governance, unlike previous reviews limited to boards of directors (Chambers et al., 2017), their supervisory role (Millar et al., 2013; Parand et al., 2014), their effectiveness (Erwin et al., 2019), and whether hospitals and healthcare organizations perform better under physician leadership (Clay Williams et al., 2017).

This means that the role of the board of directors must be strengthened and:

- To be able to implement the general policy of the institution;
- Define institutional projects and multi-year contracts of objectives and resources;
- To be able to improve the quality and safety of care;
- Capable of establishing a forecast of revenues and expenditures;
- To be able to close the accounts and the allocation of operating profit as well as the social care balance sheet;
- To be able to present a recovery plan based on the evolution of the hospital's activity.

Cooperation with all those who are expected to contribute positively to the smooth functioning of the hospital is imperative, especially those who hold the numerical data, from

drug coding to marketing. Hospital leaders should question the relevance of their current organizational governance (Erwin et al., 2019). This approach is particularly relevant, especially in light of recent observations that hospital governance can lack effectiveness (Erwin et al., 2019).

A close link between the Chief Financial Officer and the center's accountant is essential. Boards of directors are increasingly viewed less as separate sets of elements and more as configurations of interconnected components (Alexander and Lee, 2006).

Unfortunately, a climate of conflict frequently manifests itself in state-owned companies, but this must be special given its public health implications.

b- Financial Governance: The Case of the Chief Financial Officer

The dilemma of this position, in our society, has become a political contest, and not its role of ensuring financial management. In an institution that must guarantee transparency and sound management control to foster trust, Büchner et al. (2014) also found that the quality of collaboration between the board of directors and management has a positive impact on hospital financial performance. Vaughn et al. (2014) demonstrated that, in high-performing hospitals, the board of directors, management (particularly the executive management), and clinical management are more effective in establishing a culture where staff and leaders are encouraged to collaborate across traditional silos to improve the quality of care. Pettersen et al. (2012) consider that boards of directors have several roles, including that of formal decision-making bodies and that of guarantors of the interests of various stakeholders. Similarly, Culica and Prezio (2009) indicate that boards of directors must find a balance between their duty to oversee financial performance and the imperative of financial transparency.

Those who contribute resources, through state donations and subsidies, as well as citizens, are in the crosshairs. Citizens, in particular, struggle to understand how the public hospital system functions today, from every angle. They wonder where the resources have gone, given the outdated equipment, drug shortages, and questionable quality of services.

The management of medications, reagents and other medical consumables The hospital is experiencing complete disorganization in the management of medications, reagents, and other medical supplies. Several parallel drug sales networks exist within the hospital itself, ranging from small, informal pharmacies to what are essentially retail pharmacies. The departments responsible for supplying medications, reagents, and other supplies do not conduct regular and accurate assessments of medication consumption levels and lack reliable data for ordering. This results in frequent shortages of essential medications, reagents, and supplies.

Supply methods vary, ranging from purchasing from OCOPHARMA to acquiring medications on the local market in Tanzania.

Other difficulties stemming from the disruption in drug stock management include human resources problems related to:

- the absence of a Human Resources Department (HRD)
- chaotic workforce management without career plans or training plans
- the absence of identification sheets for each employee and of job descriptions
- the lack of staff evaluation and rating
- the absence of internal regulations
- the near absence of a formal status for hospital doctors
- the near absence of a status for paramedics
- the lack of defined working hours by category
- salaries and bonuses not paid regularly

The administrative director, dressed in the permeable suit of the general manager, in his dilatory maneuver, which is nothing more than waste without any traceability justifying the legality of the financial operations.

The Chief Financial Officer, reporting to the Board of Directors, is responsible for implementing:

- The control and budgetary and financial policy of the institution in compliance with current regulations and internal organization;
- To organize and manage the budget and financial analysis sector;
- Develop regulatory reporting and communication tools;
- Managing debt and cash flow;
- Organize the work of the functional departments and the team;
- Gather staff training needs;
- Evaluating the concept of personnel: setting objectives and evaluating results;
- Participate in dialogue meetings with the hospital's financial stakeholders;
- Implementation of the accounting and financial services agreement

The administrative and financial director must be at the top of their game to organize and run a structure in the financial sector, and even more so to be able to provide leadership to the team.

c- Financial governance: the case of the center's accountant

This manager must be aware of their assigned mission and the power dynamics at play because, despite the pressures they face, they must ensure the proper management of the

institution's accounts. They must consistently adhere to accounting principles for all transactions, whether carried out or potentially carried out by any unseen party. Institutions are plagued by a culture of passivity, which discourages everyone. They must be vigilant against the boundless influence of political power and its uncontrollable actions. The institution's accountant must possess a steely resolve to uphold the integrity of the profession and the courage that their mission will eventually require them to account to the Comorian population for their sound management and public health practices. The institution's accountant should bear the weight of representing transparency through accounting and the commitments made by the board of directors upon assuming their duties.

- Present clear and accurate financial statements detailing the transactions carried out;
- A sense of listening and dialogue with numbers;
- Rigorous and methodical;
- Management of figures and the principle of resources;
- Principles of accounting and financial analysis;
- Oversee the work, the accounting and financial service agreement;
- To be able to follow the drug coding chain;
- Believe in teamwork and what will work;
- Identify the equipment allocated in relation to the resources allocated.

3- Components of the interviews

For our study, we conducted interviews at EL-Maarouf Hospital over a two-month period from February to March 2022, and we targeted patients who fell into two categories:

- ✓ 13 patients were seen and hospitalized;
- ✓ Patient consulted, parts 5;

Other targeted categories of the interview include the patients' entourage, who also fall into two groups:

- ✓ Visitor entourage 4;
- ✓ Patient support team 8.

The field study of our work at the national hospital center focuses primarily on 30 people in two different categories.

Field investigation criteria at El-Maarouf Hospital

Direct interaction with patients,

For hospitalized patients, patients who are hospitalized for more than fifteen days in the hospital were chosen arbitrarily without knowledge of the nature of the disease, for a category of 13 patients;

- How many days have you been hospitalized?

For the outpatients who had already left, three women aged forty-five with chronic illnesses and two men aged thirty to thirty-five who were attending their first consultation were selected. All were chosen based on their availability, for a group of five people.

- Do you consult this site often?
- How many times have you been seen at the hospital?

The other targeted category of the interview is the patients' entourage, which is 4 people for a single disease during a period between 8:30 a.m. and 12:30 p.m. without knowing if they are family or not.

- How many visitors are there between 8:30 AM and 12:30 PM?

Finally, the survey concerns the accompanying persons of the patient at the hospital during a day between 9:30 AM and 3:30 PM, including 5 pregnant women accompanied by their biological mothers, and 2 young boys accompanied by their fathers, chosen at random. This represents a total of 8 accompanying persons.

- Who is accompanying you to the hospital?

Our sample survey involves a sample size of 30 people ($N = 30$). Given the challenges of conducting this type of survey in our country, the conversations were not structured, but rather involved direct interaction with individuals based on their availability. In our data analysis, we opted for judgment-based analysis.

A secondary derivative interview was obtained, and we targeted the paramedical staff, even though they do not fit into the entirety of the study, but provided us with information deemed useful for understanding patient rights, and their intermediation with the medical profession, which is why we interviewed these paramedical actors:

- Nurse;
- Caregivers.

4- Components of the interviews

patients	<ul style="list-style-type: none"> - How does the doctor's intervention work? - Is the doctor's care satisfactory? - Is the consultation time with the doctor sufficient?
surroundings	<ul style="list-style-type: none"> - What difficulties did you encounter at the hospital? - How do you cope with the prescription requirements? - How can one perceive the doctor's attitude towards the

	accompanying person?
paramedical	<ul style="list-style-type: none"> - Are the working hours excessive? - Is the supervision of doctors towards you good? - Do you feel valued for the tasks you perform at the hospital?

Source: author

3. Result

a- Observation 1: Absence of a provisional budget

Developing and implementing a budget is a financial and management obligation for any institution that manages activities and resources. The case of the El-Maarouf National Hospital (CHN El-Maarouf) illustrates the management of activities and financial resources without a budget. Following the audits conducted by the Court of Auditors, we found that the public institution does not have a provisional budget, which poses a risk of a lack of planning for activities, revenues, expenditures, and the proposal of future projects. Thus In terms of health and economic concerns, the state budget must reflect the prioritization of improving environmental and behavioral conditions that promote health and prevent disease.

b- Observation 2: Absence of the balance sheet

The audits conducted by the Accounts Section at the public institution revealed that it possessed neither a balance sheet nor a trial balance. It did not, in fact, maintain proper financial accounting and its management practices were characterized by risks of resource misappropriation. This perfectly illustrates the chaotic management of scarce resources within the national hospital, whereas, to meet the challenge of quality healthcare, sound resource management must be a priority to ensure adequate working conditions.

c- Income statement 2022-2023

The income statement summarizes the revenues and expenses which, by difference, show the net profit or net loss for the financial year.

Table n. 4: 2022-2023 Operating Account and Percentage Change.

SECTIONS	YEAR 2022	YEAR 2023	variation	Rate of change
PRODUCTS (OWN FUNDS)	762 630 734	838 084 700	75,453,966	9.89%
Sales of Services	651 004 976	739 169 770	88,164,794	13.54%
<i>Laboratory</i>	205,361,553	233,994,689	28,633,136	13.94%
<i>Surgical unit</i>	210 474 882	189,795,935	-20,678,947	-9.82%
<i>Imaging</i>	89,264,100	216 894 137	127,630,037	142.98%

<i>Others</i>	145,904,441	98 485 009	-47 419 432	-32.50%
Sale of pharmaceutical products	111 625 758	98,914,930	-12,710,828	-11.39%
PRODUCTS (AID AND SUBSIDIES)	413 701 729	371 845 551	-41 856 178	-10.12%
<i>operating grant</i>	109,470,000	98,890,000	-10,580,000	-9.66%
<i>dialysis subsidy</i>	195,000,000	165,000,000	-30,000,000	-15.38%
<i>RAU</i>	109,231,729	107,955,551	-1,276,178	-1.17%
TOTAL PRODUCTS	1,176,332,463	1,209,930,251	33,597,788	2.86%
BALANCES (cash flow)	-29,780,508	-17,667,990	12,112,518	-40.67%
OPERATING COSTS	1,191,425,922	1,206,761,149	15,335,227	1.29%
CATEGORY 1	501 416 462	555,986,283	54,569,821	10.88%
Purchases of Medicines and Consumables	339 003 083	339,666,521	663,438	0.20%
Purchases of other supplies	88 821 034	135,527,821	46,706,787	52.59%
Rentals, maintenance, and repairs	66,394,316	73 742 139	7,347,823	11.07%
Other routine management expenses	7,198,029	7,049,802	-148,227	-2.06%
CATEGORY 2	690,009,460	650 774 866	-39 234 594	-5.69%
Staff remuneration	394 034 550	375 385 055	-18,649,496	-4.73%
Guards and On-Call Duty	108,257,500	111,028,000	2,770,500	2.56%
Job bonuses	142,281,100	153,002,734	10,721,634	7.54%
Others	45,436,310	11,359,078	-34 077 233	-75.00%
INVESTMENT EXPENDITURE	14,687,049	6,150,043	41.87%	
Equity investment	14,687,049	20,837,092	6,150,043	41.87%
TOTAL EXPENSES	1,206,112,971	1,227,598,241	21,485,270	1.78%

Source: CHN income statement data

d- Observation 3: Absence of an income statement

The El-Maarouf National Hospital Center (CHN El-Maarouf) does not have a balance sheet or income statement that meets the

required standards. The managers only have an operating statement, which they have called an income statement. The accounting department has instead produced a financial statement of resources and uses. The table above does not represent an income statement because the equity investments (14,687,049 FC for 2022 and 20,837,092 FC for 2023) are Class 2 expenditures and cannot be included in an income statement. It is recommended to The accounting department of CHN- EL-Maarouf is required to produce financial statements that comply with the standards required by OHADA.

- Recipe escape

We observed that the revenue recorded by the accounting department differed from that calculated by the auditors of the Accounts Section. For cash payments, we recorded 2,422,825 FC, while the accounting department recorded 1,347,925 FC, a difference of 1,074,900 FC. Regarding credit payments, the court found 163,200 FC, while

the accounting department recorded 78,600 FC, a difference of 84,600 FC. Overall, the discrepancy is therefore... 1,159,500.

Table n. 5: Revenue for February 2022 calculated by the SDC

Benefit	Act	Amount in the account	Amount on credit	Total amount
Neonatology	1	2,000	-	2,000
Maternity	26	75,000	-	75,000
Pediatrics	23	35,500	9,000	44,500
Emergency	61	75,450	15,050	90,500
Medicine A	0	-	-	-
Medicine B	17	26,000	8,000	34,000
Surgery A	0	-	-	-
Surgery B	13	1,500	500	1,600
Surgery C	0	-	-	-
ENT	1	2,500	-	2,500
Odonstomatology	0	-	-	-
Annex mdé	19	84,600	-	92,000
Operating room	0	534,400	-	534,400
Anesthesia	1	-	2,000	2,000
Adult Clinic	0	-	-	-
Radiology	0	-	-	-
Ultrasound	10	48,750	17,250	60,000
Laboratory	0	189,200	32,800	222,000
Ad and transfer	0	-	-	-
Sale of services	0	1,088,900	78,600	1,175,500
Pharmacy sales and payment	0	259,025	-	259,025
TOTAL	172	2,422,825	163,200	2,586,025

Source: El Maarouf Recipes

The court asks the accounting department to justify this discrepancy of 1,159,500 FC.

Following audits by the Accounts Section and after considering the responses provided by the CHN's financial services, it appears that certain inconsistencies regarding the hospital's revenue are due to insufficient supporting documentation; a consequence of poor record-keeping. This is the case for the discrepancies between the information provided by the main cashier and that recorded by the accounting department, which includes invoices in addition to cash receipts. For the year 2023, the operating statement provided by the CHN shows revenue of 838,084,700 FC, while the calculations performed by the Accounts Section of the Supreme Court indicate...

1,552,460,352 FC, representing a difference of 714,375,652 FC.

It is therefore difficult to ascertain the accuracy of the revenue figures presented in the operating accounts of the El-Maarouf National Hospital for the years 2022 and 2023.

The Court asks the Director General of CHN El-Maarouf and the accounting department to justify this significant discrepancy, but especially the shortfall of 714,375,652 FC in the year 2023.

Table n. 6: Daily receipts for the month of January 2023

Services	Acts	Cash Amount	Amount to Credit	Total Amount
Neonatology	7	10,000	-	10,000
Maternity	16	37,000	10,000	47,000
Pediatrics	13	13,000	11,000	24,300
Emergency	31	31,500	3,500	43,000
Medicine A	-	-	-	-
Medicine B	1	400	1,600	2,000
Surgery A	5	7,500	-	7,500
Surgery B	-	-	-	-
Surgery C	-	-	-	-
ENT	-	-	-	-
Odontostomatology	-	-	-	-
Annex Mdé	-	-	-	-
Operating room	-	552,050	99,400	651,450
Anesthesia	-	-	-	-
Resuscitation	-	-	-	-
Adult Clinic	-	-	-	-
Functional reduction	-	-	-	-
Radiology	14	54,000	-	54,000
Ultrasound	5	26,250	3,750	30,000
Laboratory	-	-	-	-
Ad & Cession	-	-	-	-
Sale of services	-	815,750	134,250	950,000
Pharmacy regulations	-	64,000	30,000	94,800
TOTAL RECEIPTS	92	1,611,450	293,500	191405

Source: El Maarouf Recipes

We were able to review the daily revenue figures, but they do not reflect reality. This is the case for neonatology services, where 7 procedures generate 10,000 FC.

Summary of expenses and revenues for 2022

Table n. 7: Revenues and Expenditures 2022.

Account number	Debits (expenses)	Credits (Revenue)	Account balance
Account No. 369056/16	1,086,123,144	1,129,514,060	12,138,840
account N Pol 502469/96	49,266,491	52,058,213	328,723
account N TR 1516	119 767 021	115,692,729	9,045,893
account TR 1501	362 432 271	368 584 983	9,994,920
Account No. 398356/95	-	6,803,383	1
Account No. 403803/50	-1,007,455	74,000	
Total	1,616,581,472	1,672,653,368	31,582,377

Source: Bank statement

Upon reviewing this table and the bank statements, we observed that the hospital spent a total of 1,616,581,472 FC in 2022 and collected a total of 1,672,653,368 FC in revenue, resulting in a total balance of 31,582,377 FC.

Table n. 8: Cash Flow 2023

Account number	Debits (expenses)	Credits (Revenue)	Account balance
Account No. 369056/16	1,004,045,443	1,057,634,892	65,727,289
Account No. 502469/96	4,871,343	2,663,825	2,207,518
Account No. 398356/95	-	5,803,383	
account 403803/50	9,630	67,070	
account TR 1501	9,866,127	6,747,516	
Total	1,018,792,543	1,066,102,100	74 749 39

Source: Bank statement

Through the table above, the court noted that in 2023 the hospital center incurred a total expenditure of 1,018,792,543 FC against a sum in the bank amounting to 1,066,102,100 FC therefore results in a bank balance of 74,749,393.

Expenses incurred without supporting documentation

Table n. 9: Expenses incurred without supporting documents

Dates	Sections	Amounts	Observations
18/04/2023	radio film purchases	570,000	no invoice
17/04/2023	purchase of Fredon for truck repair	120,000	no invoice
10/02/2023	payment of severance pay	285,000	no supporting documents
25/02/2023	payment of severance pay	285,000	no supporting documents
03/06/2023	purchase of 10 oxygen cylinders	4,935,000	no invoice
06/06/2023	second installment payment	500,000	none
14/06/2023	acid payment	198,200	no parts
28/08/2023	reactive lab purchase	1,257,021	no parts
09/08/2023	responsive payment	1,695,479	no supporting documents
09/03/2023	lab responsive payment	1,695,479	no supporting documents
05/03/2023	purchase of telephone quotas for the month of March	184,500	no invoice
17/03/2023	payment for 15 water trucks	900,000	no invoice
27/03/2023	Payment of 50% advances for external services and maintenance	626,437	absence of invoice for
27/03/2023	payment for 32 water trucks	2,035,000	invoice missing

26/10/2023	purchase of consumable product	762,000	missing invoice
18/01/2023	salary advances	250,000	no supporting documents
24/01/2023	Round-trip tickets	350,000	no ticket
31/05/2023	purchase of 5 oxygen cylinders	2,467,500	no supporting documents
23/11/2023	airline ticket payment	427,875	without supporting documents
10/02/2023	severance pay payment	285,000	without supporting documentation
06/02/2023	fuel purchase	1,599,500	absence of the delivery note
07/02/2023	Training fees	75,000	without supporting documentation
07/02/2023	purchase of telephone quota for staff	174,500	without supporting documentation
15/02/2023	Purchase of 10 oxygen cylinders	4,935,000	without supporting documentation
07/12/2023	fuel purchases for car fleet	1,414,250	no parts
09/12/2023	sterilization purchases	900,000	no supporting documents
30/12/2023	endoscopy product purchases	650,000	without supporting documents
01/12/2023	floor standing air conditioner purchases	1,390,000	no supporting documents
26/12/2023	office supply purchases	1,217,000	no supporting documents
23/12/2023	oxygen purchases(13)	6,415,500	without supporting documents
16/12/2023	oxygen purchases(2)	987,000	no parts
13/12/2023	oxygen purchases(2)	987,000	without supporting documents
11/12/2023	oxygen purchases(2)	987,000	no supporting documents
07/12/2023	fuel purchases	1,414,250	no supporting documents
02/12/2023	oxygen purchases(1)	493,500	without supporting documents
03/12/2023	oxygen purchases(2)	987,000	without supporting documentation
06/12/2023	oxygen purchases (2)	987,000	without supporting documents
29/12/2023	oxygen purchases(3)	1,480,500	without supporting documents
TOTAL	28,170,491		

Source: Expenses incurred without El Maarouf documents

Upon reviewing this table, the court notes that El-Maarouf Hospital incurred expenses of 28,170,491 in 2023 without any supporting documentation.

4. Discussion

4.1- patients

The patient who returned from the consultation testifies to the nightmare of the public hospital system, having experienced this situation himself. He describes the doctors' delays as a chronic condition that discredits the public hospital system, and prefers to go to a private clinic despite the exorbitant costs, demonstrating that healthcare has become a commodity. Healthcare costs are rising faster than inflation. This is a universal observation, due in particular to technological advancements in the sector (much more so than to the aging population). As a result, the cost of healthcare increases faster than inflation unless services are reduced. That's why we've combined the two patient categories into one. It's not the information itself that's contradicting us, but rather an insistence on our point.

This is why the patients were grouped into a single category, to present the filtered responses gathered during the interview. They explained that the doctor treating them gives them little time, sometimes rushing because he wants to return to his private practice. The profession's code of ethics shows that the strong professional standards that emphasize listening to and supporting patients seem to be undermined by the limited time available to dedicate to each patient (Acker, 2005: 179). Communication is also fundamental, creating a connection with the person with a view to healing, particularly in psychiatry. It is a required and necessary quality in care (Monique, nurse).

More often than not, the patient expresses anxiety, and they often delay seeking medical attention. This indicates a climate of nervousness that pervades the patient, compromising the hope of a swift recovery. Ideally, for the patient's well-being, a channel of communication should be established, allowing them to express their difficulties and pain at any time. This is the chronic problem affecting our patients at the EL-Maarouf National Hospital Center. It is crucial to be close to patients, to provide them with support and guidance. For me, this support is paramount, both for the relational aspect and to alleviate the suffering caused by illness and the despair of dying. The ethics of care "affirm (thus) the importance of care and attention to others" (Laugier, 2012: 113).

4.2-The entourage

The visiting family is demanding stricter regulations at the hospital pharmacy to prevent the constant stockouts of medications, and is calling for emergency pharmacy accreditation to obtain medications. They argue that this wasted time has a fatal cost for patients who are

suffering, as waiting to purchase medication significantly worsens their health. Furthermore, medications from private pharmacies are very expensive, causing distress to the family who see their finances strained.

The patient's support network was also divided into two groups: visiting support network and support network that stays with the patient in the hospital to care for them (buying medications, preparing meals, and other tasks). The latter are furious that the patient is being left to die because they did not immediately pay for visits, tests, and other services. Hospitals also benefit from an improved patient experience, resulting

in fewer complaints, as well as a reduction in malpractice claims and civil liability litigation (Stelfox, HT, Gandhi, TK, Orav, EJ, Gustafson, ML) . Relationship between patient satisfaction, complaints against physicians, and malpractice lawsuits. Am. J. Med. 118(10), 1126–1133 (2005). The concept of public service seems to be disappearing in favor of the public service mission. Where is the patient's right? Is it being respected?

The patients' families lament that human life has no meaning, given that its dignity is tainted, and this sentiment resonates throughout the hospital; everyone is talking about it. One patient is denied medical care because they haven't paid.

Similarly, the family and friends of patients at national hospitals consistently argue that the patient's right to timely testing should be respected, demanding ample time to listen to the patient and offer them some respite. At times, these families denounce excessive prescriptions, sometimes claiming that the patient's money is being diverted to their own pockets, either through sponsorship of a pharmacy or through a pharmacy in which they hold shares. Furthermore, the family and friends consistently reject the notion that the hospital pharmacy is offering cheaper medications compared to private pharmacies.

He also argues that she lacks a good knowledge of the ideal location to find medications, which costs her time on routine tasks while the patient is in a state of immense suffering. He wonders, in this technological age, why a communication channel doesn't exist between the hospital pharmacy staff and other pharmacies, via text message, SMS, or phone call.

4.3-Paramedics

These auxiliary staff at El-Maarouf Hospital are frustrated by the excessive working hours and the disparity in compensation they feel their efforts are not commensurate with. They lament the lack of a supportive supervisory structure provided by physicians, given their diverse educational backgrounds. Paramedics sometimes feel sidelined by doctors, even though proper supervision could complement the physicians' workload, considering their lateness and

commitments to their private practices. Paramedics occupy a liminal space between physicians and other staff (Hughes, 1996), fulfilling two roles: that of caregiver and that of intermediary (Acker, 1997; Lert, 1996).

Paramedics spend so much time and have so much to do with the patient, but on the other hand, this does not correspond to their true value in terms of remuneration.

Hospitalized patients

Table n.10: Presentation of hospitalized patients

Years	2010	2011	2012	2013	2014	2015
Hospitalization	17710	16958	11341	13208	10518	8912

Source: PEH of CHN MEL-Maarouf, 2016

table shows a decline in hospital attendance, resulting from the hospitalization process, delays in doctors' consultations, and very short consultation times. For example, Richter and Muhlestein (Richter, JP, Muhlestein, DB), Patient experience and hospital profitability: is there a link? Health Care Manag. Rev. 42(3), 247–257 (2017). They showed that greater satisfaction among hospitalized patients (closely linked to patient experience) was associated with increased profitability through higher operating margins.

Poor reception (lack of a patient pathway),

- undisclosed service prices, and
- the quality of services offered could compromise the long-term viability of the hospital.
- The complex system for managing hospitalized patients (hospitalized patients must pay for everything)
- and the high cost of services due to their fragmentation (consultations, labs, X-rays, etc.) are also contributing factors. Another issue is the lack of a stable doctor-patient relationship, which has stalled, as evidenced by the decrease in hospitalizations from 8,912 in 2015 to 17,710 in 2010.

Table n.11: Presentation of hospitalizations from 2010 to 2015 (Medical procedures)

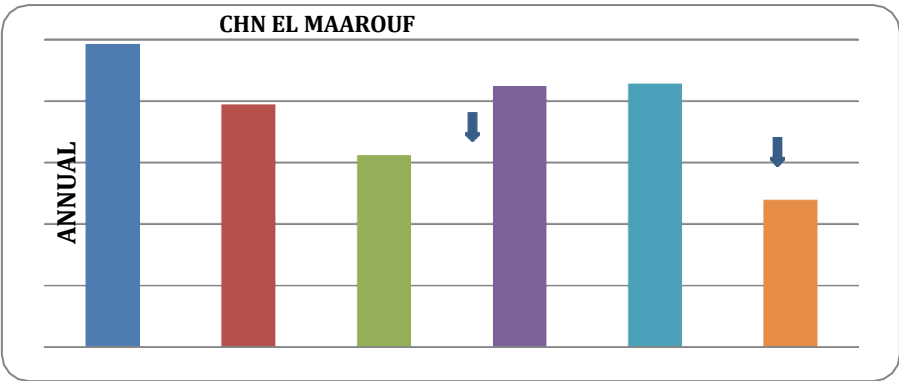
Years	2010	2011	2012	2013	2014	2015
Medical procedures	125966	56746	39654	31096	55763	41394

Source: PEH of CHN EL-Maarouf, 2016

This table shows a considerable decrease in medical procedures in 2015, highlighting the high cost of medical care that year. This reflects a deterioration in patients' financial situations, a consequence of the complex circumstances faced by the Comorian population, despite the fact that healthcare has become a commodity. In contrast, there was a marked improvement in the number of medical procedures performed in 2010, from 125,966 to 41,394 in 2015. The cost of the premium per person per year was estimated at KMF 10,327, including administrative fees.

Patients seen at the EL-Maarouf hospital

Figure 1: Presentation of consultations from 2010 to 2015

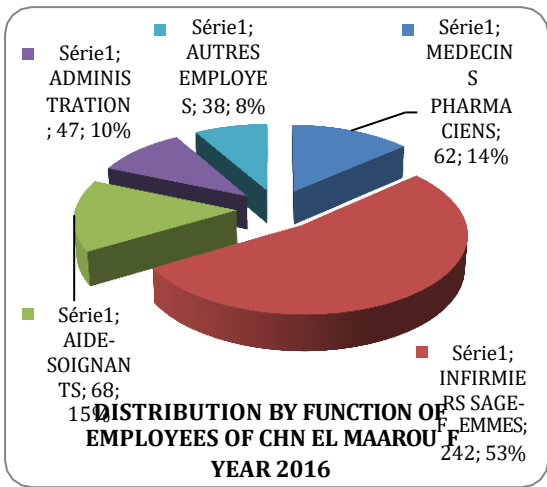


Source: PEH of CHN EL-Maarouf, 2016

This graph shows that the number of patients seen in 2015 fell considerably compared to 2010, which was higher. This reflects the situation described in this study: patients at the national public health hospital are furious about the poor reception they receive, particularly the excessive waiting times they experience with doctors, and prefer to go to private clinics, even though consultation fees are higher there. The organization of care at the national hospital is poor, leading to a bad reputation and a loss of internal resources. The hospital needs qualified staff capable of revitalizing it,

- strong community participation in healthcare (over 80% of revenue),
- a high demand for quality care,
- and a clear commitment from the population, partners, and the Ministry of Health to support its recovery.

Figure 2: Staff distribution by category



Source: PEH of CHN EL-Maarouf, 2016

This graph provides further information regarding the decrease in consultations; it's the unavailability of certain specialists at the CHN (National Hospital Center) that prevents

patients from receiving care. This is hardly significant in a hospital that prioritizes public health and prevention, especially at a time when the international and national health situation is deteriorating due to the arrival of epidemics; COVID-19 is a prime example.

Table n.12: Presentation of resources and expenditures from 2013 to 2015

Years	2013	2014	2015
Forecasts	571 292 452	638 734 672	600,000,000
Recipes made	513 994 065	603 333 140	483 841 401
Completion rate %	89.97%	94.46%	80.64%
Expenses incurred	589 923 098	657 199 213	643 131 537
Completion rate %	103.26%	102.89%	107.19%
Revenue - Expenses Difference	-75 929 033		- 159,290,136
Difference in %	-14.77%	-8.93%	-32.92%

Source: PEH of CHN EL-Maarouf, 2016

This table clearly shows that good governance is not in good shape, given the considerable gap between revenues and expenditures. This further demonstrates that revenues collected in 2015 fell by 483,841,401 FC compared to 2014, which totaled 603,333,140 FC.

This allows us to say that good management at the hospital center is being called into question, and this certainly impacts the morality of donors of funds on the one hand and the State on the other, even if the State is complicit in the mismanagement through its invisible hand and the choices of the hospital's leaders.

5. Conclusion

Hospital financial governance is currently undergoing profound development. Previously, the emphasis placed on understanding financial data was seen as a driving force, but in reality, it fosters genuine collaboration among key stakeholders: the board of directors, the administrative and financial director, the center's accountant, and other bodies responsible for the institution's activities. This new configuration necessitates the implementation of shared coordination, which goes beyond the previously assumed responsibility of simply controlling expenditures and revenue collection. Having reached the end of this study, and in light of the interview responses, we can say that this work has highlighted the considerable impact of the new financial governance on the coordination of all stakeholders. Current reforms of national hospital centers must increase the autonomy of stakeholders, particularly through a significant and useful reconfiguration around governance. However, the even discretionary involvement of senior management significantly reduced the autonomy of those responsible for financial matters. This unfortunately undermines participatory governance, which regularly requires dialogue, structured processes around an agenda, and preparation for legal bodies, such as the institution's financial results, to rethink their strategy. This will only be possible with the

emergence of a database at the national hospital center level and an audit expert on the board of directors, allowing for a comparison between assigned commitments and the hospital's development strategies. This is the trigger for a management culture that fosters accountability for hospital performance in patient care. To regain control of the healthcare system, the State must examine the entire healthcare landscape, and in particular the base of the pyramid . Conditions for care transfers between islands could be established within a restricted and highly controlled framework; a similar arrangement with greater co-payment could potentially be implemented for medical evacuations abroad. By rejecting the notion of the invisible hand of senior management as interference in the principles of financial governance, a sense of pressure is created on financial statements regardless of the chosen direction, impacting the autonomy of stakeholders and undermining the principle of accountability. The uncertainty surrounding hospital funding necessitates public-private partnerships to address the needs of specialized care and the higher levels of healthcare. encourages stakeholders to adopt an innovative approach in which financial governance should not take precedence over the primary concerns of patients within the hospital regarding reception, consultation, hospitalization and the purchase of medications in relation to their cost of living. Medications represent 30% to 40% of household spending, depending on the diagnosis. Currently, prices are set at the discretion of healthcare providers and reflect only

their subjective and individual estimates of the amounts needed to fund services. At least two issues are therefore fundamental to the medication financing system: making medications more affordable for the population and promoting rational prescriptions to reduce service costs. Improving the cost of accessing medications and promoting rational prescriptions is even more crucial for Universal Health Coverage (UHC). The entire population will be covered by UHC gradually, with a target of 50% coverage by 2030. A cost study was conducted in 2012 and updated in 2015.

Bibliography

Abernethy , M., Lillis, A. (2001). Interdependencies in organizational design: a test in hospitals .
Journal of Management Accounting Research 13:107-129.

Anthony, R.N. (1988). The management control function . Boston: Harvard Business School
Press .

Argyris , C. (1976). Single-Loop and Double-Loop Models in Research on Decision Making .
Administrative Science Quarterly 21 (3): 363-375.

Argyris , C., Schön , D.A. (2002). *Organizational Learning* . Paris: De Boeck Université.

Atkinson, A.A., Banker , R.D., Kaplan, R.S., Young, S.M. (1995). *Management Accounting* .
Upper Saddle River: Prentice Hall.

Cohen, M.D., March, J.D., Olsen, J.P., A. (1972). Garbage can model of organizational choice
. *Administrative Science Quarterly* 17 (1): 1-25.

National Consultative Ethics Committee for Life Sciences and Health. Opinion No. 101, June 28,
2007.

Bernethy M., Stoelwinder , JU (1990). Physicians and resource management in hospitals : an
empirical investigation. *Financial Accountability & Management* 6 (1): 17-31. Abernethy M.,

Stoelwinder , JU (1995). The role of professional control in the management of complexity
organizations . *Accounting , Organizations and Society* 20 (1): 1-17. Abernethy , M. (1996).

Physicians and resource management: the role of accounting and nonaccounting controls .

Financial Accountability & Management 12 (2): 141-156. Abernethy , M. Chua , W. F. (1996).

A field study for control systems ' redesign ': the impact of

institutional processes on strategic choices . *Contemporary Accounting Research* 13 (2): 569-
606.

Abernethy , M., Brownell , P. (1997). Management control systems in research and development
organizations : the role of accounting , behavior and personnel controls . *Accounting ,*

Organizations and Society 22 (3/4): 233-248

Corfmat , D., Helluy , A., Baron, P. (2000). *The transformation of management control*. Paris:
Editions d'organization.

Daft , R.L., Macintosh, N.B. (1984). The nature and use of formal control systems for
management control and strategy implementation . *Journal of Management* 10 (1): 43-66. De

Pouvoirville , G., Tedesco , J. (2003). Internal contracting in public hospitals. *French
Journal of Management* 29 (146): 205-218.

DiMaggio , P.J., Powell, W.W. (1983). The iron cage revisited : institutional isomorphism and

collective rationality in organizational fields . American Sociological Review 48: 147-160.

Drucker, P. (1999). The Future of Management. Paris: Village Mondial. Engel, F.,

Moisdon , JC, Tonneau, D. (1992). Manifest Constraint or Real Constraint? Analysis of the Regulation of the French Public Hospital System. Research Papers of the Scientific Management Center of the Ecole des Mines No. 1.

Procedures manual, The Mazars and Guérard tool , CHN El-Maarouf, 2011. PEH CHN El-Maarouf, 2016.

CHN El-Maarouf activity report 2015, presentation of CHN El-Maarouf. Internal regulations of the El-Maarouf National Hospital Centre.

Mararouf National Hospital Center .