

## The use of Instruments that Facilitate understanding and Correct Analysis of Indicators in Hospital Management: An Integrative Literature Review

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**Keywords— Hospital management, Health indicators, Management instruments.**

**Abstract—** *The aim of this study is to analyze whether there is an instrument that can facilitate the understanding and correct analysis of indicators in hospital management. The Strategic planning methodology in the Balanced Score Card (BSC) method, started in 1990 by professors Robert Kaplan and David Norton with a research project in the corporate world, which ended up being used and adapted for public administration. The management indicators, directly interfere in the institution's planning, a result provided by the indicators, allow for a critical analysis of the data and later the deployment of corrective, preventive or improvement action plans. It is a descriptive study and developed through an integrative literature review (RIL) where no production was found that demonstrated any instrument used to guide the manager to understand the indicators, the articles found, point to the need for education permanent, it was evidenced that although the majority of the managers affirm that they understand the indicators, they make little use of the information for decision purposes in their management, it was also stated that the lack of time contributes to the team not complying with the collection and analysis routine indicators. It is necessary to innovate management, looking for tools to evaluate and monitor its indicators.*

## I. INTRODUCTION

In the health area, it has always sought to introduce managerial innovations, with new methodologies, tools and technologies aimed at the quality of the service or care offered, since it is an area considered relevant for innovation, being the most responsible in the world, for the development of research. According to Machado et al (2012) “The role of health is recognized as an essential factor for the citizenship conditions of the population and as a structuring element of the social welfare state”.

According to the Interagency Health Information Network – RIPSAs “If generated on a regular basis and managed in a dynamic system, indicators are valuable tools for the management and assessment of the health situation at all levels”. The result provided by the indicators allows for a critical analysis of the data and later the deployment of corrective, preventive or improvement action plans. For Takashina (1999) indicators are “quantifiable representations of the characteristics of products and processes, thus being used to improve the quality and performance of a product, service or process over time”.

For Kaplan, Robert S (2004) “You cannot manage what you cannot measure” and “You cannot measure what you cannot describe”, that is why it is so important to analyze the use of indicators by managers and what is their level of knowledge about the correct interpretation of this tool. This study is important to seek information on institutions that use the indicators to support decision-making based on effective knowledge and their use by health managers, who are primarily responsible for decision-making and the management of their management team.

It is important that any health management encourages the use of indicators at all levels, which improve their results and favor the debate about them and their impact on the lives of citizens. According to Bernardo (2016) “It is necessary to consolidate the use of quality methodologies in health services, trying to evaluate the before and after the intervention, obtaining an overview of management progress.

Management indicators directly interfere in the institution's planning, because for Rivera and Artmann, (2012) “planning is a form of management that requires the organization of actions so that they can achieve the objectives without improvising them”. It is important to reflect on the importance of something that promotes knowledge of indicators in a concrete way and how they influence decision-making to work with observed non-conformities, inserting, if necessary, new ways of

monitoring and evaluating actions based on results, positive or negative. An instrument that produces changes and has an impact on the quality of services offered to society; in the organizational climate; in the economic and financial sustainability of the organization and that can positively interfere in the organizational culture.

There is a preeminent need for investment in the intellectual capital of health institutions, as many leaders are, above all, professionals from different areas of activity and not specifically from the health area. According to Goronzi (2012) “The transition from individual employees to the condition of managers requires an enormous effort from these professionals, implying transformations that end up configuring the profile of a new professional”.

According to Colauto and Beuren (2003) “we live in a world of political, economic and social changes that affect organizations and people, and with this the need to acquire and manage human knowledge is intensified”, they also emphasize that organizations are elements relevant to the socio-economic development of a nation, by providing the achievement of collective objectives. Having a defined purpose for organizations, focuses attention on what is relevant and develops your skills to achieve your goals.

Based on this information, the objective of this study is to analyze whether there is an instrument that can facilitate the understanding and correct analysis of indicators in hospital management. Given this context and the importance of tools that seek to strengthen the strategic management process in an evident way, with the use of indicators, the relevance of the theme proposed for this research is justified.

## II. METHOD

This is a descriptive study developed through an integrative literature review (ILR). The productions were selected on the basis of Descriptors in Health Sciences (DeCS), where the descriptors were used: hospital management, health indicators and management tools. The literature search was performed in the Virtual Health Library, more specifically in the Database of Latin American and Caribbean Literature on Health Sciences (LILACS) and Scientific Electronic Library Online (SCIELO) and VHL.

As inclusion criteria, the following were used for the selection of samples: studies published in the period between 2010 and 2020, publications with texts in Portuguese, published in Brazil and whose theme contemplated institutions that use the indicators as a way of evaluating their management. In addition, the exclusion factor was defined on articles that do not include the study

of indicators. Thus, the final quantitative consisted of 15 articles produced.

Data collection was performed using a form, which was filled with articles related to the topic. Listed by: title, author and year.

Table 1: References used to prepare the RIL

TITLE	AUTHORS	YEAR
Methodology for building a panel of indicators for monitoring and evaluating SUS management	TAMAKI, M. E.; et al	2012
Use of indicators to monitor the promotion and care actions of the National Policy for Integral Attention to Men's Health (PNAISH)	MOURA, C. E.; LIMA, A. M. P.; URDANETA, M.	2012
Difficulties experienced by nurses in the use of process indicators	MENEZES, P. I. F. B.; D'INNOCENZO, M.	2013
Construction and analysis of a computational tool to calculate nursing care quality indicators	PINTO, V. R. S.	2014
Quality of care indicators: opinion of nurses Managers of teaching hospitals	<u>ROSSANEIS, M. A.; et al</u>	<u>2015</u>
The use of indicators as a management tool in the family health strategy	PAES, L. G.; et al	2015
Managers' perception of the use of Indicators in the health service	LIMA, K. W. S.; ANTUNES, F. L. J.; SILVA, Z. P.	2015
The use of care indicators system by nursing managers of a university hospital	ZANCHETA, N. B.; et al	2016
Development and validation of indicators of good patient safety practices: Project ISEP- Brazil	GAMA, Z. A. S.; et al	2016
Preparation of a booklet on health indicators as a strategy to strengthen Primary Care in the municipality of Itapevi	SIMAKAWAI, A. F.; VENANCIO, S. I.	2016
Instrument to support regional health management for monitoring health indicators	PEREIRA, B. S.; TOMAS, E.	2016
Quality indicators in primary health care in Brazil: an integrative review	FERREIRA, M. J.; et al	2017
Analysis of health indicators and their appropriation to change the practices of Primary Care professionals	SIMAKAWA, A. F.	2018
São Paulo State Department of Health Human Resources Coordination Institute of Health	SIMAKAWA, A. F	2018
Implementation of an online dashboard for patient safety	SASSO, M. A.; et al	2019

### III. RESULTS AND DISCUSSION

Of the cited references, the year 2015 had the highest number of publications with 05 productions (33.3%). The region that published the most was the Southeast region. No publications from the North region were found.

06 articles (40%) were identified that present monitoring, evaluation and information on management indicators: 02 presented electronic panels, 02 booklets and 01 computer tool in excel.

Furthermore, no references were found that demonstrated any instrument used to guide the manager to understand the indicators, their applicability and their critical interpretation. According to Bernardo et al (2016) "Health indicators need to be analyzed in order to translate numbers into quality so that the causes of problems can be identified". With this, it is essential that the manager knows how to translate his results in a clear and concise way, knowing how to explain how he behaves, how his historical series interferes with services and how it impacts on their delivery to society.

The articles found, 27% of the publications point to the need for permanent education to train managers with regard to the concepts that enable the understanding of indicators and their importance. In the health area, many managers are chosen based on their length of service and not based on their ability to hold a certain position.

It is important that there is training in professionals and that they add knowledge and invest in valuing the server as an integral being and co-participant in the changes of their time According to the Interagency Network for Health Information - RIPSAs "It is expected that the indicators can be easily analyzed and interpreted, and that they are understandable by information users, especially managers, managers and those who work in the social control of the health system".

It was evidenced, in some studies, that despite the managers claiming to understand about the indicators, they rarely use the information for decision-making purposes in their management, that is, they give little importance to this type of evaluation and thus compromise communication between their employees. led, not prioritizing what is important and what needs to reach everyone. According to Castro et al, "The manager/manager is included in the government or management group of the institution and this guarantees attributes that make him/her stand out in front of other internal or external groups and who submit to it". Making use of information that evidences the results is a criterion

inherent to a mature management with consolidated purposes.

It was also stated that the lack of time contributes to the team not complying with the routine of collecting and analyzing the indicators, many managers accumulate several functions and leave the management of their information in the background, which causes the consolidation of the culture of "putting out fires". Added to this, work overload is almost always inherent to health professionals, who often accumulate two or more employment relationships, which interferes with their commitment to management.

According to Bernardo (2016) "If monitored on a regular basis, indicators are valuable tools for evaluating the quality of health actions and services, enabling the establishment of assertive priorities through the demands identified in the analysis of the data provided".

It is a fact that indicators are useful for obtaining data and monitoring them, in addition to being the best way to identify which improvements can be implemented and which non-conformities need to be remedied. In addition, the evaluation and monitoring of indicators can become routine and, consequently, a culture within the organization.

Some managers refer to the difficulty of the institution's own commitment to be fully involved in innovative strategies. All these difficulties result in daily challenges that, according to Paiva et al (2018), are faced by managers such as: the delay in the implementation and actual use of new information technologies, resistance to innovative work management processes, infrastructure inadequate, the lack of planning of the services offered and the lack of autonomy.

The productions highlight the importance of indicators and their contribution to meeting the specific needs of each organization. According to Lima et al (2015) "The information provided by health indicators provides the necessary basis for planning, executing and evaluating the actions carried out", that is, each organization or service seeks to measure its results with indicators that demonstrate the efficiency, effectiveness or effectiveness of its services and related to aspects such as structure, processes or results.

The studies also demonstrate the absence of managers in the moments of elaboration of the indicators and that they end up finding difficulties in the development of their management. This absence often happens due to changes in management, lack of leader engagement or non-inclusion of the leader in relevant discussions. According to Oliveira (2011) "It is essential that the leader understands the environment in which he is

inserted, to understand the positive and negative impacts and ethical implications that surround him”

It was also shown that there is still no standardization in the use of indicators in some institutions and this makes the evaluation and monitoring process difficult, as well as the learning process for the entire team. For Pinto (2014) “The information system is a support for institutions to achieve goals and objectives, being considered a support instrument for the management and evaluation of patient care”. The use of monitoring and evaluation systems is an important step to ensure access and transversality of information throughout the institution.

#### IV. CONCLUSION

Thus, it is evident that there are no investments by institutions in creating instruments that facilitate the understanding and correct analysis of indicators in hospital management. The effective use of indicators is still incipient, either due to difficulty in understanding their importance or the way in which the results are analyzed.

In addition, it was observed that many professionals report not having enough time in their routine to monitor and evaluate their results through indicators. Therefore, it is necessary to understand the importance of prioritizing a routine focused on management with a focus on results, allowing everyone to be involved and thus contributing to the maturity of management in all internal processes.

Therefore, management innovation seeks tools to assess and monitor its indicators, with tools that bring managers closer to their reality and that support evidence-based decision making. Furthermore, it is important that the results are shared throughout the institution, as effective communication and transparency bring all areas together, creating a positive and productive organizational climate.

Therefore, as important as evaluating and monitoring, it is understanding the indicators and knowing how to analyze them correctly, understanding their aspects and knowing how to interpret them according to the results found. For this, it should not be done only a shallow and inconsistent reading, but demonstrating its impacts, its positive or negative trend, its historical series and evidencing the vulnerabilities and opportunities for improvement that can be achieved.

#### REFERENCES

- [1] BERNARDO, L.A, Waldrich, O.M. Avaliação e Monitoramento do Sistema de Saúde através de Indicadores de Qualidade, <http://www.uniedu.sed.sc.gov.br>, 2017/09
- [2] COLAUTO, R. D.; BEUREN, I. M. Proposta para avaliação da gestão do conhecimento em entidade filantrópica: o caso de uma organização hospitalar. *Revista de Administração Contemporânea*, v. 7, n. 4, p. 163-185, 2003.
- [3] GORONZI, T. A. Planejamento Estratégico em Saúde: um desafio no gerenciamento cotidiano de unidades básicas de saúde- **Coleção Gestão da Saúde Pública** – Volume 13, p.120-139,2012.
- [4] KAPLAN, ROBERT S. Mapas estratégicos-Balanced Scorecard: convertendo ativos intangíveis em resultados tangíveis-Rio de Janeiro: Elsevier, 2004.
- [5] Lima, S.W.K, Antunes, J.L.F, Silva, Z.P. Percepção dos gestores sobre o uso de indicadores nos serviços de saúde, *Artigos Saúde soc.* 24 (1). Jan-Mar 2015.
- [6] MACHADO, C. V. (Org.). Políticas de saúde no Brasil: continuidades e mudanças- Rio de Janeiro: Editora Fiocruz, 2012.
- [7] OLIVEIRA, Grimário Nobre de. Gestão Gerencial em Saúde da Família-Araras, SP. Lawbook,2010. 277p.;23cm
- [8] PINTO, V. R. S. Construção e análise de uma ferramenta computacional para Cálculo de indicadores de qualidade da assistência de Enfermagem, 2014
- [9] REDE Interagencial de Informação para a Saúde – RIPSA. Indicadores básicos para a saúde no Brasil: conceitos e aplicações. 2ª. ed. – Brasília: Organização Pan-Americana da Saúde, 2008.
- [10] RIVERA, F. J. U.; ARTMANN. E. Planejamento e gestão em saúde: conceitos, histórias e propostas-Rio de Janeiro: Fiocruz, 2012.
- [11] TAKASHINA, Newton Tadachi. Indicadores da Qualidade e do Desempenho. Rio de Janeiro. Editora Quaitymark, 1999.