

New public management in healthcare institutions in Algeria (an institutional planning model) - Case study of the *Mother and Child Specialized Hospital Establishment of Tlemcen (Algeria)*

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Abstract:

Moving from the classical administration to the new public management are among the priority prospects for the Algerian State in order to modernize the health sector in our country through various reforms and projects that have been undertaken since 2013. This study aims to investigate one of the new public management mechanisms (Institution Project) regarding the *Mother and Child Specialized Hospital Establishment of Tlemcen (Algeria)*. The findings of the study allowed concluding that this project is an approach that can help to update and enhance the management system by studying the existing strengths and weaknesses. It can also assist the staff for the purpose of suggesting corrective actions.

Keywords: Institution Project; New public management; Strategic diagnosis.

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Introduction:

Mintzberg's professional bureaucracy model (1982) is viewed by many researchers in management science as the reference frame for analyzing management in health institutions (Paul Crozet, Asma Kaniche, Jean Lienard, 2008) through an administration that is expected to respect the internal rules and procedures, with a central hierarchical structure and a targeted budget based on assets and resources (Anne Amar, Ludovic Bethier, 2006). A large number of studies have previously investigated the issue of incorporating the new public management concepts into the administrative management of public institutions in general, and healthcare institutions in particular. In this context, Joseph Tedesco and Gerard de Pourville (2003) carried out studies that investigated the internal contracting in public healthcare institutions in France. The results obtained indicated the need for decentralization by assigning responsibility to administrators responsible of different services within the healthcare institution, while seriously defining the goals to be achieved. As for Sandrine Cueille (2007), she addressed the problem of hospital organizational structure and arrived to the conclusion that it is actually necessary to introduce novel public management principles in order to achieve decentralization of decision-making. For example, several academic studies in Algeria have dealt with the concepts and methods of the new public management (NPM). In this context, Cherifa Rifaâ (2008) conducted a study to elucidate the problem of integrating the concept of public sector performance in developing countries. She indicated that it is necessary to shift from the bureaucratic management to the new public management through the use of tools and mechanisms that already exist in the private sector and apply them in the public sector. With regard to Assia Kara Terki (2010), she pointed out the issue of organizing the proposal in the new public healthcare system; she found out that new management tools, such as the cost calculation of costs, need to be introduced in order to improve the health care system. This would require establishing an information system that allows assessing the productivity and cost-effectiveness of health institutions. These findings were also confirmed by Mustafa El-Bahi (2014) through the study he conducted on the issue of introducing a management control system in public healthcare institutions in Algeria. The study came down to the conclusion that performance indicators are greatly required to increase the proficiency and effectiveness of these institutions and to emphasize the importance of management control for the purpose of achieving overall satisfactory results.

It is worth indicating that recently some studies have been carried out on the management of healthcare institutions (Oumar Bah, Boubacar Sanogo, Toumani Bagayoko, 2020). It is widely admitted that the Institution Project is one of the most important new public management (NPM) mechanisms that allow raising the proficiency and effectiveness of healthcare institutions by assessing the impact of the medical project on performance improvement within healthcare institutions. Likewise, Amirouche Bouchlaghem and Moncef Charfi (2017) insisted on the fact that healthcare institutions ought to develop modern and innovative mechanisms that

allow allocating their resources effectively. The study dealt with the conceptual aspect of developing a healthcare institutional project.

The present article aims to investigate the embodiment of one of the new public management (NPM) mechanisms, namely the management project of a healthcare facility in Algeria.

From this standpoint, the following issue may be raised: *How can the Institution Project contribute to modernizing the management of the Mother and Child Specialized Hospital Establishment of Tlemcen?*

This article aims to study the field embodiment of the project of the *Mother and Child Specialized Hospital Establishment of Tlemcen*, during the period from 2019 to 2023. The first section focuses on the internal environment of the *institution* using a strategic analysis; the second section concerns the preparation of the institution's project for the period extending from 2019 to 2023 based on the strategic diagnosis of the institution, with an evaluation of the project based on performance indicators while suggesting some corrective actions.

1- Strategic diagnosis as the basis for designing the project of the *Mother and Child Specialized Hospital Establishment of Tlemcen*

1- 1. The general framework of the healthcare institution project

The healthcare institution project is one of the most important strategic mechanisms that should be relied upon in the management of health institutions in general. The project helps to set strategic goals and draw a map that facilitates the manager's job and contributes significantly to monitoring performance and achieving the desired goals (Chougrani, Saada, Salah Ouhadj, and Fouzia Agag, 2013). It is worth mentioning that the institution project appeared in 2013 as a strategic guidance and as a dimension that all public health institutions must adopt and implement for the purpose of inspecting the general policy of the Ministry of Health, Population and Hospital Reform. These institutions witnessed several deficiencies, mainly regarding their organization, funding, and management. In this regard, the Ministerial Memorandum No. 01 dated April 16, 2014 came to confirm this trend. Indeed, this memorandum requires that all public health institutions adopt and implement the institution project, the dashboard and management indicators, in order to modernize the management pattern of public healthcare institutions by approving new public management techniques based on the health sector plan of action and a series of measures involved in management and organization. Preparing the Institution Project is a dynamic process that must be subject to consultation and awareness. It requires that the actors involved in the process be sufficiently qualified in order to define strategic objectives based on a diagnosis of the internal and external environment of the institution (Amirouche Bouchlagham and Moncef Sharafi, 2017).

The following section aims to study and analyze the internal environment of the *Mother and Child Specialized Hospital Establishment of Tlemcen*, using (Strengths, Weaknesses) analysis framework in order to highlight the most important strengths, weaknesses, while focusing on various scientific research methods such as interviews with administrative executives, heads of medical

departments and coordinators of paramedical services, based on the official documents, legal and regulatory texts and statistics of the institution.

1-2 Internal environment analysis

Internal environment analysis means the study of the most critical strengths and weaknesses of the activities performed in the *Mother and Child Specialized Hospital Establishment*. The most important strengths and weaknesses are then highlighted based on a series of indicators that have a relationship with the institution's activities and internal environment.

Table 1: Strengths of the *Mother and Child Specialized Hospital Establishment of Tlemcen*

Strengths	Indicators	Results
A university health institution with a regional dimension that undertakes specialized treatments in obstetrics and gynecology, pediatrics and pediatric surgery	Number of patients admitted during the year 2019	25866
The institution has administrative and medical competent personnel that allow it to develop and adopt a strategy of change for the better through concerted effort.	Number of university hospital professors	3
	Number of hospital lecturers	4
	Number of <i>medical assistant specialists</i>	44
	Number of administrative executives	10
Provision of medical internship for resident physicians and paramedical trainees at the university hospital	Number of resident doctors formed and trained in various specialties during the year 2019	127
	Number of paramedics formed and trained in various specialties during the year 2019	96
The institution provides health coverage and is responsible for transferring patients from various health centers inside and outside the Wilaya (Province) of Tlemcen	The number of transfers to the hospital establishment during the year 2019 from within the Wilaya of Tlemcen is 2151. The number of transfers from the Wilayas of Ain Temouchent, Naama, Saida, Bechar, El Bayadh, Laghouat, and Adrar is 2239.	4390

Source: Data provided by the author based on statistics supplied by the *Mother and Child Specialized Hospital Establishment of Tlemcen* on December 31, 2019.

Based on the indicators reported in the above table, one can observe that the Mother and Child Specialized Hospital Establishment of Tlemcen received a large

number of patients, at a rate of 71.85 patients per day, during the year 2019, which means that this hospital has a regional dimension and possesses has a significant number of medical and administrative competent employees. This would help the institution to develop and adopt a strategy of change for the better on the one hand, while ensuring that the existing qualified employees provide high level training for resident physicians and paramedical trainees, on the other. It is noted that this institution provides healthcare coverage inside and outside the Wilaya of Tlemcen. This is reflected in the number of transfers to the institution during the year 2019. There were 4390 transfers done at the average rate of 12.19 transfers per day.

Table 2: Weaknesses of the *Mother and Child Specialized Hospital Establishment of Tlemcen*

Shortcomings	Indicators	
Obsolete equipment and out of date basic facilities in the institution, with increasing number of patients admitted	Average number of deficiencies in medical equipment per month	113
	Number of preventive and curative interventions to repair medical equipment per month	427
	Maintenance and reconfiguration costs of the basic facilities for the year 2019	20.776.526.43 Algerian Dinars
	Hospital bed turnover rate for the year 2019	126.80
Lack of human resources, especially with regard to anesthesiologists, resuscitators, and paramedical personnel	Number of surgical interventions for the year 2019 / Number of medical specialists in anesthesia and resuscitation	1760
	Number of paramedics / total number of patients admitted during the year 2019	0.009
Significant shortage in facilities and technical equipment (laboratories, radiology equipment and ambulances)	Number of ambulances / number of patients transferred outside the institution to undergo X-ray radiology during the year 2019	0.0041
	Number of patients transferred outside the institution to undergo X-ray radiology during the year 2019	10563
	Number of laboratory analyses conducted outside the institution during the year 2019	60783
Insufficient space in the	Bed turnover rate for pediatric	125.93

pediatric emergency department, which affects the working and caring conditions for patients	urgencies during the year 2019	
Lack of financial funds assigned to the institution, especially with regard to pharmaceuticals	Financial funds allocated to the management budget of pharmaceuticals / total consumption of pharmaceuticals, during the year 2019	0.28
The debts of the institution towards the economic operators have increased due to the lack of financial funds	Total debts of the institution towards economic operators for the year 2019	183.157 .834.19 Algerian Dinars
High number of hospital infections in various departments	Incidence of hospital infections during the year 2019	1.80%

Source: Data provided by the author based on statistics supplied by the *Mother and Child Specialized Hospital Establishment of Tlemcen* on December 31, 2019.

The inspection of the indicators related to the institution's weaknesses allows explaining the reasons for the old equipment and the lack of basic facilities, in addition to the corresponding increase in the number of patients and that of medical equipment deficiencies, high maintenance costs of the equipment and base facilities, in addition to the elevated number of patients which is reflected in the hospital bed turnover rate during the year 2019. Moreover, the number of incoming patients and surgical interventions is higher than that of anesthesiologists, resuscitators and paramedical personnel within the institution, which indicates that there is a critical lack of human resources, in addition to the shortage of facilities and technical equipment (laboratories, ambulances, radiology services, etc). These problems are reflected in the high number of patients transferred outside the institution for undergoing X-rays investigations or laboratory analyses. In addition, a high debt ratio has been reported within the institution. This is certainly due to the lack of financial funds allocated to the institution. Furthermore, the number of hospital infections during the year 2019 reflects the high rate of infections within the different departments.

2 - Preparing the project of the *Mother and Child Specialized Hospital Establishment of Tlemcen* for the period between 2019-2023

2-1 Elements of the Institution Project

According to the applicable literature, the project of public health institutions generally consists of two components, namely the medical project and the therapeutic project. In addition, each project has a set of strategic objectives determined by the institution based on the critical analysis of its internal environment.

2-1-1 The medical project

The medical project of the Mother and Child Specialized Hospital Establishment of Tlemcen during the period between 2019-2023 aims for a set of strategic goals which consist in reducing maternal mortality, diminishing the number of hospitalization and re-hospitalization cases, facilitating access to treatment in the emergency services, reducing the infant mortality rate to less than 150 deaths per year, lowering the average hospitalization duration of patients, implementing the national program for motherhood and childhood protection, enforcing respect for the implementation of the national vaccination calendar.

2-1-2 The therapeutic project

This project aims primarily at improving and regulating treatment methods in emergencies, enhancing hospital hygiene and sterilization mechanisms, upgrading the mechanisms for handling dangerous hospital waste, reducing the average expiration date of drugs, and lowering the rate of high-risk pregnancy cases.

2-2 Evaluation of the project of the *Mother and Child Specialized Hospital Establishment of Tlemcen* for the year 2020

The evaluation of the institution's project allows assessing the *extent* to which the strategic goals set by the leadership committee have been *achieved*. This evaluation is based on a set of indicators for the appraisal of each project separately. The assessment of the project for the *Mother and Child Specialized Hospital Establishment of Tlemcen*, for the year 2020, is presented below.

2-2-1 Evaluation of the medical project

The evaluation of the medical project through the activity indicators allows identifying the measures to be taken in order to correct the disparities related to the medical project.

Table 3: Evaluation of the medical project

Indicators for the control and evaluation of the medical project	Average results for the institution project for the period between 2014-2019	Target values	Results achieved in the year 2020	Deviations
Number of deaths among pregnant women	08	00	04	-04
Percentage of hospital infections in various departments	0.28%	0.10%	0.43%	-0.33%
Number of examinations in the emergency department	87389	100000	143236	+43236
The number of newborn deaths	346	150	304	-154
Average length of stay (ALOS)	4.03	3.00	2.56	+0.44
Average infant mandatory vaccinations	80%	100%	100%	00

Source: Prepared by the author based on the statistics provided by the *Mother and Child Specialized Hospital Establishment of Tlemcen*, during the year 2020

The findings suggest that the institution ought to take adequate measures in order to correct deviations by reconsidering the prenatal care protocol offered to pregnant women and intensifying the control and follow-up of dangerous pregnancies for the purpose of reducing the number of deaths among pregnant women. This can be done by improving the hospital hygiene conditions, reducing the proportion of hospital infections in different departments through intensive control processes for the benefit of preventive medicine, in addition to investigating the causes of newborn deaths and working to prevent them. It is worth noting that the institution achieved the medical project objectives by facilitating access to treatment in urgent cases, increasing the number of examinations and reducing the average length of stay (ALOS), in addition to accomplishing 100% of infant mandatory vaccinations.

2-2-2 Evaluation of the therapeutic project

This project is evaluated based on a set of indicators that help to identify deviations with respect to the extent to which the preset strategic goals have been achieved.

Table 4: Evaluation of the therapeutic project

Follow-up and assessment indicators of the therapeutic project	Average results of the institution project between 2014 and 2019	Specific objectives	Results achieved in the year 2020	Deviations
Average emergency room wait time for patients (in mn)	187.39	90	163.56	-73.56
The rate of re-admission due to nosocomial infections	1.37%	1%	0.22%	+0.78%
Degree of compliance with procedures and <i>regulations</i> in sorting out dangerous hospital waste	55%	100%	83.62%	-16.38%
<i>Percentage of drug expiration dates</i>	4.33%	0.5%	2.74%	-2.24%
Number of patients admitted to the high-risk pregnancy unit	1765	1000	821	+179

Source: Prepared by the author based on statistics supplied by the *Mother and Child Specialized Hospital Establishment*, for the year 2020

The results obtained indicate that the institution must increase the number of sorting and detection in emergency units in order to reduce the *average patient's waiting time*, in addition to the need to improve the inspection operations and enhance the training quality of medical and paramedical personnel for the purpose

of better complying with the procedures and *regulations* in sorting out dangerous hospital waste in various units. Moreover, the institution needs to establish an information system that allows recording and following up the consumption of pharmaceutical materials in order to reduce the *amounts* of *pharmaceuticals* that remain unused and reach the expiry dates. Furthermore, one can observe that the rate of re-admission due to hospital infection decreased, and this can be explained by the preventive measures applied in the hospital units through sterilization and disinfection of medical equipment and surgical instruments. Similarly, the number of patients admitted to the high-risk pregnancy unit decreased because the pregnant women support network program was efficiently implemented starting from the first trimester of pregnancy until the end.

Conclusion:

The institution project is considered as one of the new public management mechanisms that the Ministry of Health, Population and Hospital Reform has established and launched for the purpose of modernizing the management of healthcare institutions. The preparation of the institutional project requires carrying out a strategic analysis of the institution's internal and external environment by studying the strengths and weaknesses , in order to identify the different components within the project, namely the medical project and the therapeutic project. Every project should be followed up using assessment indicators. This study allowed making a set of important conclusions given below:

- The institution must take corrective actions to redress the deviations of the medical project. It should review the care protocol for pregnant women and intensify the control, supervision and follow-up of high-risk pregnancies in order to reduce the number of deaths among pregnant women. In addition, serious hospital hygiene measures should be applied in order to prevent or limit the hospital infection rate in different departments by reinforcing the supervision processes, particularly in the epidemiology and preventive medicine units. Moreover, the causes of newborn deaths must be investigated in order to reduce the infant mortality.
- The number of sorting and detection units in the emergency department should be increased to have a shorter *patient's wait time*, in addition to the need to improve the examination processes and to train the medical and paramedical personnel for the purpose of performing an effective sorting out of dangerous hospital waste in various departments. Furthermore, it is highly recommended to establish an information system that can be used to record and supervise the consumption of pharmaceuticals in different services and therefore to *reduce* the overall quantity of *pharmaceutical products that remain unused and can reach the expiry dates*.
- The institution has achieved a series of objectives that are supposed to facilitate access to emergency care services by increasing the number of examination rooms and reducing the *average patient's wait time*. In addition, vaccination of newborns should be compulsory. Moreover, the proportion of re-admissions due to hospital infections has also significantly dropped .

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