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**Quality management practices in hospital organizations: a multiple case study in hospitals in Rio Grande do Sul, Brazil**

**Prácticas de gestión de calidad en organizaciones hospitalarias: un estudio multicaso em hospitales de Rio Grande do Sul, Brasil**

**Práticas de gestão da qualidade em organizações hospitalares: estudo multicaseos em hospitais do Rio Grande do Sul, Brasil**

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### **Abstract**

**Purpose:** Verify the quality management practices carried out in hospital organizations in Rio Grande do Sul, based on the construct by Xiong et al. (2017)

**Methodology:** A descriptive, qualitative research was carried out with three hospital organizations established in the state of Rio Grande do Sul, Brazil. Data was collected through interviews with the quality managers and the chief executive of each hospital.

**Results:** The results indicate that quality management helps hospitals to measure the satisfaction of the interested parties in the organization, such as customers, employees, and suppliers, who, through quality tools, carry out result analysis in search of improvements. It is noteworthy that the influence of quality management in relation to the mapping and control of processes results in the optimization of work and continuous learning.

**Contributions of the Study:** The findings of this study contribute to health managers who want to implement quality management practices in hospital organizations; It also contributes to the scientific development of the administration area, as well as understanding how hospitals can advance in their management to improve the Brazilian health system.

**Keywords:** Quality Management; Hospital Management; Quality Indicators.

### Resumen

**Objetivo:** Verificar las prácticas de gestión de calidad realizadas en organizaciones hospitalarias de Rio Grande do Sul, a partir del constructo de Xiong et al. (2017).

**Metodología:** Se realizó una investigación cualitativa descriptiva con tres organizaciones hospitalarias, establecidas en el estado de Rio Grande do Sul. La recolección de datos se realizó a través de entrevistas con los gerentes de calidad y el principal ejecutivo de cada hospital.

**Results:** Los resultados indican que la gestión de calidad ayuda a los hospitales a medir la satisfacción de las partes interesadas en la organización, tales como: clientes, empleados y proveedores, quienes a través de herramientas de calidad realizan análisis del resultado en busca de mejoras. Cabe destacar que la influencia de la gestión de la calidad en relación con el mapeo y control de los procesos redunda en la optimización del trabajo y el aprendizaje continuo.

**Contribuciones del Estudio:** Los hallazgos de este estudio contribuyen a los gestores de salud que quieren implementar prácticas de gestión de calidad en las organizaciones hospitalarias; también contribuye al desarrollo científico del área de administración; aún entender en qué puntos los hospitales pueden avanzar en su gestión es relevante para desarrollar mejoras en el sistema de salud en Brasil.

**Palabras clave:** Gestión de la Calidad; Gestión de hospitales; Indicadores de Calidad.

### Resumo

**Objetivo:** Verificar as práticas de gestão da qualidade realizadas em organizações hospitalares do Rio Grande do Sul, com base no constructo de Xiong, He, Deng, Zhang e Zhang (2017).

**Metodologia:** Foi realizada uma pesquisa descritiva, de cunho qualitativo, com três organizações hospitalares, estabelecidas no estado do Rio Grande do Sul. A coleta de dados foi por meio de entrevistas com os gestores da qualidade e o executivo principal de cada hospital.

**Resultados:** Os resultados indicam que a gestão da qualidade auxilia os hospitais a medirem a satisfação das partes interessadas na organização, tais como: os clientes, colaboradores e fornecedores, que, por meio de ferramentas da qualidade, realizam análises do resultado em busca de melhorias. Destaca-se que a influência da gestão da qualidade em relação ao mapeamento e controle dos processos redunda na otimização dos trabalhos e aprendizado contínuo.

**Contribuições do Estudo:** Os achados deste estudo contribuem com os gestores de saúde que queiram implementar práticas de gestão da qualidade em organizações hospitalares; também contribui para o desenvolvimento científico da área de administração; ainda entender em quais pontos os hospitais podem avançar na sua gestão é relevante para desenvolver melhorias no sistema de saúde do Brasil.

**Palavras-chave:** Gestão da Qualidade; Gestão Hospitalar; Indicadores de Qualidade.

## 1 Introduction

The complexity of managing a hospital is a similar reality even in different countries or regions. Seabra (2007) and Farias and Araújo (2017) point out that this situation is aggravated in some countries by processes, bureaucracies and regulation inefficiency. Littike and Sodré (2015) identified that the work of hospital employees in Brazil can involve aspects such as management decisions, law and governmental decrees, as well as high demand. This conflicts directly interfere with its standardization and optimization, especially regarding organizational procedures.

According to Xiong et al. (2017) quality management can be characterized as an organizational processes-oriented management philosophy. It encompasses teamwork and administration by committed leadership, which regularly measures and monitors results. Sabella, Kashou, and Omran (2015) imply that quality management should not be regarded simply as an auxiliary administrative practice, as it represents an institutional resource that promotes the development capacity of services and human resources. And, consequently, the ability to evolve from continuous learning.

At the end of the 1990s, few health organizations in Brazil were aware of the different quality assessment models, such as ISO certifications, the Brazilian National Quality Award, and hospital accreditation. (Schiesari, 2014). The accreditation process improves the hospital organization mainly through planning and use of indicators, processes standardization and employees' involvement with quality processes. (Francisco, Paz & Lazzari, 2012).

As highlighted by Gerard and Bernard (2009) hospital organizations offer a wide range of services, from high-tech clinical treatments to basic hotel services. Consequently, these organizations have complex and expansive administration, requiring great control and supervision to monitor their performance.

Previous studies on quality management in the hospital environment were undertaken by Alaraki (2014) in Saudi Arabia hospitals; Xiong et al. (2017) in Chinese hospitals; Sabella, Kashou, and Omran (2015) in West Bank hospitals and Al Raoush, A'agoulah, Albalas, and Athameneh (2020) in teaching hospitals in Jordan. In Brazil, Alves (2015) carried out research in hospitals in the metropolitan region of Sao Paulo; Ramos, Moreira, Martins, and Souza (2019) in a large hospital; Van Schoten, Block, Streeuwenberg, Groenewegen, and Cordula (2016) in Dutch hospitals; Mesgari, Miab, and Sadeghi (2017) in public hospitals in Iran; and Baidoun, Salem, and Omran (2018) evaluated excellence models for hospitals.

As such, new studies can explore the research gaps in the Brazilian reality, including the use of quality management criteria and models. Exploring hospital management currently can both broaden knowledge of the Brazilian scenario and enrich the findings of previous studies.

Thus, we proposed the following research question: *what quality management practices are carried out in hospital organizations in Rio Grande do Sul, Brazil?* Aligned with this question, the aim of this study is to verify the quality management practices carried out in hospital organizations in Rio Grande do Sul, Brazil, based on Xiong et al's construct. (2017).

The study justification is based on the statement by Xiong et al. (2017) that a hospital offering health services can reduce waste, improve efficiency, increase returns on assets, and achieve greater customer satisfaction through quality management practices. This research also fulfills niche application gaps since previous studies were carried out in other countries, such

as Van Schoten et al. (2016) which focused on Dutch hospitals, Xiong et al. (2017) in Chinese hospitals, and Ahmed, Abd Manaf and Islam (2018) in Malaysian hospitals.

## 2 Literature Review

### 2.1 Quality Management in Hospitals

To achieve the hospital's mission, management needs to reconcile administrative processes with the health team. Ahmed, Abd Manaf, and Islam (2018), as well as Alaraki (2014), highlight the importance of providing training for doctors and nurses on quality tools used in the health system. Metcalf, Wang, and Habermann (2018) add that managers need to offer training on the use of resources and their respective costs for the medical team, as they are mainly concerned with the clinical quality of care.

Dey and Hariharan (2006) indicate that the quality management methodology supports health service providers in identifying failures and correcting and preventing errors based on the maintenance and improvement of performance standards. As such, it enables the development of products and services that meet customer expectations, making the organization more competitive. Chassin (2013) states that after the efforts in the United States to improve patient safety quality, hospitals began to dedicate more resources and efforts to solving safety and quality failures. Also, despite the organizations' delayed adaptation, tools such as Lean and Six Sigma proved to be effective in increasing patient safety.

According to Bonato (2011), it is essential that health managers responsible for care and administrative processes understand how quality is implemented and which evaluation systems are used. Hospital accreditation is one of the quality assessment systems. It periodically evaluates the organizational resources of the hospital, aiming to guarantee the quality of care based on internationally recognized standards. According to the author, "the accreditation process proposes the voluntary participation of institutions, encouraging them to seek continuous quality improvement, creating and developing integration with society" (Bonato, 2011, p. 322, authors' translation).

In Brazil, the National Accreditation Organization (ONA) is a non-governmental, non-profit institution of collective interest. According to the Brazilian Department of Health Policies (2002) is the competent and authorized institution to operationalize the development of the hospital accreditation process. Its goal is to promote continuous improvement in the quality of care provided by Brazilian hospitals, regardless of their size, complexity, and institutional link, through standards previously established by the Brazilian Manual of Hospital Accreditation.

ONA emerged in 1990 when the World Health Organization (WHO) established an agreement with the Pan American Health Organization (PAHO). The goal was to design a standard accreditation manual for Latin America and the Caribbean, encouraged by the initiatives of the Brazilian Unified Health System (SUS). (ONA. 2021).

As Duarte (2021) highlights, several phases were established in the accreditation process so that the manual could be used in the different realities of various health institutions. These include: (1) patient safety in all areas of activity; (2) integrated management, with processes running smoothly and complete communication between activities; (3) at this level, the organization already possesses institutional maturity and needs to present an organizational culture based on continuous improvement. An excellence-accredited healthcare organization or program meets Levels 1 and 2 requirements—and specific Level 3 conditions.

According to the Brazilian Association of Technical Standards (ABNT), certification is a process by which a third-party entity assesses by audits whether a given product, service, or system meets technical standards. The main benefits of certification are the team's commitment to quality, ensuring continuous improvement in business development, and reducing controls and evaluations by customers, among others (ABNT, 2021).

ABNT NBR ISO 9001 is the standard that defines the requirements for setting up a quality management system. It is based on seven quality management principles: Customer focus; Leadership; People engagement; Process approach; Improvement; Evidence-based decision-making; and Relationship management. For further details, see ABNT (2021).

Both accreditation and certification use defined standards to verify, evaluate, and certify the quality of services/products and/or organizational processes. Both systems also carry out an educational process in the institutions to create the foundations for a culture of quality.

## **2.2 Quality Management Practices, Performance, and Improvement of Hospital Indicators**

Alaraki (2014) used total quality management (TQM) practices to examine the relationship between TQM practices and hospital performance of organizations in Saudi Arabia. Their research used a questionnaire based on the study by Demirbag, Tatoglu, Tekinkus, and Zaim (2006). In the correlation analysis, Alaraki (2014) identified a direct and positive association between the practice of TQM and the hospital's organizational performance.

Alonso, Droval, Ferneda, and Emídio (2014) verified how accreditation can guarantee higher patient safety through mapping and improvement of care processes. In addition, its introduction as a qualitative increase also reflects the accreditation benefits in the hospital environment. Adopting the standards proposed in the accreditation process at the institution is seen as indispensable. It also benefits the organization, such as patient safety and improvements in the care provided. Thus, implementing a hospital accreditation program contributes to the standardization of care and continuous quality improvement, in addition to achieving a business and care management standard recognized by society.

Alves (2015) verified whether the Quality Management (QM) process after accreditation influenced the results and performance of hospitals in the metropolitan region of São Paulo, Brazil. The study was executed with seven accredited hospitals allying a questionnaire based on the Brazilian National Quality Award (PNQ) criteria and interviews with the hospitals' directors/managers and quality analysts. The results indicated that QM contributed to improving the management indicators. It also helped hospitals to measure their performance.

Sabella, Kasou, and Omran (2015) assessed quality management practices in 49 West Bank health institutions using the 62 indicators of the Malcolm Baldrige National Quality Award (MBNQA): Leadership; Strategy; Customers; Measurement, analysis, and knowledge management; Workforce; Operations; and Results. The research indicated that the criteria could be used to measure the various activities of hospital organizations, tangibly identifying competencies and weaknesses to improve hospital performance. Thus, it helps managers to focus their resources on areas that will significantly impact hospital performance. The authors point out that QM promotes the accumulation of institutional capabilities and cannot be acknowledged simply as a bureaucratic strategy, as it provides institutional resources for better performance.

Van Schoten et al. (2016) investigated whether the European Foundation for Quality Management (EFQM) Excellence Model is the basis for total quality management in healthcare. The survey of Dutch hospitals gathered responses from 548 questionnaires. It had five measurement points between 1995 and 2011. Leadership; Policy and strategy; Resources; People; Processes; People results; Customer results; Society results; and Key performance results. The application of the EFQM Model is related to improved performance over time. In addition, the improvement is more significant when elements of the model are analyzed together.

Xiong et al. (2017) explored the relationship between QM practices and hospital performance based on empirical results from Chinese public hospitals. The research was quantitative. It used the following variables in the structural equations modeling: leadership, quality policy, quality department, top management leadership, training, customer focus, supplier QM, HR and processes, information, and quality analysis. The authors adapted the tool by Saraph, Benson, and Schroeder (1989) to construct quality management practices. The findings indicated that the dimensions focused on people and process management relate positively to health care and performance. It also highlighted that hospitals must carry out innovations in their existing processes to improve the efficiency of collaborators' activities.

Honda (2017) evaluated the use of quality management concepts and tools, specifically Lean, to help hospitals improve their performance and resource management in health services. The author executed a literature review and case study, applying Lean tools in an upstate São Paulo, Brazil, hospital (Santa Casa de Misericórdia). The study identified that the hospital was able to reduce the nurses' travel time and standardize the pharmacy work process by applying quality tools. In summary, the research evidenced that the application of Lean principles can potentially benefit the hospitals where applied, such as cost reduction and performance improvements.

Baidoun, Salem, and Omran (2018) evaluated the implementation level of QM in Gaza Strip hospitals using the MBNQA criteria through an eight-part questionnaire. The criteria used were: Leadership; Strategy; Customers; Workforce; Operations; and Results. The study highlighted that the MBNQA excellence models and criteria could assess the level of implementation of quality practices, identify strengths and weaknesses, and improve the quality of hospital services. As such, health organizations should not approach quality management simply as a program to achieve sustainable performance but as a philosophy capable of improving the quality of services based on learning and continuous improvement.

Ramos, Moreira, Martins, and Souza (2019) investigated the extent to which implementing accreditation processes is capable of promoting improved performance in hospital organizations. The documentary research and interviews with hospital directors took place in a large reference hospital institution in Pará state, Brazil, which started the certification process in 2015. It covered indicators from the following perspectives: Finance, Clients, Internal Processes, Learning, and Growth. The accreditation process implementation in the case hospital resulted in performance improvements and positively impacted 75% of the analyzed indicators.

Al Raoush et al. (2020) identified the impact of financial management on university hospitals' QM. They carried out research in two hospitals in different regions of Jordan and applied a questionnaire on financial management and hospital quality management. The study revealed a statistically significant impact of financial management on QM. As such, university hospitals should emphasize the role of financial sector management and use it to obtain service

efficiency. According to the authors, hospital managers should trust and use financial information as a basis for decision-making.

Nascimento (2020) identified characteristics and advances in accreditation in Brazilian hospitals and difficulties in QM through an integrative literature review. The following question guided their research: What are the impacts of accreditation on the QM of Brazilian hospitals? The research made use of health-related literature databases, such as: National Library of Medicine and National Institutes of Health (PubMed/Medline); Latin American and Caribbean Health Sciences Literature (LILACS). The results indicated that accreditation enabled process standardization, education programs consolidation, patient safety, and continuous evaluation of services and professional performance. It was also possible to promote employee satisfaction and professional recognition. They also found that there is a small number of accredited hospital institutions, the majority of which are hospitals in the South and Southeast regions, and that people management is one of the difficulties encountered in implementing the accreditation process.

Almeida, Santos, and Sampaio (2020) verified the applicability of quality tools by nurses in the hospital environment, including which tools are the most adopted and which factors interfere with their usability. A six-step integrative review was conducted, guided by the following question: Is the applicability of quality tools by nurses linked to an improvement in the quality of care provided in the hospital environment? The research made use of health-related literature databases, such as: National Library of Medicine and National Institutes of Health (PubMed/Medline); Latin American and Caribbean Health Sciences Literature (LILACS). The authors found that quality tools aid in the assistance services, managing and organizing the work, focusing on improving services and the continuous education of the professionals involved. In addition, it also points out that the nurse is the professional able to develop and apply the quality tools for having the most compelling link with the assistance and the work team.

Mastelli and Dallora (2021) evaluated the impact of implementing QM guidelines on the outsourced hotel services of a public health institution with a tertiary care level through a case study before and after implementation. The findings indicated significant improvement in the satisfaction levels of customers served by outsourced hotel professionals after the introduction of quality guidelines, associated with a change in the patients' opinions evaluation period expressed through the satisfaction survey. Overall, implementing criteria and service standardization led to changes in professionals' behavior and the reversal of patient dissatisfaction. Adopting guidelines and modeled processes monitoring based on the user requirements, providing a better care experience.

Rodrigues, Oliveira, Santos, and Jaernevay (2022) executed a situational diagnosis of a university hospital in Minas Gerais, Brazil, based on the results of the first internal quality assessment by processes category. These were finalistic, managerial, and support processes. The hospital presented 62% compliance with the SEQuali manual requirements. Of the 871 requirements applicable to the institution, 543 were met, and 328 were not. The processes category evaluation results showed 68% compliance with the finalistic processes, 65% of the managerial processes, and 51% of the support processes. Overall, the hospital met more than 60% of the applicable requirements.

Based on the analyzed practices, it is clear that implementing QM can help hospital institutions organize employees' processes based on activities mapping, establishing indicators, targets, and controls of actions focused on continuous improvement. QM tools also support the organization's strategic planning, relating indicators and targets to the hospital's vision. The



authors also noted that QM guidelines compliance positively impacts organizational performance over time.

### 3 Methodological Procedures

#### 3.1 Research strategy

We used the multiple case study research strategy, following the theories of Denzin and Lincoln (2006), Collado, Lucio, and Sampieri (2013), and Yin (2016). We surveyed general hospitals established in Rio Grande do Sul, Brazil. These were public and/or private, municipal and/or state-managed, and ONA-accredited hospitals. A total of 15 were identified in the DATASUS database. Contacts took place from October/2020 to January/2021. Each institution was sent an invitation letter to participate. This first contact was made by e-mail. On telephone contact, we obtained confirmation of three hospitals. The advance of the covid-19 pandemic hampered the research process. The hospitals in the study were named X, Y, and Z. Their characteristics are as follows:

- X) Located in the Serra region of Rio Grande do Sul, Brazil, 396 km from Hospital Y and 456.5 km from Hospital Z. It is a private association general hospital with no teaching activities. Is certificated at the accredited level (ONA I);
- Y) Located in the southern region of Rio Grande do Sul, Brazil, 60.4 km from Hospital Z. It is a public-owned general hospital. It is a teaching hospital unit and has a sector created in 2019 for quality management called the Quality Management and Health Surveillance Sector;
- Z) Publicly-owned, university general hospital. The sector responsible for quality actions is the supply sector.

We note that a study limitation is the low hospital adherence, which can restrict the research results. To comply with the requirements of trust and credibility recommended by Yin (2016), we developed a protocol for the case study. It brought together the goals outlined by the study, the procedures used for data collection, the study relevance, and clarifications on the data collection.

Data triangulation was performed from: (i) interviews; (ii) document analysis (process mapping worksheets, strategic planning, and minutes); (c) observation (in loco visitations). We interviewed managers in the same hospital separately to enable comparisons between responses. The interviews took place in two ways: (a) virtually, due to the pandemic, recorded with the interviewee's permission. (b) in-person, during visits to Hospitals X and Z.

The interview script was divided into two sections. The first section contained questions to collect profile data from the organization and the interviewee. The second section presented inquiries regarding quality management.

In addition to the multiple case study, we conducted a bibliographical research through a systematic literature search. It happened in May 2022 on the following platforms: BDTD, Scopus, Web of Science, SPELL, Google Scholar, and the Brazilian national electronic library consortium CAPES. The search supported the construction of this paper's Hospital Quality Management Practices section.

### 3.2 Data analysis strategy

Data were analyzed using content analysis. It included: (a) the answers obtained from the interviews; (b) the documents provided by the hospitals; c) observations recorded in a text file; and d) photographs. We employed content analysis established by Bardin (2011). The analysis categories were elaborated from the 9 dimensions used by Xiong et al. (2017), whose instrument was adapted for the health area by Saraph, Benson, and Schroeder (1989). The 9 dimensions and the respective points for assessing hospital quality management practices are presented in Table 1.

**Table 1**  
Analysis categories.

| Category  | Question  |
|---|---|
| Role of quality managers/Senior management leadership | How is the acceptance of the hospital team to perform quality procedures?<br>Does senior management support the quality manager?<br>Does senior management take part in or follow the meetings and implemented procedures?  |
| Quality policy  | Is quality management considered within the strategic planning?<br>Have strategic objectives been considered in strategic planning?<br>Are there indicators? If so, what are the groups of indicators? For instance, financial, customer, suppliers.  |
| Importance of the quality department                  | The sector is subordinated to which position/sector in the hospital's organizational chart?<br>What is the autonomy of the quality sector among the other sectors?<br>What is the visibility of the quality sector among the other sectors of the hospital?   |
| Employee training                                     | Are training available for the quality team (courses/workshops on quality concepts, quality improvement tools)?<br>How often?   |
| Processes management                                  | Are key procedures mapped?<br>How are procedures controlled to ensure compliance with process requirements?<br>Are procedures evaluated and improved?   |
| Customer Satisfaction                                 | How is patient and/or family satisfaction measured?<br>How often?<br>Is the feedback/results of customer satisfaction surveys evaluated?  |
| Quality information                                   | How are quality indicators/data used for problem solving?<br>How do senior management and managers from other sectors evaluate this data?<br>Are managers and employees evaluated based on quality performance?<br>Are data available to all hospital staff? And for society?<br>Do these data reflect improvements in the quality of medical care? |
| Relationship with employees                           | Are employees from other sectors involved in debates on quality management?<br>Is there recognition from the quality sector towards the team when they achieve a good performance?<br>Are employees aware of what the quality requirements are?<br>Is there information on whether the hospital's employees meet the quality requirements or not?   |
| Relationship with suppliers                           | How is the trust relationship between the hospital and the suppliers based?<br>Is there an established purchasing policy?<br>Is quality or price taken into account?<br>Is supplier quality control performed?  |

**Source:** Adapted from Xiong et al. (2017).

The data collection instrument underwent pretesting with quality professionals from other institutions. In addition to the qualitative analysis, a quantitative metric was used to

understand the position/response of each institution in quality management. Each question recorded in Table 1 that had a positive answer added 1 Point. If partially answered, 0.5 Point, and 0 Points if replied negatively. As such, it was possible to visualize which hospital has more quality management practices. The Quality Management questions totaled 31 points, the maximum score for the set of questions.

### **3.3 General aspects of field research**

Hospitals Y and Z provided their respective Strategic Director Plan (SDP) for the 2021/2023 triennium, which was prepared based on the strategic map of the Brazilian Hospital Services Company, Ebserh, network. On the other hand, Hospital X provided the strategic planning for the 2018 to 2022 period, the document mapping processes, and their respective spreadsheets with the qualification scores of each sector. These were divided by: service and promptness, deadline, quality, correct price and safety, and, finally, the ONA accreditation action plan.

According to the Brazilian Ministry of Education (2022), the Brazilian Hospital Services Company, Ebserh, is a public company associated with the Brazilian Ministry of Education (MEC), which provides support services for teaching, research, extension, teaching-learning, and training people in public health to federal public educational institutions.

In Hospitals X and Z, the responsible administrative managers the updated indicators that prove compliance with the organization's strategic planning shared through the hospital system. In Hospital X, the indicator monitoring is also displayed on panels so that employees can access it. We observed the infrastructure of Hospitals X and Z to verify aspects related to the organization of the work environment and compliance with safety and health standards for employees and patients. We also inquired employees with questions such as: how often are the indicators monitored? And what is the hospital's strategic vision?

At Hospital Y, it was possible to analyze some aspects that confirmed the answers obtained in the survey data collection through the hospital's institutional electronic address. We verified news related to social campaigns, residents satisfaction surveys, and employee training.

## **4 Results & Analysis**

### **4.1 Profile of Respondents and Hospitals**

Table 2 presents the general data of the interviewees' profiles and the interview time.

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**Table 2**  
Interviewees' profiles and interview time.

| Hospitals                       | Interviewee | Position                  | Academic degree         | Time in the institution | Time in the position | Interview time     |
|---------------------------------|-------------|---------------------------|-------------------------|-------------------------|----------------------|--------------------|
| Hospital X                      | X1          | Administrative director   | Hospital administration | 13 years                | 11 years             | 00:50:48           |
|                                 | X2          | Quality consultant        | Nursing                 | 2 years                 | 2 years              | 00:31:12           |
| Hospital Y                      | Y1          | Planning manager          | Public administration   | 11 years                | 03 years             | 1:32:19            |
|                                 | Y2          | Quality coordinator       | Nursing                 | 5 years                 | 2 years              | 00:38:50           |
| Hospital Z                      | Z1          | Administrative manager    | Business administration | 10 years                | 3 years              | 01:23:43           |
|                                 | Z2          | Head of Supply Department | Business administration | 4 years                 | 3 years              | 00:29:12           |
| <b>Total time of interviews</b> |             |                           |                         |                         |                      | <b>326 minutes</b> |

Source: Research data.

As shown in Table 2, the interviewees' profile proves adequate regarding education, years of activity, experience, and positions to gather information on the research objective. In addition to the in-depth interviews, which were the chief source of data collection, we analyzed the institutions' internal documents. We also conducted on-site observations at Hospitals X and Z. Those were used in addition to external sources, such as electronic addresses, the hospitals' social networks, and news in local newspapers.

The data in Table 3 show the overall profile of the researched hospitals, allowing us to verify approximations with the quality management research instrument.

**Table 3**  
Hospitals' characteristics.

| Hospital   | Private or publicly-owned | Type of establishment | Has a dedicated quality management sector | Time from system implementation | Is accredited           |
|------------|---------------------------|-----------------------|---|---------------------------------|-------------------------|
| Hospital X | Private                   | General Hospital      | Yes                                       | 7 years                         | Yes ONA 1 Accreditation |
| Hospital Y | Public                    | General Hospital      | Yes                                       | 2 years                         | No                      |
| Hospital Z | Public                    | General Hospital      | No  | In implementation               | No                      |

Source: Research data.

We identified that despite having a sector dedicated to quality management for seven years, Hospital X only achieved ONA Level 1 accreditation in February 2020. According to X2, the process for obtaining accreditation required a great deal of effort from the team: "There was a lot of resistance at the beginning because we had to do a lot of culture challenging" (X2 interviewee).

Hospital Y started developing its quality and health surveillance sector in 2019, based on the new organizational chart composed by Ebserh. Under the command of specific sector

coordination, the team has been developing activities aimed at quality management in health services. Hospital Z is also part of the Ebserh network. However, the quality sector is in its implementation phase, and the supply sector manages the basic QM activities.

We observed that the type of establishment did not influence its creation and/or the certifications acquired by the hospitals. Publicly-managed organizations only created QM sectors after changes in the organizational chart established by the headquarters. However, being private or publicly-owned may have interfered with the implementation of QM in Hospitals Y and Z since this only occurred after changes in the organizational chart sent by Ebserh.

## 4.2 Managers' behavior regarding quality programs

### 4.2.1 Role of quality managers/Senior management leadership

This category sought to identify how the different hospital sectors accept the procedures and demands related to QM and whether senior management supports and participates in meetings to develop quality in the institution. In Hospitals Y and Z, quality was implemented based on a new organizational chart of the Ebserh network for 2021. Hospital Y started structuring the implementation process of the quality sector in 2019. According to Y2:

We started by mapping processes within the three departments. Concomitant with that was our creation in the sector's process at the headquarters [...], and we've been working on the whole issue of management in quality management in the quality accreditation process for the EBSERH network. From then on, we've been developing a strategy as well.

Manager Y2 understands that the hospital team received the quality sector's demands positively: "We consider our arrival in the sector favorable as it encouraged professionals to do all this work of designing processes, identification, and quality priorities. So yes, we had a good acceptance of the work, and it has been very, very good!"

Unlike Hospital Y, Hospital Z was undergoing the quality sector implementation period in December 2020. Demands were assigned to the supply department as a sector had not been created until then, according to interviewee Z2:

In fact, a new organizational chart is now coming out. In fact, a new organizational chart is now coming out and includes a specific sector for quality. As there was no quality sector, the demand was assigned to a department that already existed in the hospital. But now, it is gaining importance, and the hospital is creating an area for quality control of its services.

Regarding the team's acceptance of the new quality sector, manager Z2 understands that the strategic meetings for the sector's implementation were well accepted, including the last meeting held to list the service items and processes: "It was well accepted. There were no obstacles, the staff was very open to help. They didn't try to hide anything, I think they were very sincere in their responses. I think it was well accepted." (Z2)

In Hospital X, interviewee X2 had been in the position for a short time (2 years). Therefore, it was necessary to restructure it in 2019 despite the sector existing previously since the institution hired them intending to achieve accreditation. According to interviewee X2, the team was more resistant at the beginning because it was necessary to make some changes: "It

was very intense work. In the beginning, there was a lot of resistance because we had to do a lot of cultural breaking. We needed to resume the processes but on the other hand, the vast majority of managers wanted it. And today people are totally used to that environment.” (X2).

Interviewee X2 highlighted the need to change the nursing team management: “There was a very important change in nursing management, that's what really made the turnaround. The new manager is great, and she already had experience working with quality. She had already gone through two accreditation processes” (X2).

The three hospitals stated that senior management supports the quality sector and participates in strategic meetings. In summary, we observed that Hospital X has a closer relationship with the organization's other departments for having more time to implement the quality sector. Hospital Y is creating a bond of importance and respect with the other departments despite being a new sector. Finally, Hospital Z is developing a bond between the quality sector and the organization's departments.

Sabella, Kashou, and Omran's study (2015) suggest that teams of different administrative types should strive to develop quality indicators to implement improvements in the work processes.

#### 4.2.2 Quality policy

In this category, we sought to identify whether quality is part of the organization's strategy and whether the hospital uses indicators to measure and control work processes, and patient satisfaction, among others.

Hospital Z's manager informed that points to measure quality were included beginning in the SDP based on the new organizational chart created by Ebserh headquarters: “Indexes are being created to monitor the service points provided and the hospital care.” (Z2). We noted that Hospital Z did not include quality indicators in all hospital sectors and that implementation is slower than in the other interviewed hospitals.

Hospital Y's quality sector is closely related to the development of the SDP. As reported by manager Y2: “Even the institutions' strategic development planning is being worked on by the planning sector and the quality management sector. So we are strictly aligned and working within the same purpose.” (Y2).

Regarding the use of quality indicators, manager Y2 confirmed the use of indicators and the existence of a specific unit within the quality management sector to work with indicators: the monitoring quality unit. “All of the hospital's indicators are coordinated by my sector, and that's where all of them are consolidated. We gather information and assemble business management reports”. (Y2).

Hospital X also develops strategic planning together with the quality management team. In addition to having performance indicators in all hospital sectors, it is monitored systematically through electronic spreadsheets, as verified by the analysis. It is also displayed on the hospital's walls, which was confirmed by the on-site visit.

Overall, Hospital X mainly developed the monitoring and control of the sectors' performance indicators with the aim of accreditation. Hospital Y dedicates part of the quality sector solely to indicator control, but it still does not have indicators for all sectors of the organization. And Hospital Z is in the implementation phase of performance indicators.

The results of this analysis category coincide with the study by Al Raoush et al. (2020), which identified the importance of following-up and monitoring performance indicators for health service success.

### 4.2.3 Importance of the quality department

In this category, we identified to which hospital department the QM sector is subordinated. We also analyzed the autonomy of the quality sector regarding other departments and its visibility in the hospital.

Hospital X is subordinated to the administration sector. The role that actively monitors the strategic quality meetings is the administrative director. Manager X2 stated that she has complete autonomy regarding the other hospital sectors and the visibility and importance of the quality department: “The sector is very well regarded, it is very respected in the hospital! Before any change in the process, employees seek me out to understand if it can impact something, even when I am not present.” (X2).

Hospitals Y and Z are directly subordinated by the superintendence. Regarding autonomy, Hospital Z adopted a methodology where the sector is transverse among the other sectors of the organization, as reported by Y2: “It is transverse between the other sectors and we help within all divisions.” Manager Y2 complemented by giving an example of how much process mapping was executed in the departments. “We make these processes transverse, you know. We manage to optimize what is done by one sector and transverse it to others as well, which sometimes uses the same process.”

Regarding the sector visibility in the hospital, manager Y2 considers it positive: “Today, I can tell you that it’s a sector that’s already viewed within the institution as responsible for improving work processes.

Finally, Hospital Z's manager informed that the questions related to the autonomy and visibility of the sector could not be applied since there is still no specific quality sector, and quality demands, such as process development, are executed by the supplies sector.

Overall, the three hospitals are subordinated by senior management. Regarding the visibility and independence of the quality sector, Hospitals X and Y have sectors that command respect and are autonomous concerning the organizations' work. Because Hospital Z does not yet have a specific sector for quality management, it cannot measure the visibility of the quality team work.

In general, the results found are strengthened by the findings of Xiong et al. (2020) who highlight that when an autonomous quality department is established and supported, with full-time staff and budget allocation, it is a sign to the hospital staff that senior management is committed to quality improvement. In turn, this commitment favors their acceptance of responsibility for quality.

### 4.2.4 Employee training

This category aimed to identify whether hospitals provide courses and/or training on quality management concepts and tools for the quality team and how often these courses are offered.

Hospitals X and Y stated that the organizations offer courses and training focused on quality management. Manager Y2 added that Hospital Y has focused on network accreditation, and for this reason the team responsible for quality is conducting specific courses for this goal.

We note that the coordinator set up a working group with the people who will be responsible for carrying out the audits.

Last year, we set up a working group with quality leaders and initially placed them as auditors. So we take some specific training courses to work on concepts about the audit and leadership processes at the institution. (Y2).

Regarding the frequency of these courses, Hospital X and Y' managers reported there is no plan to be followed, but that training is carried out regularly. Interviewee X2 commented on a decrease in training offered due to the pandemic but that the courses still occur online: “What happened was a decrease because of the pandemic, but we did a lot of online training.” (X2).

Hospital Z's interviewee informed there are still no plans for training, qualifications, and/or courses focused on quality management. So far, a single training has been carried out: “Yes, not yet, there was no training. There was training with the staff group from the committee that was set up, some people participated in a videoconference training with Ebserh itself.”

In summary, we analyzed that none of the three hospitals has an established rule for developing training, courses, and workshop participation during the year. We identified that training and courses are made available by organizations as the team needs more knowledge and tools for developing the work.

Baidoun, Salem, and Omran's (2018) study points in the same direction. It recommends investment in training and developing the work team to improve staff skills. The authors focus on quality courses and training to improve performance and cite the need to conduct evaluations to measure results.

### 4.3 Adopted quality management practices

#### 4.3.1 Processes management

The process management category sought to identify whether the hospitals mapped the main procedures and whether they are controlled based on indicators so that it is possible to monitor and comply with the requirements. It also sought to verify if the search for process improvement is carried out. Table 4 specifies how each hospital carried out the process mapping.

**Table 4**  
Process Management of X, Y, and Z Hospitals.

| Hospital | Are key processes mapped?   | How was the process mapping executed?                                     | Do the processes have indicators?   | Is there implementation of process improvement?                        |
|----------|---|---|---|--|
| X        | Yes, all hospital work processes are mapped (including outsourced services).  | Process mapping was carried out jointly (quality team + process manager). | Yes, all processes have indicators.                                       | Yes, processes are critically analyzed to implement improvements.      |
| Y        | Under construction. The hospital has the teaching and research sector mapped. | The mapping was performed with the sector employees and the quality team. | Yes, the processes are already designed with their respective indicators. | Yes, the hospital uses the PDCA tool to identify process improvements. |



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|   |  |  |   |  |
|---|--|--|---|--|
| Z | Under construction, despite not yet formalized. The hospital mapped some of its processes. | Employees are responsible for the process. | There are some indicators in parts, but they are not yet established as a rule. | Improvement evaluation is only performed when a failure in the process is identified. The processes are not monitored. |
|---|--|--|---|--|

Source: Research data.

According to Table 4, we note that Hospital X has greater control over hospital procedures. According to Hospital X's manager, all sectors are mapped and have been clearly described so that any interested party can understand the document: "For instance, if you are a layperson and you're arriving here and need to work on the process, you'll be able to pick it up, read the document, and understand the entire process performed for that activity." (X2).

We verified that Hospital Y is in the process mapping implementation phase. Changes related to the development of the employees' work due to the pandemic impacted the deployment of mapping activities.

Despite not formalizing process mapping implementation yet, Hospital Z emphasizes it is a priority activity to be performed in accordance with its' strategic planning.

The results of Hospitals X and Y are in line with Xiong et al's. (2020) research that hospitals can improve and redesign care processes based on patient demands and feedback. As such, critically analyze the processes, indicators, and feedbacks is essential.

#### 4.3.2 Customer satisfaction

This analysis category sought to observe whether a customer satisfaction survey is performed and how and whether the results are used to ensure a better experience for patients and carers.

Hospital Z's manager informed that the supply sector, which is responsible for quality management, did not carry out any activity aimed at measuring patient and carer satisfaction and that this is an action carried out by another sector.

Hospitals X and Y perform a satisfaction survey with patients and carers and check the results to identify possible failures in the services provided. According to interviewee Y2: "Yes, they are evaluated and go into reports. We have indicators and develop improvement plans to improve work processes." The document analysis and on-site visit performed at Hospital X allowed us to identify the model and form used in the satisfaction survey. The opinion survey forms are available in strategic locations inside Hospital X, such as the reception area and waiting corridors. Hospital Z does not perform this action.

For Xiong et al. (2020), one of the critical success factors to ensure long-term organizational survival and achieve the institution's objectives is understanding and incorporating the customer's needs. Hospitals X and Y perform this key organizational factor. On the other hand, Hospital Z urgently needs to mind this dimension of QM practices.

#### 4.3.3 Quality information

This category aimed to identify how quality data are used to solve problems and whether senior management and managers from other sectors evaluate the data. It also observed if the data are shared with the hospitals' sectors and if these reflect on medical assistance improvements.

Interviewee Z2 reported that the department responsible for quality still does not possess quality data that could be used for problem-solving.

Hospital X maintains a spreadsheet with all the sectors' non-conformities. This document identifies the percentage of errors and the failures description so that quarterly meetings with senior management can discuss it. According to the manager: “The goal is to present non-compliances to all managers so everyone will know the hospital's non-compliance. Because nowadays, the manager only knows what's in front of them.” Manager X2 reported that the organization has a patient safety center to handle events and incidents. As such, quality data influence the improvement of medical care.

Hospital Y understands that quality data are part of a cycle. It also acknowledges being responsible for upstarting the improvement process, as it can identify failures through this data. According to interviewee Y2: “This data is sent monthly through the hospital's indicator report. And we also have a panel of indicators for the entire network, which we feed monthly and are also available on the hospital's website.”

Manager Y2 also reported the creation of a protocol to define prevention and control conducts. From there, it was possible to identify failures in the medical care processes.

Overall, we observed that Hospitals X and Y perform the quality data survey and use it to guarantee the sectors' continuous improvement, including medical assistance. Hospital Z does not perform this procedure.

The practices performed by Hospitals X and Y match Sabella, Kashou, and Omran's (2015) study regarding quality data being relevant to the decision-making process. The authors highlight the need to design effective communication channels to guarantee a proper flow of valid information between interested parties.

#### **4.3.4 Relationship with employees**

In this category, we sought to identify whether employees from other departments are involved in debates on quality management and whether they are aware of the sector's requirements. The category also checked whether the teams are recognized when achieving good performance.

We observed that Hospital X requests the presence of all professionals accountable for the sectors when holding strategic meetings on quality management. The senior management supports and helps mobilize managers for the meeting. We also identified that the departments are recognized by the quality sector and senior management when they stand out in their activities. Employees are aware of the compliance requirements of their processes.

According to manager Y2, they have not yet managed to involve the departments' chief managers. However, they are being included little by little. Regarding team recognition, according to Y2, a management award meeting was held to identify those who most fulfilled the requirements: “We held a meeting just now to present the results and certify the management by the percentage of criteria compliance.”

Because its quality sector is still in construction, Hospital Z does not apply to the questions related to the quality requirements and team recognition by the quality sector. However, according to Z2, it is important to highlight that the presence of all sector managers was requested in the first meeting to discuss quality management in the hospital: “We included key people from the sectors. Not everyone involved participated, but key people from each area and all sectors were represented.”

Regarding the relationship with employees category, we identified that the three hospitals request the presence of colleagues from other departments and involve them in actions related to quality management. The quality processes are carried out collaboratively in the participating organizations. Concerning the promotion of team recognition, Hospitals Z and Y awarded the sectors. Hospital Z did not recognize its teams because it made few quality demands in the departments.

We highlight Xiong et al.'s findings (2020), such as a benchmark for improvements in the analyzed hospitals, that if employees are fully engaged and motivated, they will take pride in doing quality work and strive to find ways to improve the overall performance of the hospital, thereby developing better systems of work. Thus, measuring and promoting staff well-being should result in greater staff satisfaction, which, in turn, should improve patient satisfaction, increase the hospital's reputation, and better bottom lines.

#### **4.3.5 Relationship with suppliers**

The last category sought to identify the relationship of trust built between the hospital and its suppliers. It also investigated whether the quality of the suppliers' products/services is considered when purchasing or simply the price. We observed if the suppliers are evaluated.

We identified that Hospital X performs a complete analysis of suppliers, and each sector evaluates its supplier. A letter is also sent to each supplier informing the degree of reliability and satisfaction. According to interviewee X2: "When a new service or product is contracted, we carry out an analysis relating the price and the quality provided".

Hospitals Y and Z, being publicly owned, contract products and services via tender, and the choice of supplier is based on the one offering the lowest price. Each public tender has requirements to ensure that the product or service meets quality criteria. Thus, before deciding on the supplier based on the price, an analysis of the service or product's essential items is performed to ensure the product's quality is suitable. However, this is a bureaucratic process that can impact the purchasing process. It is different from the private hospital, which has an independently and bureaucracy-free relationship with suppliers.

Compared to the results found by Xiong et al. (2020), the Chinese hospitals analyzed by the authors showed similar results as those of Hospitals Y and Z. According to the authors, the studied Chinese hospitals had not, until now, established a long-term relationship with suppliers of goods and services. Thus, suppliers have not had opportunities to be involved in designing the service and process improvement.

At the end of the qualitative analysis, we opted to design a quantitative score to highlight the strengths and weaknesses of the analyzed organizations. This is demonstrated in the next section.

#### **4.3.6 Summary of quality management practices**

Table 5 presents the scores obtained by the researched hospital organizations regarding quality management practices as defined in the study's methodological procedures for category analyses (queries listed in Table 1).

**Table 5**  
Quality management score.

| Categories  | Max category score | Score       |             |             |
|---|--------------------|-------------|-------------|-------------|
|   |                    | Hospital X  | Hospital Y  | Hospital Z  |
| <b>Managers' behavior regarding quality programs</b>  |                    |             |             |             |
| Role of quality managers/Senior management leadership | 3.0                | 3.0         | 3.0         | 3.0         |
| Quality policy  | 3.0                | 3.0         | 2.5         | 2.0         |
| Importance of the quality department                  | 3.0                | 3.0         | 3.0         | 2.0         |
| Employee training                                     | 2.0                | 1.0         | 1.0         | 1.0         |
| <b>Subtotal</b>                                       | <b>11.0</b>        | <b>10.0</b> | <b>9.5</b>  | <b>8.0</b>  |
| <b>Quality management practices</b>                   |                    |             |             |             |
| Processes management                                  | 3.0                | 3.0         | 2.5         | 1.5         |
| Customer Satisfaction                                 | 3.0                | 3.0         | 3.0         | 0.0         |
| Quality information                                   | 6.0                | 5.0         | 6.0         | 0.0         |
| Relationship with employees                           | 4.0                | 4.0         | 4.0         | 2.0         |
| Relationship with suppliers                           | 4.0                | 4.0         | 2.0         | 2.0         |
| <b>Subtotal</b>                                       | <b>20.0</b>        | <b>19.0</b> | <b>17.5</b> | <b>5.5</b>  |
| <b>TOTAL</b>  | <b>31.0</b>        | <b>29.0</b> | <b>27.0</b> | <b>13.5</b> |

Source: Research data.

According to Table 5, we can observe that the research hospital organizations obtained the same score in the role of quality managers and employee training categories. Respectively, these categories analyzed the importance given to quality management in hospitals, and, consequently, the work of responsible managers, and whether courses and training on subjects addressing quality management were available.

From these considerations, we identified a similarity between the hospitals. Despite being in different stages regarding the implementation of QM, the three institutions obtained support and acceptance from the team after a period of awareness. We also highlight the three institutions offered courses and/or training for the responsible team on the use of tools, management, and audits related to QM.

The relationship with suppliers category stands out, which sought to identify whether the hospitals managed suppliers, identifying strengths and weaknesses, points for improvement, and the relationship between quality and price at the time of purchase. We verified that Hospital X fulfilled all the requirements regarding the management, evaluation, and monitoring of suppliers. Hospitals Y and Z have the most rigid processes due to using public tender for purchase acquisition.

Xiong et al. (2017) also identified in their study a dependence on purchasing management in public hospitals and the importance of senior management in developing solutions so that public organizations can manage the quality of suppliers.

In summary, we analyzed that Hospital X obtained approximately a 93.5% compliance rate with the requirements established in the quality management assessment instrument, obtaining the maximum score in 7 of the 9 categories, such as the process management, relationship with employees and people categories.

The score may be associated with the fulfillment of activities established by the ONA. We note that Hospital X has level 1 accreditation. According to Alaraki (2014), accredited hospitals perform QM practices more significantly than non-accredited hospitals. This is

consistent with Alves' study (2015), which identified some of the accreditation's benefits for the institution, such as the involvement of senior management and participation in meetings, processes standardization and structuring, definition of strategic indicators, among others.

Hospital Y obtained a score of 87.1%. Despite the short period since the quality sector's implementation, the institution started the QM process strictly following the quality standards. The score shows that the hospital complies significantly with the 9 dimensions of QM, according to Xiong et al (2017).

We observed that the hospital employs a team that works collaboratively with other departments in search of process optimization. In addition, the hospital is interested in undertaking the accreditation process and is offering courses to train its managers. Sabella, Kashou, and Omran (2015) highlight the importance of training and/or courses for developing employees' skills since these generate team engagement and, consequently, the success of QM.

Hospital Z achieved a score of approximately 43.5% regarding the maximum score assigned in the quality management assessment instrument. It is the lowest score in relation to the other institutions as the hospital is starting the quality sector implementation. As such, some categories are observed with zero scores due to the absence of the activities or practices performed.

## 5 Final Considerations

The aim of this study was to verify the quality management practices carried out in hospital organizations in Rio Grande do Sul, Brazil, based on Xiong et al's construct. (2017). Based on the data, we found that Hospital X achieved the highest score and is the hospital with the best quality practices. Next, Hospital Y and, finally, Hospital Z.

Regarding the institutions' characteristics, all hospitals were arranged as general hospitals. Concerning the quality sector, we identified that Hospitals X and Z achieved the highest scores. The ONA-certified hospital obtained first place in the research instrument.

It is noteworthy that being private or publicly owned did not impact the result achieved by the hospitals, except for actions related to purchase management, as public hospitals need to comply with legislation on public tenders. Despite following a protocol to ensure that contracted goods and services comply with the desired specifications to ensure quality, the purchase decision is based on price.

The results indicate that QM helps hospitals to measure the satisfaction of the organization's stakeholders, such as customers, employees, and suppliers and, through quality tools, perform result analysis in search of improvements.

Consistently understanding customers' wishes to meet their expectations enables the hospital to improve and develop new services through innovations in its work processes, obtain modern equipment, and implement health technologies. We highlight the influence of QM regarding process mapping and control, which enables the optimization of work and continuous learning.

In view of this study's literature base, the model developed by Saraph et al. (1989) proposed a set of eight valid and reliable measures that profile quality practices in organizations in the area of quality. Xiong et al. (2020) extended the Saraph et al. model (1989) to 9 dimensions due to changes resulting from decreases in funding, increased competition in the healthcare market, and higher patient expectations. Ramos et al. (2020) demonstrated that the implementation of hospital accreditation results in performance improvements. We analyzed

hospitals with and without accreditation in the 9 dimensions. The individual results demonstrate the profile/status of QM of the evaluated organizations to lead to improvements in management.

This research's findings help health managers identify the main characteristics and actions performed in hospitals that contributed to developing QM practices.

The main limitation of the study is the number of participating hospital organizations, given the mobility restrictions imposed by the covid-19 pandemic. During data collection, the state of RS decreed at various times the so-called black flag. This restriction measure indicated a very high risk of contagion. To combat the spread of the coronavirus during this period, only essential services could operate in person, adhering to social distancing and operating protocols.

In addition to the mobility difficulty, it is crucial to highlight that the hospitals were operating with patient overcrowding, high intensive care unit (ICU) occupancy rates, and the need to hire health professionals. These factors considerably increased managers' workload, thus, hindering a broader agenda for them.

In future investigations, we recommend to analyze more institutions concomitantly and in different states of Brazil, including hospitals with different accreditation levels. Finally, we observe that a quantitative analysis model and a larger sample size can help to obtain results with different types of establishments and legal natures and enable the generalization of results.

## References

Almeida, H. O. C.; Santos, N. F. & Sampaio, W. K. S. (2020). Aplicabilidade das ferramentas da qualidade no âmbito hospitalar: uma revisão integrativa da literatura. *RAHIS-Revista de Administração Hospitalar e Inovação em Saúde*, 17(4), 11-22.

Alonso, L. B. N.; Droval, C.; Ferneda, E. & Emidio, L. (2014). Acreditação Hospitalar e a Gestão da Qualidade dos Processos Assistenciais. *Perspectivas em Gestão & Conhecimento*, 4 (2), 34-49.

Ahmed, S.; Abd Manaf, N. H. & Islam, R. (2018). Effect of Lean Six Sigma on quality performance in Malaysian hospitals. *International journal of health care quality assurance*, Bngley, 31(8), 973-987.

Al Raoush, A. T.; A'agoulah, A.; Albalas, S. & Athameneh, S. (2020). Impact of financial management on improving quality at jordanian public university hospitals. *Journal of Information & Knowledge Management*, 19(3), 2050025.

Alaraki, M. S. (2014). The impact of critical total quality management practices on hospital performance in the Ministry of Health hospitals in Saudi Arabia. *Quality Management in Healthcare*, Filadélfia, 23(1), 59-63.

- Alves, K. (2015). Impacto da gestão da qualidade no desempenho de organizações hospitalares na região metropolitana de São Paulo. Master's Dissertation in Business Administration, School of Business Administration of São Paulo at Fundação Getúlio Vargas. São Paulo Brazil.
- Associação Brasileira de Normas Técnicas – ABNT. (2021). ABNT NBR ISO 9001 2015: como usar. São Paulo: ABNT, 2021. E-book.
- Baidoun, S. D.; Salem, M. Z. & Omran, O. A. (2018). Assessment of TQM implementation level in Palestinian healthcare organizations: the case of Gaza Strip hospitals. *The TQM Journal*, Bingley, 30(2), 98-115.
- Bardin, L. (2011). *Análise de conteúdo*. São Paulo: Edições 70.
- Bonato, V. L. (2011). Gestão de qualidade em saúde: melhorando assistência ao cliente. *O Mundo da Saúde*, São Paulo, 35(5), 319-331.
- Chassin, M. R. (2013). Improving the quality of health care: what's taking so long? *Health Affairs*, Washington, 32(10), 1761-1765.
- Collado, C. F.; Lucio, P. B. & Sampieri, R. H. (2013). *Metodologia de pesquisa*. 5. ed. Porto Alegre: Penso.
- Demirbag, M.; Tatoglu, E.; Tekinkus, M. & Zaim, S. (2006). An analysis of the relationship between TQM implementation and organizational performance: evidence from Turkish SMEs. *Journal of manufacturing technology management*, Bingley, 17(6), 829-847. Doi 10.1108/17410380610678828.
- Denzin, N. K. & Lincoln, Y. S. (2006). *O planejamento da pesquisa qualitativa: teorias e abordagens*. 2. ed. Porto Alegre: Artmed.
- Dey, P. K. & Hariharan, S. (2006). Integrated approach to healthcare quality management: a case study. *The TQM Magazine*, Bingley, v. 18, n. 6, 583-605.
- Duarte, R. A. M. (2021). *Acreditação ONA: saiba o papel da engenharia clínica para alcançá-la*. Belo Horizonte: Arkmeds.
- Farias, D. C. & Araujo, F. O. (2017). Gestão hospitalar no Brasil: revisão da literatura visando ao aprimoramento das práticas administrativas em hospitais. *Ciência & Saúde Coletiva*, Rio de Janeiro, 22, 1895-1904.

Francisco, C; Paz, A. & Lazzari, D. D. (2012). Perspectivas de enfermeiras sobre gestão da qualidade e acreditação hospitalar. *Revista de Enfermagem da UFSM, Santa Maria, 2(2)*, 401-411.

Honda, A. C. (2017). *Aplicação de ferramentas de gestão da qualidade em ambientes de serviços hospitalares: estudo de medidas de melhoria em Santa Casa de Misericórdia no interior do estado de São Paulo*. Doctoral thesis. University of Sao Paulo, Brazil.

Gerard, M. L. F. & Bernard, F. C. (2009). *Desempenho hospitalar no Brasil: em busca da excelência*. São Paulo: Singular.

Littike, D. & Sodré, F. (2015). A arte do improviso: o processo de trabalho dos gestores de um Hospital Universitário Federal. *Ciência & Saúde Coletiva, 20*, 3051-3062.

Mastelli, W. F. & Dallora, M. E. L. V. (2021). Como a gestão da qualidade pode contribuir para melhora no desempenho dos serviços hoteleiros terceirizados em um ambiente hospitalar público. *Rev. Adm. Saúde (On-line), São Paulo, 21(84)* 1-14, jul./set. Doi: <http://dx.doi.org/10.23973/ras.84.297>.

Mesgari, I.; Miab, A. K. & Sadeghi, M. J. (2017). Causal structure of the EFQM excellence model among healthcare sector: a case study in Iran. *Total Quality Management & Business Excellence, 28(5-6)*, 663-677.

Metcalf, A. Y.; Wang, Y. & Habermann, M. (2018). Hospital unit understaffing and missed treatments: primary evidence. *Management Decision, 56(10)*, 2273-2286.

Ministério da Educação. (2022). Apresentação EBSEH. Accessed on 18 dez. 2022, at <http://portal.mec.gov.br/ebserh--empresa-brasileira-de-servicos-hospitalares>

Nascimento, J. C. M. (2020). Acreditação hospitalar como ferramenta para a gestão da qualidade no Brasil: características, avanços e desafios. *RAHIS-Revista de Administração Hospitalar e Inovação em Saúde, 17(4)*, 1-10.

Organização Nacional de Acreditação – ONA. (2021). Mapa de creditações. 2021. Accessed on 15 aug. 2021, at <https://www.ona.org.br/>

Organização Pan-Americana da Saúde – OPAS. (2020). Folha informativa sobre o Covid-19. 2020. Accessed on 18 aug. 2020, at <https://www.paho.org/pt/covid19>



Rodrigues, A. S.; Oliveira Júnior, L. B.; Santos, L. F. P. & Jaernevay, M. L. S. (2022). Diagnóstico situacional de um hospital universitário de Minas Gerais a partir dos resultados do processo de avaliação interna da qualidade. *HU Rev.* 48, 1-11. Doi: 10.34019/1982-8047.2022.v48.34666

Ramos, G. I. S., Moreira, M. A., Martins, C. M., & Souza, A. C. (2019). Acreditação como elemento catalisador do desempenho em organização hospitalar. *RAHIS-Revista de Administração Hospitalar e Inovação em Saúde*, 16(3), 28-46. Doi: <https://doi.org/10.21450/rahis.v16i3.5860>

Sabella, A. R.; Kashou, R. & Omran, O. (2015). Assessing quality of management practices in Palestinian hospitals. *International Journal of Organizational Analysis*, 23(2), 213-232.

Saraph, J. V., Benson, P. G. & Schroeder, R. G. (1989). An instrument for measuring the critical factors of quality management. *Decision sciences*, Fontainebleau 20(4), 810-829.

Schiesari, L. M. C. (2014). Avaliação externa de organizações hospitalares no Brasil: podemos fazer diferente? *Ciência & Saúde Coletiva*, 19(10), 4229-4234.

Seabra, S. A. K. (2007). Acreditação em organizações hospitalares. Master's Dissertation in Administration, School of Administration, Accounting, and Economics, Pontifical Catholic University of Rio Grande do Sul. Porto Alegre, Brazil.

Secretaria de Políticas de Saúde (2002). Manual de Acreditação Hospitalar. Departamento de Avaliação de Políticas de Saúde. 3. ed. Brasília: Ministério da Saúde.

Van Schoten, S.; Blok C.; Spreeuwenberg, P.; Groenewegen, P. & Cordula, W. (2016). The EFQM Model as a framework for total quality management in healthcare: Results of a longitudinal quantitative study. *International Journal of Operations & Production Management*, 36(8), 901-922.

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Xiong, J.; He, Zhen; Deng, Y.; Zhang, M. & Zhang, Z. (2017). Quality management practices and their effects on the performance of public hospitals. *International Journal of Quality and Service Sciences*, 9(3/4), 383-401.

Yin, R. K. (2016). *Pesquisa qualitativa do início ao fim*. Porto Alegre: Penso.