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HOSPITAL ACCREDITATION: A USEFUL COMPLEMENTARITY FOR THE MANAGEMENT OF PRODUCTION

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ABSTRACT

The objective of the present study is to propose a system that provides diagnoses for hospital organizations, which do not have the financial conditions to search for a Hospital Accreditation process, but which aim at quality and continuous improvement in the provision of their services. The bibliographic research supported the theoretical design work of the evaluation instrument, which is based on the Performance Evaluation Model *Núcleo Interdisciplinar de Estudos em Gestão da Produção e Custos* (NIEPC - Interdisciplinary Center for Studies on Production and Costs Management) and is complemented by observation points recommended by the Manual of Performance Organizations of Health Services of the *Organização Nacional de Acreditação* (ONA - National Accreditation Organization). The ONA and NIEPC instruments seek to improve the institution, both for results that lead to quality and for quality that leads to positive results. In the case of complex organizations, such as the health services, it is perceived that, although the NIEPC instrument can be applied to any type of organization in its original configuration, its complementarity with some fundamental points pointed out in the ONA Manual will be able to give a more efficient and accurate result in the applications in organizations of the said sector of activity. Thus, it is understood that the result may lead to a greater refinement of data for the elaboration of improvement plans that follow the diagnosis, based on the inclusion of a greater reference for obtaining future processes linked to Hospital Accreditation, if this is the focus or even for organizations that seek quality without being linked to a certifier, and can use the result to ensure safer care services.

Keywords: Hospital accreditation; Hospital; Production Management; Performance evaluation model; National Accreditation Organization.

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1. INTRODUCTION

The business world has become more complex since the 1990s. Driven by the development of information and communication technologies, the globalization of the economy has led to increased competition, reduced distance between people and other elements of the production chain, shortening the life cycle of products, new forms of work organization and increasing demands on the part of consumers and regulatory agencies (Hayes *et al*., 2008).

Hospital organizations, characterized by great complexity, due to the diversity of interests involving both internal and external actors, have been protagonists of the dynamics pointed out by Hayes *et al*. (2008). These organizations carry a significant social impact, both in the sense of dealing with people's lives and in the possibility of generating wealth. Typically, they generate jobs and opportunities because they are heavily labor-dependent. In addition, they bring income to suppliers and to all kinds of service companies in their environment. However, in many cases, they are unable to meet these challenges and have succumbed, not fulfilling their assigned role, or simply closing their doors.

In this context, it is worth highlighting the use of standards for certification and accreditation processes, characterized by Couto *et* Pedrosa (2007) as methods applied by third parties to an organization, in order to identify quality conditions in the services provided. The accreditation of these organizations does not guarantee the delivery of products according to the established requirements, but only identifies activities related to quality in these units that can be the target of improvement actions (Freire *et al*., 2012).

Currently, Brazilian hospitals adopt, to a greater or lesser degree, the methodologies recommended by three certifying institutions: i) *Organização Nacional de Acreditação* (ONA - National Accreditation Organization), formally recognized by the Ministry of Health as an institution responsible for the hospital quality evaluation system in Brazil (Couto *et* Pedrosa, 2007); ii) Joint Commission International (JCI), developed by the *Consórcio Brasileiro de Acreditação* (CBA - Brazilian Accreditation Consortium); and (iii) the Canadian Council on Health Services Accreditation (CCHSA) (Freire *et al.*, 2012).

The instrument of voluntary evaluation of hospital services of the ONA achieved great advances in relation to its predecessors and even to other models available in Brazil. This instrument has content adapted to the Brazilian reality, following the current national legislation. The evaluation instruments are flexible to be progressively modified, taking into account the great regional differences and the different degrees of complexity of the institutions (Viana *et al*., 2011). According to ONA data (2016), 244 Brazilian hospitals are accredited, 63 in level 1, 88 in level 2 and 93 in level 3.

Managing an organization, whatever its size, in a complex world requires maximum capacity, skill development, constant innovation and innovative posture. It should be noted, however, that each organization is a complex and therefore different reality. Thus, the assumption is that helping to improve the management process of health organizations is a complex challenge, requiring managers to seek management tools related to the control of operational management and performance evaluation.

It is important to note that there are peculiarities in some production systems, which are not perceptible to some people who are not part of the environment, as in the case of health organizations. In this way, the present study proposes to seek, in accrediting organizations, support to refine an instrument of evaluation of production systems, with a view to optimizing its application.

This leads to the following research question: what are the complementarity points between a generic performance evaluation model and hospital accreditation?

Therefore, the objective of the present study is to propose a system that provides diagnoses for hospital organizations that do not have the financial conditions to search for a Hospital Accreditation process, but which seek quality and continuous improvement in the provision of their services. In turn, organizations that are already in the process of Hospital Accreditation can show improvement cycles through the systematic proposal, which will ensure the identification of improvements throughout the process and, consequently, a feasible instrument that will provide a basis for the scope Level 3 - Accreditation with Excellence from ONA.

To this end, a new conceptual framework based on the complementarity between the NIEPC Performance Evaluation Model (Interdisciplinary Center for Studies in Production Management and Costs) and Hospital Accreditation was structured. Based on this complementarity, the systematics presented in this article will provide the two reference publics of the study, not only the search for continuous improvement, but also the improvement in performance and consequent competitiveness.

The proposition of this systematics meets the ideas of Burns et al. (2001) on the importance of having a perfor-

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mance management and evaluation tool for health organizations that subsidizes managers in the formulation of strategies that help them deal with greater assertiveness in the environment in which they compete.

2. THEORETICAL FOUNDATION

In the last decades, even the organizations that make up health systems have been involved in the movement for total quality and continuous improvement, bringing changes not only in their routine tasks, but also in the process of strategic decision making. After being widely used in industry, accreditation has gained space in health and education for providing information on compliance with certain quality standards (Tabrizi *et al*., 2011).

This topic presents the theoretical foundation that addresses the complexity issues in hospital organizations and the hospital accreditation process, accompanied by the description of the ONA Manual, and, finally, a description of the organizational diagnosis instrument that takes the name of the nucleus of research, in which it originated - NIEPC, is done.

2.1 Hospital: a complex system

Hospitals can be considered as the most complex productive system, not only by the quantity and variety of agents involved, which includes the patients in treatment, their companions and visitors, and also the workers and students of the most diverse areas, but mainly by the high degree of the professional activities carried out there. In this scenario, managing people and productive processes in search of continuous improvement becomes a separate challenge, since each activity has its own specific rules and protocols. In addition, it is precisely in the area of production management and information technology that hospitals can move forward in the short and medium term given that knowledge-based innovation factors are not capable of rapid renewal (Drucker, 2002).

The conception of health organizations as a complex adaptive system is an emerging trend and was studied by Edgren *et* Barnard (2012), who reported, among the advantages observed, the creation of new forms of work based on the cooperation between their agents and in learning and improvement of the relationships between managers and workers, resulting in greater productivity and user satisfaction. However, Trusko *et al*. (2007) observed that one of the contributing factors to the professional error is precisely the complexity of the work processes in a hospital; therefore, gross errors occur in the same environment where tasks based on highly specialized knowledge are performed.

Continuous improvement is due to the incorporation of new action strategies drawn from the approach of the productive process in search of the confirmation of risk factors, adverse events, failures and near misses. In this sense, the organizational diagnosis is one of the measures to be taken for organizational development, and a critical factor for the success of quality programs, especially when involving the agents of the organization itself in the identification of the limitations of the productive process, as in the proposition of implementing measures of improvement actions (Argyris, 1989).

Considering the hospital as a complex system, Heuvel et al. (2013) postulate that any approach methodology for organizational improvement should necessarily contemplate the following dimensions within a hospital:

- Quality planning, with emphasis on safety, error reduction and waste;
- Quality control: process control, which must be exercised by all workers, in their respective fields of action, with intense use of information technology;
- Quality certification: evidences of the achievement of the required quality standard, also evidencing the observation of the control measures;
- Performance: use of performance indicators;
- Quality information: dissemination of quality improvements through indicators, certification or accreditation.

2.2 Hospital Accreditation

The accreditation process originated in the system of standardization of results formulated by the American physician Ernest Armory Codman in 1910, an initiative followed by the American College of Surgeons, which in 1917 developed a hospital standardization program that persisted until 1951, giving rise to the Joint Commission on Accreditation of Hospitals, in partnership with other professional associations, with the aim of developing instruments to promote improvement in the quality of care and greater effectiveness in the results (Roessler *et* Gastal, 2006).

The good governance of a hospital should be able to demonstrate its quality, safety, efficiency and effective-

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ness, and there are several methodologies available to certify the quality of health services. In some countries, participation in quality certification programs is essentially voluntary, driven by strategic initiative or by health plan requirements. In other countries, especially where the state is the major funder of the health system, there are compliance standards to be met by the health sector, generally characterized as a minimum standard of acceptance and without concern for performance improvement (Tabrizi *et al*., 2011).

Tabrizi *et al*. (2011) understand that accreditation processes and standards should be designed in accordance with the needs of each country, determined by the characteristics of the health system, its policies, regulations to be met and socio-cultural requirements. However, as the World Health Organization advocates a fundamental structure to be observed in the composition of national health systems, many bear similarities to each other; therefore, learning from the experiences of others, especially those already well established, is possible. Some examples are the use of the Canadian CCHSA system in Ireland, the use of the JCI system in many private hospitals in India, and the use of the Australian system in Hong Kong, not to mention that many countries adopt and modify accreditation models developed by other countries.

The main attributes and aspects addressed by the different models of hospital accreditation can be known through the work of Tabrizi *et al*. (2011) who, in a systematic review of the scientific literature published between 1985 and 2010, identified the following categories of observation:

- Health care quality;
- Patient and worker safety;
- Integration of management and standardization of processes;
- Public trust in the quality of service;
- Publicity of results;
- International applicability;
- Periodic updating of standards, incorporating new dimensions (innovation);
- Structuring the organizational database;
- Influence of established accreditation models;
- Efficiency and effectiveness;
- Patient's rights and ethical values;
- Information management;
- Relationship of the organization with its financiers;
- Organizational culture;
- Mission statement;
- Being accredited by the International Society of Quality in Healthcare (ISQua), accreditation body of accreditation programs;
- Voluntary participation;
- Financial autonomy and government agencies.

Hospital accreditation is a quest for quality, usually with a seal assignment to meet specific requirements. Positive results include the facilitation of team cohesion, adherence to clinical and administrative protocols, integration of the quality agenda into other processes, development of critical sense, image enhancement and organizational culture consolidation, and agent satisfaction.

2.3 Hospital Accreditation in Brazil

Although there are historical records of several attempts to classify hospital care, it was only in the 1990s that the first efforts for quality control became significant through the launching of quality programs and the publication of standardization manuals, culminating in the founding in 1997 of the *Consórcio Brasileiro de Acreditação* (CBA - Brazilian Accreditation Consortium). In 1998, the Brazilian Manual of Hospital Accreditation was launched, also creating the *Sistema Brasileiro de Acreditação* (SBA - Brazilian Accreditation System). In 1999, ONA, a private non-profit legal entity, was set up to coordinate the SBA and implement technical standards, as well as accreditation of accrediting institutions (IAC - *Instituições Acreditadoras Credenciadas*) and qualification of evaluators (Roessler *et* Gastal, 2006).

The evaluation process of the organizations providing health services is carried out by the IAC evaluators, duly accredited by the ONA.

2.3.1 Description of the ONA Manual

The assessment process of the SBA is based on the verification of objective evidences that prove compliance

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with the levels and standards established in the Brazilian Manual of Accreditation, which can be of three levels: i) level 1 - Safety (structure): attributes related to the qualification of professionals; patient safety; normative requirements of the assistance organization and structure; and configuration of resources; ii) level 2 - Organization (processes): attributes related to the existence of norms, routines and documented and updated procedures; and process logic; and iii) level 3 - Quality (results): attributes related to the demonstration of the gains resulting from good management practices.

The ONA evaluation is carried out with the use of the Manual in the local and in a transversal way, so the approach is systemic and allows analyzing the work processes and the relations with the results (ONA, 2014), and for each of the levels (1 to 3) requirements are defined in order to establish the standard.

The ONA Manual is composed of five sections, as shown in Figure 1. These are: i) management and leadership; patient/client care; diagnosis and treatment; technical support; and logistics supply and support. In the sections, the processes (subsections) with similar characteristics and fundamentals are grouped and have affinities between them, and this is the logic of interaction between the sections, allowing the evaluation with systemic consistency of the organization. Each section is assessed from the standpoint of eight quality dimensions that guide the assessment of organizational performance.

The fundamentals of health management are the foundation of the SBA - ONA and certified health organizations should translate these fundamentals through practices and performance factors.

After the visit stage, a report is prepared under the guidance of the lead assessor (responsible for its accuracy). This report should include the visit plan, overall summary of the evaluation, strengths by section, opportunities for improvement by section, level obtained by the subsection, basic elements of compliance by subsection, non-conformities by subsection, framework of levels, final opinion of the evaluation team and final opinion of the certification committee. Small adjustments should be made to the maintenance processes (ONA, 2014).

2.4 NIEPC Instrument for Organizational Diagnosis

In order to allow a better understanding of the relationships between the various elements that make up a production system and to better exploit the produc-

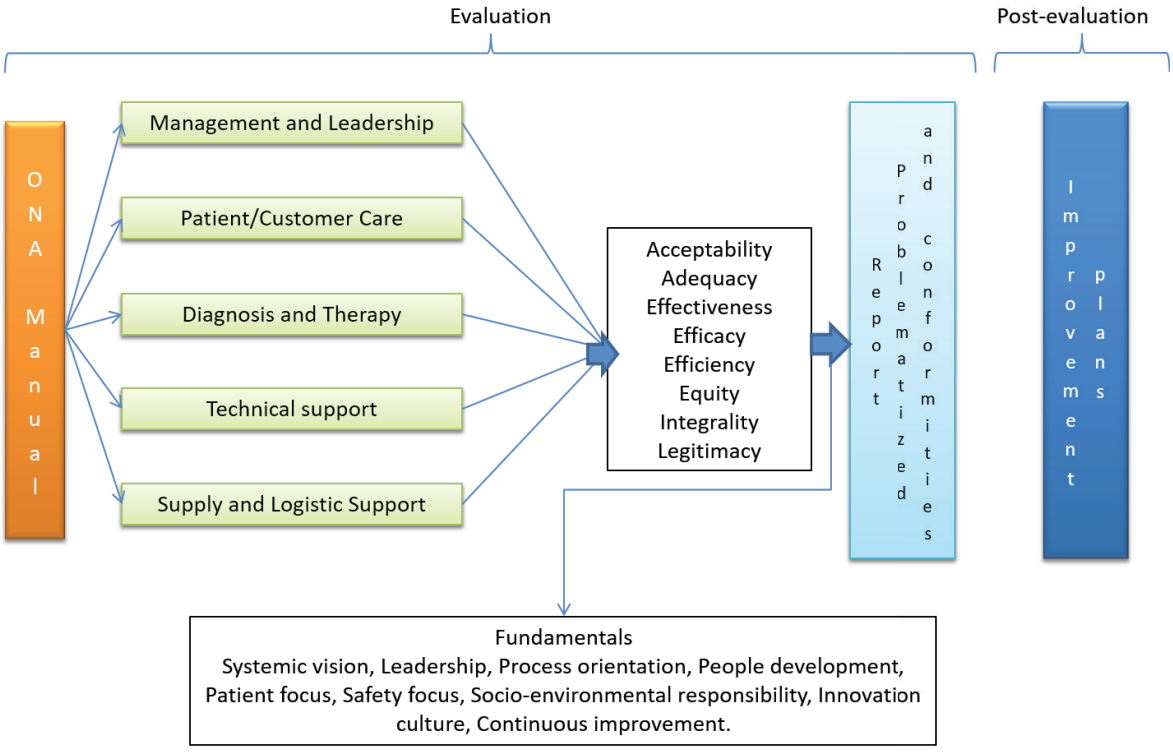

Figure 1. Schematic model of evaluation through the ONA Manual
Source: prepared from ONA (2014)

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tion environment from the point of view of complexity, NIEPC[1] developed a specially structured instrument[2] to approach complex human systems in order to evaluate, diagnose and assist decision making in production systems. The instrument proposed by the NIEPC performs the analysis of complex production systems under 13 categories of analysis, related to three outcome factors, which are achieved through eight practice factors, as illustrated in Figure 2. These relations produce assertions, which are situated between two scenarios, one pessimistic and the other optimistic. The results are then collectively problematized to seek improvement ideas generated by the agents themselves, based on organizational learning. This allows practitioners to reflect on their actions and decisions. From this reflection come ideas of improvement which can become action plans or projects.

1 Hosted by the Graduate Program in Administration of the Federal University of Santa Catarina (CPGA/UFSC)

2 Research project entitled Complex relations in production management.

By categories of analysis, we mean the subsystems of production, on which practitioners make decisions and whose performance leads to the factors of result. The outcome factors are the goals or priorities that are expected to be achieved.

Figure 3 shows the dynamic relationship of the 13 categories of analysis, from the point of view of the results factors, applied in the eight management practices proposed by the NIEPC instrument.

At the end of the application of the NIEPC instrument, an improvement project is developed to leverage the points that need to be implanted, implemented or refined, as observed in Figures 2 and 3. On the ONA certification there are no improvement plans delivered as seen in Figure 1, since the evaluation carried out by the IAC ends with the delivery of the final report. In the latter case, it is the responsibility of the organization to build an improvement plan and, in both cases, it is up to those responsible for the processes and all those involved to seek the application of these growth points.

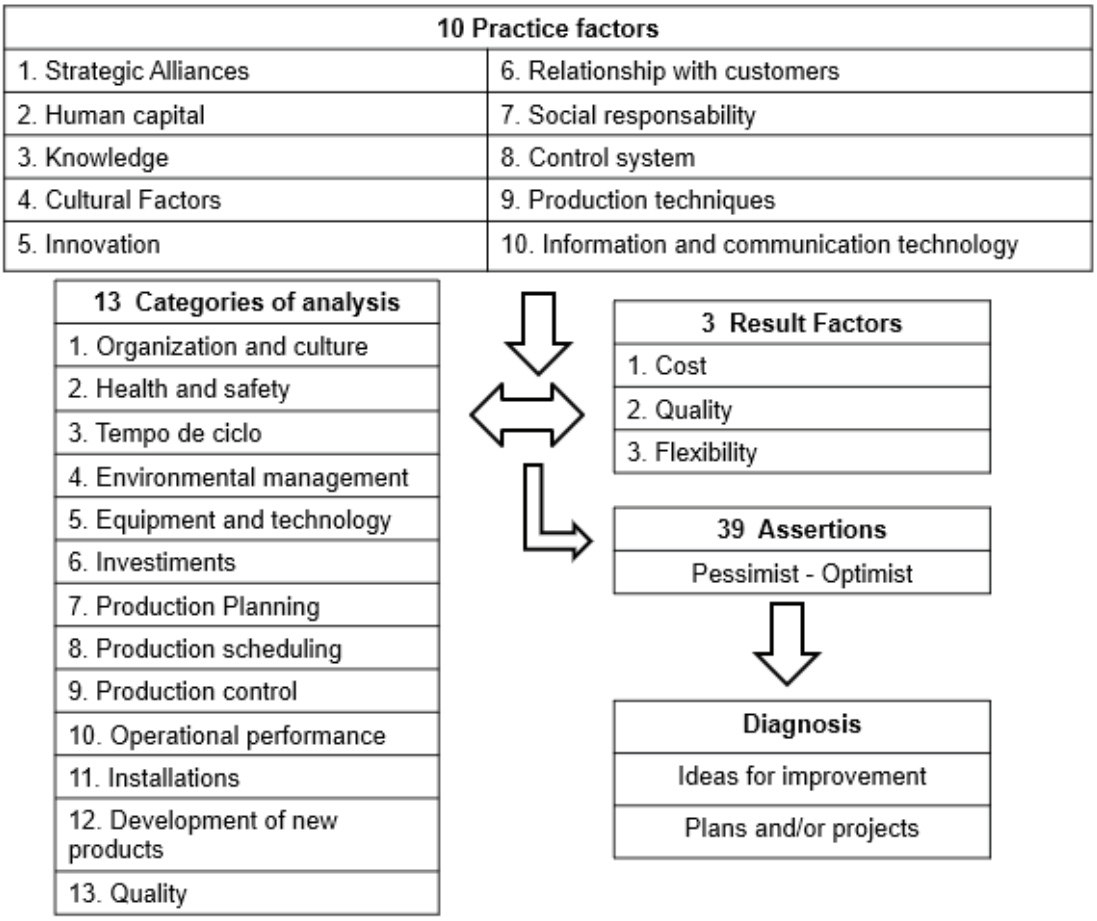

Figure 2. Components of the instrument for evaluating production systems and their application logic
Source: developed from the NIEPC instrument

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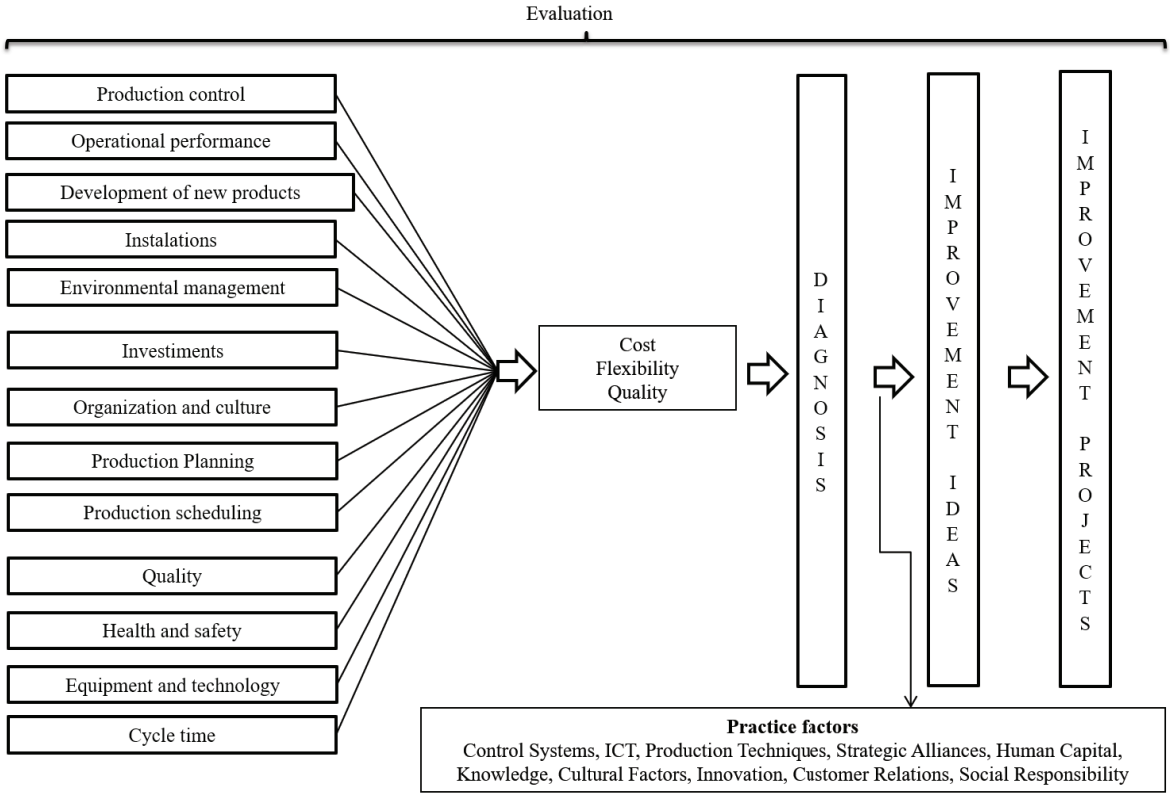

Figure 3. NIEPC Performance Evaluation Model
Source: developed from the NIEPC instrument

3. METHODOLOGICAL PROCEDURES

From the methodological point of view, bibliographical research was used, with emphasis on specialized publications in the area, in the national and international contexts (research in secondary sources). The aggregate knowledge through this research technique supported the theoretical design work of the evaluation instrument, which is based on the NIEPC Performance Evaluation Model and is complemented by the observation points recommended by the ONA Manual.

With the bibliographical research, the objective was to know the similarity and divergence points between the NIEPC model and the hospital accreditation, in order to identify the complementarity points between the two. In this way, it was possible to establish links between the categories of analysis of the NIEPC instrument and the evaluation points recommended by the ONA manual and, finally, to illustrate how the latter reinforce the scenarios of the first.

The results sought are the instrumentalization of the hospital services management in which the operations of an organization are considered, that is, the nucleus that generates the result.

4. ANALYSIS OF RESULTS

In observing the two instruments presented (NIEPC and ONA), some findings were possible, as well as complementarity considerations to obtain more comprehensive results when using both in hospital organizations.

4.1 Points of similarity and points of difference between the NIEPC model and the hospital accreditation according to the ONA Manual

All organizations seek continuous improvement. The way to reach it is part of the process, and the instruments used in this study contribute to this end. Both have patterns that, analyzed under the similarity angle, present similarities (Table 1) and differences (Table 2).

The ONA uses a manual consisting of verification items that guide the assessment process of health organizations, while NIEPC applies its findings through assertions with verification items. In the case of ONA, the manual is divided into sections that are deployed in applicable subsections in line with existing processes in the health organization analyzed, in the same way that NIEPC uses categories to analyze the process.

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Table 1. Points of similarity between the NIEPC model and hospital accreditation according to the ONA Manual

	ONA	NIEPC
Instrument	Manual with check items	Assertions with check items
Categories of analysis	Application by subsections / sections - division of the analysis by processes	Analysis by categories - division of the analysis by processes
Performance	Dimensions of quality - seek improvement through quality in processes	Result factors - seeks improvement in the final result through production
Interrelationships (complex system)	Foundations - complex relationships between the various institutional segments	Practice factors - complex relationships between the various institutional segments
Product	Report (with non-compliance points)	Diagnosis (with non-compliance points)

Source: developed from the NIEPC instrument and the ONA (2014)

On the other hand, performance in the ONA is analyzed with focus on the dimensions of quality and, in the NIEPC, on the result factors, however, in both the process improvement is sought. The interrelationships that transform the analysis of health organizations into complex systems in the case of ONA are linked to the fundamentals that link the various segments in the organizational macro process. In relation to the NIEPC, these interrelationships also occur, however, in relation to the factors that guarantee positive performance at the end of the productive stage. It should also be noted that both instruments present a description of points that do not have conformities as a product.

The points that differentiate more closely the two instruments are linked to the application format. At ONA, the number of requirements applied varies according to the organizational structure of each health service, and there is an increase in the diversity of requirements applied according to the level of the organization. The lowest quantitative is presented in Level I, increasing quantitatively for the other levels. On the other hand, the NIEPC instrument has predefined assertions that are always followed in any type of organization; the difference is the level found during the evaluation, which varies in scale from 1 to 5. Also, while in the first instrument, the number of evaluators follows the specific norm and changes in relation to the size and type of health institution, in the second, there is the participation of one or two mediators and the self-assessment of the managers and leaders of the organization occurs simultaneously.

It is also important to note that the analysis through the ONA Manual consists of an evaluation, whereas in the NIEPC it represents a diagnosis. The first seeks continuous improvement with a focus on quality; the second value processes with emphasis on results. In the case of the NIEPC, the report, drawn up with the participation of managers, contains improvements to be made in the process in order to achieve compliance, that is, it can serve as a guideline for better results. In the ONA, the report points only to conformity points or not in the process, with the responsibility of putting these points into action with the hospital organization, without the involvement of the evaluating institution. And, in both cases, the improvement can be developed or not, in agreement with the desired with each of the processes and the directives of the management of the health service.

To conclude this topic, we must point out another significant difference: in the ONA, the evaluation is external, without any form of internal interference, and the result is totally impartial. In the case of the NIEPC, because the diagnosis is made in a self-assessment form, there is a possibility of interpretations of the participants, which focus on the areas of action rather than the whole, generating an evaluation with a result that may be higher than the actual one, possibly resulting in bias.

4.2 Points of complementarity between the NIEPC model and Hospital Accreditation/ONA

In essence, the ONA and NIEPC instruments seek to improve the institution, either by results that lead to quality or by the quality that leads to positive results. Thus, by crossing the information from both instruments, it is possible to verify that a large part of the NIEPC assertions are then included in the subsections of the ONA manual, as can be seen in Table 3. The assertions of the NIEPC instrument are more evident in subsection of the ONA Manual, with full knowledge and involvement in the process. In relation to the other subsections, the points of attachment are established according to the specificities found, and in the large groups related to the assistance, if there is a greater observation of processes, in particular, to focus on them the result with the provision of services provided to the clients of the health organization.

Based on the identification of the liaison points, it is possible to observe aspects of ONA's standards, which can contribute to the NIEPC instrument, general to all or-

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Table 2. Points of divergence between the NIEPC model and the hospital accreditation according to the ONA Manual

	ONA	NIEPC
Instrument	- Manual with application only for health facilities - Quantitative requirements according to the type of establishment and its profile - There are different levels of application - Quantitative evaluators are established (external only)	- Assertions with application in any type of organization, including in health establishment - Pre-fixed requirements, regardless of the size of the organization - There are different levels of application - It does not establish quantitative external evaluators and the organization's staff self-assess
Categories of analysis	- Evaluation - Organizational macro process divided into five sections, distributed in 38 subsections; variables according to the organizational sectors and the level that the organization proposes	- Diagnosis - Division by defined and fixed categories, with variable values according to variable scale from 1 to 5
Performance	Focus on continuous improvement - quality	Focus on the outcome - processes
Product	Action plans may or may not be implemented because they depend on the organization's action and not on the evaluation process	Report presents ideas for improvements and design to make these improvements

Source: developed from the NIEPC instrument and the ONA (2014)

ganizations, becoming a more refined and effective artifact for the area insofar as existing points of observation are introduced in the ONA Manual, as shown in Table 4.

When it comes to complex organizations, such as health services (perhaps the most complex ones), it can be seen that, although the NIEPC instrument, in its original configuration, can be applied to any type of organization, its complementarity with some of the fundamental points pointed out by the ONA Manual may give a more efficient and accurate result in the applications in organizations of the said sector of activity. The links between the analysis categories and the ONA observation points are presented in Table 4. Thus, it is understood that the result may lead to a greater refinement of data for the elaboration of the improvement plans that follow the diagnosis, from the inclusion of a higher referential for obtaining future processes linked to Hospital Accreditation, if this is the focus, or for organizations that seek quality without being attached to a certifier, and can use the result to ensure safer assistance.

As a step prior to the application of the instrument itself, the external consultant should recognize the organization in order to get the most out of the routines of the internal environment and thus obtain a holistic view of the activity. The instrument is designed to be applied with the participation of the members of the organization, which allows a greater involvement and commitment with the diagnosis and the improvement projects generated. It should be emphasized that, during the application of the instrument, the actors are instigated by the external consultant to think about the organization and discuss about it, carrying out the organizational analysis.

To assist in understanding, a part of the NIEPC instrument - the "Production Control" category, expressed in Table 5, and its complementarity is shown in Table 6. With the application of the NIEPC assertions and the observations pointed out with the complementarity based on the ONA Manual, it is possible to draw a better diagnosis of health institutions, as well as to propose improvements with more foundation for the culture of quality and the achievement of economic-financial results based on safety of care.

In Table 5 it is relevant to observe that there is a scale that will be scored from 1 to 5, the extremes being respectively the worst and the best scenario raised during the self-evaluation conducted by external mediators. As already pointed out, the instrument can be applied to any type of organization; however, due to the complexity of the service and the particularities of health organizations, it is believed that the search for other references that complement the NIEPC instrument can bring more productive results. In this sense, the pillars for complementarity, as presented in Table 6, are sought in Hospital Accreditation processes and its most recent manual (ONA, 2014).

It is important to note that the proposal is to perform the scenario analysis by assertion analysis category of NIEPC, assigning them a preliminary score. Next, and in addition, attention should be paid to the observation points listed from the check items in the ONA Manual, pondering the tendency in which the assessed environment/process is found. The trend has as indicator the level of arrow, the best option being ↑, the worse option being ↓ - when the item is nonexistent, and the option → for points in development, but not yet safe. The scenario explained by the complementary analysis aims to

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Table 3. Points of linkage between the evaluation by the ONA Manual and categories of NIEPC analysis

	Technology	Production Planning	Production Control	Production Scheduling	Installations	Health and Safety	Organization and Culture	Cycle Time	Environmental Management	Quality	Operational Performance	Development of New Products	Investment
Diagnostic and Therapeutic* / Patient / Customer Care**	■	■	■	■	■	■	■	■	■	■			
Access Management	■	■	■	■	■	■		■		■			
Leadership	■	■	■	■	■	■	■	■	■	■	■	■	■
People management		■		■		■	■			■	■		
Administrative Management		■	■	■			■	■		■	■		■
Supply Management	■	■	■	■	■	■	■	■	■	■	■		
Management of Physical-Functional Structure / Equipment Management and Medical-Hospital Technology	■				■	■			■				
Patient Information System	■	■	■	■	■	■				■	■		
Prevention, Infection Control and Sentinel Events	■		■		■	■	■		■	■	■		
Asset Security Management	■		■		■	■							
Processing and Release	■		■		■	■	■	■		■			
Clothing Processing / Processing of Sterilization and Sanitizing Materials	■	■	■	■	■	■	■	■	■	■	■		
Storage and Transportation of Biological Materials Access Management			■			■			■	■			

Source: developed from the NIEPC instrument and the ONA (2014)

* Diagnostic and therapeutic (Pre, post and analytical processes, diagnostic and therapeutic methods, diagnostic imaging, nuclear medicine, radiotherapy, interventional radiology, endoscopes and videoscopes).

** Attention to the patient (hospitalization, outpatient care, emergency care, surgical care, obstetric care, neonatal care, intensive treatment, donor mobilization, donor screening and collection, hemotherapy assistance, dialytic therapy, antineoplastic therapy, pharmaceutical assistance, nutritional assistance).

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Table 4. Complementarities of ONA in relation to NIEPC

CATEGORIES OF ANALYSIS	DESCRIPTION OF CATEGORIES NIEPC ANALYSIS	ONA MANUAL OBSERVATION POINTS
Production control	Ensures that activities occur within the foreseen, identifying and correcting failures, allowing the most appropriate service to the needs of the clients (Slack et al., 1997).	- The processes are described, applied and known to the work teams; - Process interactions among the various segments of the institution are evidenced; - The analysis of nonconformities of processes are recorded and treated and actions of improvements and changes evidenced in the processes are presented; - There is identification of the care risks and dangers of the processes associated with control practices; - Risks and hazards are managed with a focus on risk mitigation; - Verification of the appointment, analysis and treatment of near miss, adverse events and sentinel event, with evidence of improvements.
Operational performance	It is common sense that organizations are facing an increasingly dynamic and competitive environment, and that more and more are looking for efficiency and effectiveness in their processes. Operational performance is the result of the pursuit of increased productivity, quality, innovation and profitability (Schulz, 2008).	- Statistical and productivity control is observed at all stages of the process; - The operating result is positive and influences the work decisions; - Critical analyzes of process indicators, risks and hazards occur with evidence of improvement; - The strategic planning is deployed in the areas and presents formal analysis; - The billing (SUS/agreements and private patients) is presented within the stipulated deadlines; - The cost management is installed and is used as a management tool by the sectors/services and executive body.
Development of new products	It is part of business strategy. The organization can develop new products based on technology or market research. Therefore, it is the permanent attempt to articulate the needs of the market, the possibilities of technology and the skills of the company (Moreira, 2011).	- There are studies or examples of new services offered in accordance with the need of the local community and health system; - New practices to improve the effectiveness of results are evidenced by services/sectors.
Environmental management	Comprises the guidelines and guiding principles of environmental planning and management. The instruments, legal and institutional, aim at improving the environmental performance of the organization, representing gains in energy or matter contained in the production process (Schulz, 2008).	- The Health Services Waste Management Program (PGRSS) is described, implemented and practiced by the entire institution; - There are programs to reduce the use of water, light, medicinal gases, waste, recyclable; - There are studies and/or evidences that prove that activities carried out reduce waste consumption.
Installations	Environment where the production process occurs. The facilities of the health organization involve the location; the layout and type of service provided aim at reducing costs, increasing productivity and customer satisfaction (Moreira, 2011).	- RDC 50 (Ministry of Health, 2002) is complied with by the institution; - The specific legislations for each area (infrastructure and medical and hospital equipment and production) are in agreement; - There is maintenance of preventive/corrective medical-hospital equipment and calibrations for the necessary items.

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Investments	All the capitalization applied to the productive means of the organization, being able to be applied to all productive resources (Schulz, 2008).	- Technological renewal is perceived in accordance with the need presented; - The environment presents improvements in infrastructure; - There is investment in training programs, Development of Individual Development Plan (IDP); - Health actions/programs are developed in the community.
Organization and culture	The company identity panel, consisting of images, stories, rituals, conflicts, leadership, attitudes, myths and other forms that inform the values of organizations and that help determine the value that customers attribute to the service (Schulz, 2008).	- The organizational identity is known by the entire institution. Is visible to visitors/customers; - The organizational and epidemiological profile is established based on the visits and is updated.
Production Planning	It determines action plans, based on the organization's goals. What will guide the actions of the organization, and will serve for managers and employees to support their activities (Slack et al., 1997).	- Strategic planning is used as a management tool and use is observed in achieving production objectives; - The annual budget presents monthly analyzes in order to obtain the best possible result of established/budgeted production.
Production scheduling	It establishes in advance the activities to be performed during the production process, allowing employees to know how and when to act, allowing better performance and productivity (Slack et al., 1997).	- There is programming of surgeries (emergencies and electives), outpatient appointments, hospitalizations, and follow-up examinations for nonconformities; - There are indicators of performance of the activities linked to production, used as an instrument to improve the results obtained; - The programming and performance of support activities (clinical engineering, nutrition, cleaning, garment processing, supplies, material sterilization central - MSC), maintenance is followed, punctuated and analyzed with the objective of obtaining greater results in the end processes.
Quality	Ability that a given service has to meet or even exceed customer expectations in a consistent manner (Moreira, 2011).	- Improvement processes are identified through critical analysis of indicators, process analyzes, strategic planning turns; - Customer/client satisfaction is measured, analyzed and used to obtain better results in the activities/processes.
Health and safety	It is the set of organizational actions with the aim of providing full conditions of human development at work. It involves managerial, technological and structural improvement and innovation inside and outside the work environment, and its absence reduces productivity and the quality of the productive process (Moreira, 2011).	- The main processes of the Occupational Health and Safety service are implemented and applied (legal instruments, vaccines, professional psychographic profile (PPP), periodicals - employees and third parties); - There are established flows of care to emergencies and work accidents, medical care, leaves, and medical certificates; - The institutional contingency plan established in all necessary activities, including the Abandonment and Disaster Plan; - There is management of occupational risks with employee involvement.
Technology	An integral part of work environments that facilitate and streamline production processes. It is the technological equipment that contributes to the provision of service directly or indirectly.	- The medical-hospital equipment is updated according to the need of the services practiced; - There are management programs in place that meet the expectations of the institution and present information security.

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Cycle time	Total time needed to complete the entire production process that allows the production process to be controlled and improved more effectively, reducing unnecessary time and increasing service capacity (Slack et al., 1997).	- The care and support processes are measured with the objective of obtaining the best average time of hospitalization for that institution; - Emergency examinations, return visits, outpatient exams, hospital readmissions, and return to the intensive care unit (ICU) are measured, monitored and show evidence of improvement in the time periods practiced; - The average time to perform exams, release of reports, rechecked or remade exams are punctuated, controlled and present improvements in the processes; - The losses are measured and present actions to improve the result (Rest-ingestion, losses of special nutrition, reprocessing of clothes or sterilized materials, etc.).

Source: developed from the NIEPC instrument and the ONA (2014)

ratify or rectify the notes given at that first moment. In general terms, this means that, based on the specificities of a production system, it is sought to refine the diagnosis on which the performance improvements are defined.

5. CONCLUSION

This study aimed to present a new conceptual pathway based on the complementarity between the NIEPC Performance Evaluation Model and Hospital Accreditation. Based on the results obtained, benefit points were observed that the ONA approach can provide to the NIEPC instrument. In this way, the proposed evaluation instrument complements the categories of analysis of the NIEPC model with observation points recommended by the ONA Manual. Thus, organizations that do not have financial conditions to search for Hospital Accreditation processes can count on diagnoses that lead to the construction of plans to improve their processes. It will also benefit those organizations that seek continuous improvement without the desire to join a specific certification.

It was also concluded that the complementarity of the NIEPC instrument with the ONA Manual serves as a preparation for health organizations that seek to enter into the certification process for hospital accreditation. In addition, the indication of the improvement points to be executed contributes to the ONA certification, and the closer to the score level 5 the evaluated organization

Table 5. Example of the NIEPC Instrument Response Sheet - Category Production Control

PRODUCTION CONTROL				
The control function aims to ensure that the activities occur within the expected, identifying and correcting failures, allowing a more appropriate service delivery to the needs of users.				
RELATIONSHIP WITH RESULT FACTORS	**RESULTS FACTORS**	**SCENARIO 1 (TERRIBLE)**	**SCENARIO 5 (GREAT)**	**GRADE**
	Cost: Production control allows the adequate monitoring of the use of resources, identifying points of waste. Controlling can inhibit the misuse of resources, reducing costs.	There are no controls to verify the costs generated during the production process.	Existing controls verify the costs generated during the production process.	
	Flexibility: By having control of productive processes, the organization perceives unmet demands and can tailor the process to meet the different needs of users.	The organization does not care to control whether or not the productive process is adequate to the users' demands.	The existing controls allow you to analyze whether the demands of the users are being properly met.	
	Quality: By controlling production, the organization becomes more effective in identifying failures and points that can be improved, thereby increasing the quality of the production process.	The lack of controls does not allow an action to improve the process, since it is not known what should be improved.	The controls provide information about failures and points to improve in the production process.	

Source: NIEPC instrument

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Table 6. Example of the NIEPC Completion Response Sheet Based on the ONA Manual - Category Production Control

CATEGORIES OF ANALYSIS	OBSERVATION POINTS ONA MANUAL	Result in the current scenario		
		→	↑	↓
Production control	The processes are described, applied and known to the work teams;			
	The interactions of processes between the various segments of the institution are evidenced;			
	The analysis of nonconformities of processes are recorded, treated and present actions of improvements and changes evidenced in the processes;			
	There is identification of the care risks and hazards of the processes associated with control practices;			
	Risks and hazards are managed with a focus on risk mitigation;			
	Near miss verification, analysis, and treatment, adverse events and sentinel event are performed, with evidence of improvements.			

Source: developed from the NIEPC instrument and the ONA (2014)

reaches, the higher the degree of certification (ONA 1 - Accredited or ONA 2 - Accredited in Full) obtained. It is also emphasized that the improvement presented over application cycles can lead to continuous improvement and to the maximum degree of certification (ONA 3 - Accredited with Excellence).

It is worth mentioning that the NIEPC instrument, complemented with the ONA Manual, becomes specific to the health area and opens new possibilities for studies in the area.

Currently, the understanding of quality in health services has been the object of many studies; however, the structuring of a satisfactory conceptual basis, which considers the perspectives not only of the patient, but also of the workers, managers, financiers and hospital quality assessors is still a distant reality.

The improvement of work practices is due to the incorporation of new strategies of action drawn from new learning. Such learning, in turn, is acquired by finding and repairing mistakes made. In this sense, the diagnosis and the approach of its productive processes is one of the forms of organizational development and critical factor for the success of quality programs, besides the participation of the agents in the implementation of the knowledge acquired in the organization itself.

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